AFGHANISTAN

NATURAL RESOURCES AND AGRICULTURE SECTOR

COMPREHENSIVE NEEDS ASSESSMENT

FINAL DRAFT REPORT

JULY 2002

ABBREVIATIONS

AACA	Afghan Assistance Coordination Agency
ADB	Asian Development Bank
AHD	Animal Husbandry Directorate, MAAH
AIA	Afghanistan Interim Authority
AIMS	Afghanistan Information Management System
AIT	Artificial Insemination Technicians
ARATTS	Agriculture Research and Technology Transfer
BVW	Basic Veterinary Workers
CBO	Community Based Organizations
CCO	Community Driven Development
CGIAR	Consultative Group in International Agricultural Research
CIMMYT	International Maize and Wheat Improvement Centre
DFR	Department of Forestry and Rangelands, MAAH
FAO	Food and Agriculture Organization
GEF	Global Environment Fund
GIS	Geographic Information Systems
HRDP	Human Resource Development Programs
ICARDA	International Centre for Agricultural Research in Dry Areas
ILRI	International Livestock Research Institute
LNZ	Liquid Nitrogen
MAAH	Ministry of Agriculture and animal Husbandry
MIDF	Medium Term Development Framework
MIS	Management Information System
MIWR	Ministry of Irrigation and Water Resources
MPW	Ministry of Public Works
MRRD	Ministry of Rehabilitation and Rural Development
MWA	Ministry of Women's Affairs
MWP	Ministry of Water and Power
NDF	National Development Framework
NGO	Non Government Organization
NRM	Natural Resource Management
PFA	Poultry Farmer's Association
PRA	Participatory Rural Appraisal
QUIPS	Quick impact interventions
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
VFU	Veterinary Field Units
WB	World Bank
WFP	World Food Programme

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I. FOREWORD

1. Following the Tokyo Conference on Reconstruction Assistance to Afghanistan in January 2002, a multi-donor mission, led by the Asian Development Bank, visited Afghanistan for one week during February 2002 to initiate a needs assessment for the natural resources and agriculture sector. This mission provided the foundation for, and recommended, a more detailed analysis of needs by the current mission,[1] which visited Afghanistan from 7 April to 7 May 2002.

2. The terms of reference of this mission focused on two requirements, namely (i) the preparation of project profiles for quick impact interventions, so-called QUIPS, and (ii) a medium term strategy, policy and institutional development framework for the natural resource and agriculture sector to set the stage for sustainable development into the medium term. For this purpose, the natural resources and agriculture sector is broadly defined to include all aspects of natural resource management, utilisation and protection.

3. The mission consulted extensively, with the concerned line ministries namely, the Ministry of Rehabilitation and Rural Development (MRRD), the Ministry of Irrigation and Water Resources (MIWR), and the Ministry of Agriculture and Animal Husbandry (MAAH). In addition a close working relationship was maintained with the Afghan Assistance Coordination Agency (AACA) who maintain an overview of the sector. Discussions took place with all major international agencies and donors, and with key NGOs working in the sector. Field visits were undertaken to Bamiyan province, the Panchir valley and the Shamali plains adjacent to Kabul. In addition, the mission participated in a Water Resources Management and Development Conference sponsored by MIWR and UNICEF, which was held in Kabul between 29 April and 1 May.

4. The mission is extremely grateful for the time accorded to its activities by the staff of all the various ministries and agencies working in the sector, and whose views have helped to shape this report. The aim is that this draft report will provide a basis to achieve a consensus on a medium term vision for the sector, together with the policies, programs and institutional changes needed to realise that vision. Once agreement is reached, the sector framework will provide a basis to ensure individual projects are supporting priority activities and outcomes.

[1] The mission was led by the Asian Development Bank and comprised Allan Kelly (ADB, Project Economist/ Mission Leader), Ray Shaw (ADB consultant, Agriculture Economist), Richard Smith (ADB consultant, Rural Development Specialist), Elayne Gallagher (ADB consultant, Institutions Specialist), Ted Breckner (ADB consultant, Agriculturalist), Aziz Bouzaher (World Bank, Natural Resource Specialist), Tony Garvey (World Bank, Water Resources Specialist), Rodney Kennard (FAO consultant, Livestock Specialist), Abdul Salkini, (ICARDA, Agricultural Research) and Roma Bhattacharjea (UNDP, Gender Specialist).

II. EXECUTIVE SUMMARY

5. The overall objective in the natural resources and agriculture sector is to improve livelihoods for all sections of the rural community based upon economically competitive activities, social cohesion and sustainable use of natural resources. Specifically, the planned outcome is self-reliant communities who are able to meet their needs through a combination of food production, off-farm employment and trade.

6. This needs assessment for the medium term development of the natural resources and agricultural sector is based on sub-sector programs or investments, institutional reforms and capacity building, and policy reform. The recovery process requires a coordinated response on each of these aspects for the medium term development outcomes to be achieved. The assumptions underlying this development are one of a market led economy, with Government pursuing prudent financial and fiscal polices and a liberal trade regime. Additionally, the recovery process is premised upon continued political stability, and a return to normal climatic conditions.

7. The vision for the sector reflects the principles outlined in the Tokyo speech of Afghanistan Interim Authority (AIA) Chairman Karzai, January 2002 and the National Development Framework (NDF), April 2002. It has the following key elements:

(i) A “bottom-up” community based approach to the determination of development priorities, using the micro-watershed as the planning unit;
(ii) A natural resources management and regulatory mechanism, which ensures that the use of natural resources by communities, in aggregate, does not exceed the capacity of natural systems to sustain themselves.
(iii) The critical natural resource is “water” whose availability must be maximized and whose use must be effective and efficient. In doing so, ecosystems will be sustained while agricultural output is maximized. It is essential that all communities and agencies become aware that the abstraction of water incurs a cost over and above the delivery of the water;
(iv) The transfer of modern dryland farming technologies to rainfed areas with a view to producing at least half the country’s cereal needs from rainfed farming;
(v) Rehabilitation of small, medium and large irrigation systems managed by their communities/beneficiaries and growing predominantly high value cash crops capable of supporting the cost of the infrastructure;
(vi) A traditional integrated livestock economy based on sustainable rangeland management and crop by-products, plus commercial peri-urban livestock enterprises serving the main urban communities;
(vii) Private sector led provision of agriculture services including seed, fertilizer, farm machinery, agro-chemicals and animal health products;
(viii) Agricultural marketing in the hands of the private sector, but with a significant farmer based marketing organisation segment;
(ix) A thriving off-farm income generating sub-sector primarily targeted at and organised/operated by women;
(x) A lean, reformed set of sector institutions performing an agreed set of public sector functions
(xi) An appropriate policy framework conducive to a thriving private sector.

8. Rebuilding the natural resources and agricultural economy upon which up to 85 percent of the population depend for their livelihood will require a fundamental change in the manner in which development priorities are determined and implemented. Its calls for a development agenda, which is driven by community-determined priorities, and should be based upon appropriate participatory mechanisms to ensure that all stakeholders are

represented. Logically, this should produce a dual approach to community based interventions which include both productivity enhancing interventions for those with land (and employment opportunities for the landless) and targeted off-farm interventions for the landless or families with small amounts of land. Both types of intervention will be required and are complementary.

9. Further, this community based approach to setting the development agenda must be fitted within a natural resource planning framework which ensures that the use of natural resources remains sustainable, that key resources are protected and shared efficiently, that proven solutions for sustainable resource use are made available sector- wide and that the approaches to export market penetration are coordinated.

10. This sector vision is translated into a set of sub-sector development programs, with the needs divided into two timeframes, a short-term program to be completed within two years and a medium term program of up to five years. Developing the sub-sector framework and programs, the need for institutional change and policy reform to support the new development strategy is assessed, and required interventions incorporated in the programs. These sub-sector programs build upon ongoing activities, and envisage a gradual decline in the current high levels of food dependency. Within five years the sector should be largely self-reliant, with most communities relying upon a combination of food production, off-farm employment and trade to meet their needs.

A. Natural Resources Management

11. Traditional natural resource management, coping and mitigation strategies have broken down under growing population pressures, the collapse of the rural economy and control by elites. These strategies must be rebuilt within the context of the community development approach and sustainable natural resource management. In the future, vulnerability to drought must be significantly reduced by incorporating a range of technologies and by strengthening off-farm income generating activities. Any tendency for misuse of natural resources must be countered by appropriate environmental management institutions backed by legislation. Currently, Afghanistan does not have an agency with overall responsibility for the protection of its natural resources.

12. It is proposed that the above issues be addressed within the context of a natural resource management approach based upon river basin (watershed) planning and their sub-divisions (micro-watersheds) as indicated in the NDF. At the micro-watershed level, management plans would be formulated with full community participation and the communities, through the allocation of tenure or user rights, would become the custodians of the micro-watershed's natural resources. The permitted level of natural resource use in each micro-watershed would be determined in collaboration with the agencies responsible for overall natural resource management.

B. Water Resources Management

13. Water resources are the country’s most precious resource. They must be managed efficiently and sustainably in order to maximize agricultural output. Water resources are fundamentally scarce and drought is a common occurrence. Although Afghanistan has limited water resources, it does not make effective use of what is available. The Government needs to develop a longer-term strategy to manage water resources and reduce vulnerability to drought. The strategy should focus on increasing the water capital and making better use of water. Specifically, the strategy should include (i) water harvesting and watershed management, including more water storage structures both small and large, (ii) effective control of groundwater use, (iii) better information systems on water availability, (iv) eliminating unsustainable land use practices (v) improved intake structures and

corresponding on-farm water management, (vi) the management transfer of state owned schemes, plus, (vii) extending the irrigated command area.

C. Community Development Program

14. The vast majority of rural communities lack basic services, especially communications, clean drinking water, and health facilities. While agriculture is the basis of the economy little advice on new technologies and varieties is available, and institutional credit facilities are absent. Community infrastructure related to agricultural production, such as irrigation systems and water impoundments, bridges and roads are badly degraded. Community participation in decision-making for economic development has been relatively narrowly focused. The opportunity exits for strong village consensus reckoning through the Shuras and other reliable mechanisms to help vulnerable groups. The community based approach to development has traditional foundations but as a result of recent depredations, will require, (i) strong support programs to assist empowered communities to develop the skills to play a full part in the decision making processes which are being offered to them and (ii) funding to enable the outcomes of these processes to be supported and have practical results.

D. Agriculture (Crops)

15. Productivity levels of rainfed and irrigated farming are low even by regional standards. There is considerable potential for productivity improvements. ICARDA has designed and promoted drought tolerant varieties and cultural practices for cereals, legumes and forage crops that would significantly increase returns and could double current yields. With extensive implementation of well-designed micro-watershed management techniques including the adoption of micro water harvesting techniques the potential to treble current yields is possible.

16. A key feature of existing irrigation systems is their very low efficiency rating of about 25 percent, which indicates that there is considerable scope for reducing the wastage of water, and increasing the irrigated area. Reliable data on the current extent and productivity of irrigated agriculture is fragmented, largely due to the combined impact of recent conflicts and the prolonged drought. Many systems have been damaged or suffer from lack of maintenance, with a number of the more modern systems and larger traditional systems also having salinity and waterlogging problems. The productivity of all types of systems can be improved substantially. Particular attention should be paid to intake design, and to the transfer of irrigation system management to beneficiaries.

E. Livestock

17. Livestock enterprises are beset with serious problems including loss of livestock, decreased productivity due to declining feed and overgrazing, and the affects of animal diseases, which are not being adequately treated. Much of the irrigated land, which formerly supported livestock, is now without water. The small poultry flocks, which were almost exclusively owned and managed by women have for many households almost disappeared, while the smallest and poorest farmers who formerly kept at least one cow to provide for their subsistence needs are now without animals. Disease problems are only being partially contained. Rangeland is overgrazed and nomadic and semi sedentary sheepherders are operating with high mortality rates. Improvements in the small ruminant sector, even in non-drought times, is hampered by traditional user rights and grazing practices and a preoccupation by raisers with livestock numbers rather than productivity.

18. The interest in livestock keeping will be influenced by the development of an institutional and regulatory framework, adequate livestock support and animal disease

services to improve livestock. Policies on rangeland management and use to be prepared for nomadic livestock herders.

F. Agriculture Research and Technology Transfer (ARATTS)

19. It is a fundamental requirement that a review be undertaken to assess the needs, policies, functions and institutional structure to establish and operate an efficient ARATTS that will respond to farmer identified priorities and to future farming needs. The principles underlying the future shape of ARATTS should include;

(i) Integrating on–farm participatory research and technology transfer activities into practical development programs;
(ii) Development of demand-driven, community-based research and technology transfer programs that recognize the special needs of rural poor, especially the disabled, children, and rural women;
(iii) Adoption of innovative methodological approaches, such as the farming systems approach to research and development, integrated natural resource research sites, integrated watershed management, incorporating socio-economic aspects with technical and biophysical research programs; and
(iv) Determining the most effective institutional framework for linking research with extension delivery agencies and organisations.

20. A restructured ARATTS network has a key role to play in bringing appropriate technologies to Afghanistan and in leading the adoption of productivity enhancing methods by farmers.

G. Off-Farm Employment

21. Off-farm income generation activities are an integral part of rural production systems. It is generally accepted that families with less than 0.5 ha of irrigated land have great difficulty earning a living solely from agricultural production in most parts of Afghanistan. This means that about 65 percent of farming families rely upon off-farm income generating activities to achieve a modest living.

22. For small-scale rural enterprises to flourish will require a supporting package of services, which should include the provision of raw materials, training and market outlets. It is proposed that the most feasible solution to meeting these needs would be the rural cooperative with an apex-marketing arm in the main urban centres. In the short to medium term such development could be supported by an NGO with experience in this area. This initiative would have a strong gender and poverty alleviation impact.

H. Institutional Development

23. The AIA has clearly stated its vision for the public sector. The line ministries and other state entities will be responsible for overall natural resource planning, policies and related management parameters, the formulation of programs to deliver agreed public services to the community level, including technology transfer, the regulation of private sector activities and the monitoring of performance of development programs. Implementation, to the extent possible, will be entrusted to the private sector, including NGOs and beneficiary communities. In this regard, Government will create the enabling environment for the operation of national and international firms (in particular for engineering and construction).

24. Local communities will be empowered to decide their development priorities, to contribute to implementation of their projects and activities where possible, and to monitor

the work of government agencies and the private sector. Government's strategy will focus in the near-term on creating employment and supporting livelihoods at the community level.

25. These principles indicate the need for a complete review of the current institutional structure governing the natural resources and agriculture sectors at all levels, from the national to the village level. The existing structure is a legacy of several highly centralised administrations whose views were diametrically opposed to the decentralised approach of the present administration. In the short to medium term, the line ministries will undergo a process of change management to move from their current all encompassing functions to one, which reflects the vision of a set of core functions for public sector agencies.

26. Currently there is a relatively limited number of highly skilled professionals available in Afghanistan. As the number and scale of the development programs and projects is expanded, these existing resources will be fully utilised, and a strategy needs to be developed to address the anticipated shortfall. Key aspects will involve technical and management areas to meet the rapidly increasing demand, establishing capacities to provide training, re-establish training institutions, and encourage the return of skilled Afghan professionals. The latter have the potential to provide an excellent resource in modern management, economic and technical approaches. Planned technical assistance, which requires foreign inputs should focus on maximising to the extent possible the employment of Afghan professionals.

27. The need for training and retraining courses is vast. There is a clear requirement for a structure to the delivery of training needs at the different levels and in the various subject areas. Some of the key considerations to bear in mind in formulating a training needs assessment are:

(i) There is a considerable body of technical expertise already available but much of it needs to be brought up to date and reoriented to the community participatory approach envisioned by the AIA. Therefore, there will be a large demand for retraining programs especially of technical staff such as engineers.
(ii) The Government has expressed its intention of reforming and downsizing the line ministries. The implication is that large numbers of government agency staff will be seeking work in the private sector. Training programs will need to be provided to prepare them for private sector roles.
(iii) The type of retraining programs could form part of a relocation package. There are NGO and private sector organisations specializing in this field that need to be identified as potential partners.

28. While improving capacity, and developing strategies to meet requirements in the short to medium term, it is essential that specific strategies are prepared to support and improve the role of women in both government institutions, and in the rural communities and village economy. At the village level, there is a need to develop a comprehensive program, including training, to support the role of women in the community and community organisations, and a range of income generating skills using local raw materials to the extent possible.

I. Policy and Planning

29. The development framework details the need for a number of key policy reviews and for preparatory work on a policy reform agenda during the coming two years. The legislative and regulatory aspects of the policy reform agenda will be undertaken in the medium term. A medium term time frame is required as currently institutional and enforcement capacity is minimal and will need to be established before an effective regulatory framework can be

developed. Specific sub-sectors where the policy framework needs review or amendment include but are not confined to: forestry, water resources; environmental protection; rural energy; rangeland grazing; rural cooperatives; agricultural trade; public and animal health; technology transfer; rural credit and community development.

30. The policy requirements in the short to medium term will be significant for an efficient sector framework to be developed, which will enable improved livelihoods and sustainable resource management. To ensure the development of policies, legislation and regulations which are harmonized across the sub-sector a dedicated natural resources policy unit to undertake this work is required.

31. At the national level a gender strategy and action plan is required and will be developed. This strategy will address key issues relating to: the structural and systemic causes of women's poverty in the agricultural sector such as unequal access to land, credit, equipment, education, decision-making; issues of women's poverty and under/unemployment in the rural sectors; and an equal opportunity policy that will ensure recruitment of higher number of women in the future. Gender policy expertise will be required in the areas of agriculture and natural resource management to ensure gender is integrated into community development strategies.

J. Implementation Strategies

32. The draft framework is the outcome of a wide-ranging consultation with all key stakeholders and it should be treated as the start of a process. It has been revised following initial comments, and the intention is that it be further discussed with the new Transitional Government in late June 2002, and that the government take the lead on reaching a consensus on the framework. The consensus will involve both internal and external aspects. The internal aspect is critically important as agreements and support is required on the priorities and framework from sector ministries. The external aspect will involve the government, AACA, taking the lead and reaching consensus with the donor community on the framework so sector interventions will be coordinated and support identified priorities.

33. Afghanistan is receiving unprecedented attention and offers of assistance from the international community. To ensure that resources are used efficiently and effectively, it is essential that efficient aid coordination and management mechanisms be established. The mission noted that various coordination mechanisms are in place, but is concerned that, at least in the natural resources sector, the coordination to date is not being led by the Afghan authorities, especially the AACA. To ensure Government ownership, and that activities are supporting government priorities, and to minimize the risk of duplication within the major donor programs it is essential to have a process established with regular donor meetings chaired by the government, and its representative body. It is envisaged that such meetings should be held and decisions taken within an agreed development framework, such as the one proposed in this report.

III. INTRODUCTION

A. Approach to Needs Assessment

34. The preparation of the needs assessment involved a two stage approach, with technical specialists undertaking sub-sector assessments, and the assessment findings and recommendations integrated into an overall natural resources and agriculture sector needs assessment and medium term development framework. The reports discuss the needs assessment in two timeframes, a short-term period of two years and a longer period of three to five years.

35. The needs assessment is presented in the following manner:

(i) A main report, which outlines sector strategies and needs, and presents in summary the sub-sector report findings, and highlights the programming aspects. The sub-sector key issues, objectives short (1-2 years) and medium term (3-5 years) needs, and required policy agenda are outlined in a sub-sector matrix table. Separate sections cover institutional and capacity building needs, the policy agenda and implementation strategies. The short-term interventions identified to address priority needs, and to provide the basis for the medium term development are aggregated and detailed in Appendix 1, Short-Term Activities.

(ii) A set of Appendices, which detail the sub-sector and institutional assessment. Each Appendix describes the current situation, key issues, short and medium term needs, strategic objectives, and policy requirements.

B. Sector Background

36. The natural resources sector (including agriculture) has suffered from varying degrees of depredation for almost 25 years. A combination of war, civil conflict, exploitation and enforced neglect have combined to leave a legacy of degraded natural resources, especially forests and rangeland, damaged infrastructure and fragmented rural institutions. While NGOS and UN agencies have worked effectively with rural communities throughout this period and have had positive impacts at the local level, overall the sector remains poorly performing, with the country highly dependent upon food aid. The recent severe drought worsened the degradation, but it is not the key underlying factor for the non sustainable resource use, poor management and production systems.

37. The task of recovery is to improve the performance of the sector, and at the same time to rebuild its resilience through the adoption of technologies, which reduce vulnerability to drought. Although population pressures are increasing, Afghanistan has the capacity to mobilize over 7.5 million ha. of cultivated land of which 60 percent would be irrigated and 20 percent would be double cropped. This degree of land and water use amounts to about 0.35 ha per capita, a relatively generous ratio in a regional context. In addition, the country has about 29 million ha of rangeland for use by livestock. If productivity levels can be restored to levels similar to the rest of the region, then Afghanistan should be able to resolve medium to longer-term food security concerns.

38. The recovery process outlined in this report has a 5-year timeframe. In this period the emphasis will be on achieving a large measure of self- sufficiency, especially in cereal production. This is a household priority given the legacy of the past 25 years, which has left so many families unable to feed themselves. So while self-sufficiency is a household and social priority, economically it may not be the preferred option as the high degree of dependency on domestically grown cereals, is based on most cereal production using high cost irrigation systems. A longer-term development framework may involve most cereals

being imported with Afghan agricultural production systems focused upon a range of cash crop exports. Achieving this potential will be dependent on the outcomes from the medium term development framework.

C. Sector Development Framework

39. The development framework for the sector reflects the principles laid down in two key documents, the Tokyo speech of Chairman Karzai and the National Development Framework (NDF). The principles are as follows:

(i) the development agenda must be in the ownership of the people of Afghanistan and implemented within a common strategic framework;
(ii) the private sector should be the principal instrument of economic growth within an appropriate enabling policy framework;
(iii) the participation of all sections of the rural population in decision making should be promoted through a community based approach;
(iv) investment in human capital and maximum use of Afghan expertise is essential to the recovery process;
(v) donor-funded investment decisions must sit firmly within the sector framework and related budgetary norms.

1. Determinants of a Strategic Approach

40. A number of factors, both conventional and those specific to current circumstances are relevant to the formulation of a medium term sector development framework. The conventional factors include: (i) the demand for the sectors products, both domestic and external; (ii) the spatial distribution and quality of resource endowments; (iii) population distribution and the unit size of population groups; and (iv) the accessibility of population units to markets and sources of raw materials. These are the factors, which, largely, determine the geographical allocation and use of both natural and human resources, and the need for differentiated development responses depending upon the precise combination of factors in a particular location.

41. In Afghanistan, the more specific factors include: (i) the impact of returning refugees; food security following three years of drought; (iii) poppy substitution; and (iv) mined areas. Each of these specific factors calls for additional efforts in particular locations during the short to medium term.

42. The result of combining all these factors is a complex and diverse geographical pattern of development needs, which will require a combination of donor support, private investment, the transfer of appropriate technologies, reshaped institutions, enhanced human resources and the best efforts of the Afghan people.

2. The Strategic Approach

43. In 1978, Afghanistan with a population of 14 million was self-sufficient in cereals and had a flourishing export market in horticultural products. The current population is estimated at about 20 million with a rural population of around 16.5 million. Internationally in the past 20 or so years agricultural technologies have advanced substantially enabling agricultural systems to more than keep pace with population increases. On this basis and assuming a stable and secure political environment, it would be realistic to expect a return to the former 1978 status in the not too distant future. The process of recovery has started but requires further elaboration to ensure that all concerned are contributing constructively to this common goal. Recovery of the rural sector will depend upon balancing sustainable natural resource use with population pressures.

44. As the economy remains overwhelmingly rural and agricultural with 80-85 percent of the population dependent upon natural resources for their livelihood, the pace of recovery in the rural sector will largely determine the overall rate of economic recovery.

45. The structure of rural society is one of numerous settlements (over 30,000 clustered into about 18,000 communities) many of which have very limited or costly access to external assistance and markets. Although there are marked geographical differences in wealth generating capacities across the country, there is a similar cross-section to village society irrespective of location or agro-ecological zone. This cross-section covers, landholders, small landholders, sharecroppers, landless and female-headed households. This geographic dispersal and disparities in asset distribution within rural communities require a development agenda, which is driven by community-determined priorities. Further, formulation of the agenda should be based upon appropriate participatory mechanisms to ensure that all stakeholders are represented. Logically, this should produce a dual approach to community based interventions which include both productivity enhancing interventions for those with land and employment opportunities for the landless and targeted off-farm interventions for the landless or families with small amounts of land. Both types of interventions are likely to be required, and are complementary. An agro-ecological or specific farming systems approach may be appropriate and will be adopted in specific programs.

46. This community based approach to setting the development agenda must be fitted within a natural resource planning framework to ensure that natural resource use is sustainable, that key resources are protected and shared efficiently, that proven solutions for sustainable resource use are available sector- wide and that the approaches to export market penetration are coordinated. Mechanism(s) to merge the “bottom-up” community approach with the “top down” resource management approach will need to be carefully prepared, as both perspectives are essential to sustained growth of the rural economy.

47. Three years of drought have severely tested the resilience of the respective rural communities in all of the agro-ecological zones. Further, it is evident that some communities have coped much better than others. The medium term framework will address the particular concerns of communities within each agro- ecological zone but give special attention to rebuilding the asset base of those communities which, have proved to be less resilient and where a more appropriate balance between natural resource capacity and population pressure is needed. Technology packages, including the transfer of international best practices, should be applied as appropriate to agro-forestry, rangeland, livestock, rainfed arable and irrigated arable farming systems.

48. Within any community the critical resource is “water” as it is the basis for most agricultural productions and for household consumption. Afghanistan, for the most part, has a low precipitation regime, which is collected mostly in the form of winter snow and spring rain. Snowmelt, particularly, in the spring and early summer is the lifeblood of rural livelihoods. Consequently, the conservation and efficient use of water must be the foundation of a fully productive agricultural sector. In most of Afghanistan water available for agriculture is likely to continue to be subject to considerable annual variation affecting both rainfed and irrigated agriculture. Within the medium term, a strategy, which mitigates the impact of these variations, should be developed. This means capturing the maximum amount of available water (increasing water capital) and making the most efficient use of it. By adopting such practices it is estimated that the productivity of agriculture (both rainfed and irrigated) could be at least doubled, thereby removing major concerns relating to overall food security. However, for the landless and small landholders it will be essential to complement improved farm productivity with programs aimed at off-farm income generation. Such efforts should be particularly targeted at rural women and female led households.

49. The majority of women in Afghanistan work in agriculture. They constitute a large portion of the agricultural labour force; estimates indicate that they account for over 70 percent of the labour. Also, women work as professionals, researchers and technical staff in the Ministry of Agriculture, Rehabilitation and Rural Development and Irrigation and Water Systems. These different groups of women constitute a key stakeholder in any strategy development, planning and project interventions in the agricultural and natural resource management sectors. Household Food security is an identified priority. The absence of food security in recent years has had a particularly adverse impact on women, as the patriarchal system implies that women in poor households are lowest in the hierarchy of intra-family food consumption, and as UNICEF sources report it has resulted in a serious incidence of women's malnutrition and a very high maternal mortality rate.

50. The success of the outlined sector development framework will require an implementation strategy, which synthesizes the strengths of the private sector, non-government organisations (NGOs) and line ministries at the national and provincial levels. The absence of coherent government over many years has led to the involuntary withdrawal of line ministries and their provincial offices from their traditional roles. In many provinces and in specific areas, these functions have been performed by NGOs and UN agencies. In the medium term, it will be necessary to reform the overall institutional structure of the sector. It will involve defining the new core roles of line ministries, and their relationship to the collective NGO and private sector communities. The scopes of line ministry functions, and the mechanisms to forge a closer working relationship with NGOs, especially at the provincial and district levels, are critical elements of the strategy.

51. An enormous amount of technical expertise has been lost to the sector over the past 20 years. This loss of human capital must be replaced as quickly as possible if the sector is to recover its former vibrancy, reduce dependency on external expertise and enable citizens to fulfil their potential. Thus, a key element of the medium term strategy must be incentive schemes including training opportunities designed to produce quality sector managers, program managers, technical staff and well-informed farmers.

52. Before agricultural activity can commence in many areas, it will be necessary to undertake surveys to determine the presence of mines, unexploded ordinance and bomb craters. Land rehabilitation programs will be needed in selected areas determined by the survey.

53. Poppy cultivation has increased and while concentrated in two provinces, production is spread across several provinces. Strategies to be implemented in these areas must focus on improving livelihoods through: improved agricultural productivity; alternate activities and high value cropping enterprises; and in supporting development of off farm employment opportunities. As there will be a lead-time while those alternative rural activities are established, in the short term rural livelihood interventions to improve incomes will be important. The strategies adopted will be fully consistent with those endorsed by government and the UN Drug Control Program.

3. Objectives

54. The overall objective in the natural resources and agriculture sector is to improve livelihoods for all sections of the rural community based upon economically competitive activities, social cohesion and sustainable use of natural resources. Specifically, the planned outcome is self-reliant communities who are able to meet their needs through a combination of food production, off-farm employment and trade. A realistic medium term target would be a return to 1978 levels of sector productivity and output within five years.

55. A cross-sector objective, encompassing all sub-sectors is the need to support gender-based activities, which are incorporated into the sub- sector programs. A national gender strategic and action plan is required to address key issues relating to women's poverty, decision making roles, under-employment and equal opportunity policy. In terms of the sub-sectors, specific interventions include (i) technical skills improvement (ii) training in small business enterprises, provision of training in marketing skills (iii) provision of micro-finance and credit and the required training to manage money (iv) introduction of mechanized practices and processes that would lower women's burden and improve efficiency and productivity (v) promoting export of products such as dried fruits, (apricots), raisins, nuts (vi) feasibility of operating an apex marketing outlet in Kabul selling products of women in Afghanistan-social labelling, and (vii) linking with international Fair Trade partnerships

56. Specific sub-sector objectives are detailed in each of the sub-sector development matrices.

IV. NEEDS ASSESSMENT: SUB-SECTOR PROGRAMS

57. The following sub-sector categories have been identified as the core of the natural resource and agriculture sector recovery effort. Each category covers a short description of the sub-sector issues and future program needs in both the short and medium term. Where relevant, reference is made to any complementary institutional and policy issues which are discussed in more detail later in the text.

A. Natural Resources Management

1. Current Status and Issues

58. Afghanistan has a total land area of about 65 million ha. of which approximately 80 percent is either mountainous or desert, with forest cover small at around 1.3 million ha. or about 2 percent of the land area. Forest area has declined from 1.9 million ha. in 1996. There is one national park and five protected areas. In recent years forest cover has diminished, due to community demands for fuelwood and illegal logging. It is estimated that offtake rates are exceeding annual growth rates leaving a deficit of about 30,000 ha of forest per year. If nothing is done, Afghanistan will have very little natural forest or its associated wildlife left in 15 years time. On purely conservation and environmental grounds Afghanistan should have at least 5 percent of its land area, or about 3.2 million ha. of forest cover. This would reduce rangeland and watershed degradation, loss of biodiversity, and loss of livelihood sources.

59. Illegal logging is largely a function of the current security situation and control of local resources by local commanders in collaboration with Pakistani traders. Forestry legislation has been in draft form for years, awaiting clarification of tenure and land use rights of local tribes in many parts of the country, and especially along the border with Pakistan. The lack of a legal framework clarifying tenure, user rights, and oversight responsibilities, combined with the collapse of government institutions, has led to resource rents being controlled by local elites. Local communities, with the help of NGOs have attempted to protect forests, but local leaders have disrupted these efforts leading to the disintegration of both social organisations and physical barriers such as fencing.

60. The demand for fuelwood by communities is estimated to be less damaging than illegal logging, but is nevertheless destructive. The issue needs to be addressed within a policy framework for rural energy needs, which, incorporates provisions for community or social forestry programs. Similarly, recent years have witnessed the cultivation of rangeland as communities seek ways to mitigate the effects of drought and population pressure in some areas. These activities have resulted in the widespread degradation of both forests and rangeland, flooding, water scarcity, and in many areas severe soil degradation.

61. Government agencies have had a limited role in conservation work over the last 20 years, with most of the work being undertaken by NGOs. The NGOs have worked directly with local communities and shuras, with the focus of activities being livelihood sustenance based on horticulture and agroforestry interventions. While the NGO contribution has been large, there has been little coordination of the program and limited any evaluation. This experience and the lessons learned will need to be integrated into the planning for proposed activities as will mechanisms to link the AIA vision for reformed government agencies working with NGOs as partners, or using them as contracted agents.

62. There is a general consensus that the natural resources of Afghanistan are in poor shape. The extended drought is commonly cited as the principal cause together with the period of conflict. Whilst the conflict has undoubtedly been an exogenous factor, the impact of drought should not be seen as an event, which necessarily results in a degraded

environment. Afghanistan has a history of drought of varying severity and will continue to experience such periods. Traditional coping and mitigation strategies have broken down under growing population pressures, the collapse of the rural economy and control by local elites. These strategies must be rebuilt within the context of the community development approach and effective natural resource management. In the future, vulnerability to drought must be significantly reduced by incorporating a range of technologies and by strengthening off-farm income generating activities. Any tendency to misuse natural resources must be countered by appropriate environmental management institutions backed by legislation. Currently, Afghanistan does not have an agency with overall responsibility for the protection of its natural resources.

63. The issues outlined above provide the basis for formulating strategic objectives, lead to the identification of short and medium term needs, and policy requirements for a sub-sector development framework which is summarized in Table 1. The framework is discussed in detail in Appendix 2.

2. Development Framework

a. Short-Term Interventions

64. It is proposed that the above issues be addressed within the context of a natural resource management approach based upon river basin (watershed) planning and their sub-divisions (micro-watersheds) as indicated in the NDF. At the micro-watershed level, management plans would be formulated with full community participation and the communities, through the allocation of tenure or user rights, would become the custodians of the micro-watersheds natural resources. The permitted level of natural resource use in each micro-watershed would be determined in collaboration with the agencies responsible for overall natural resource management (i.e. the river basin authorities and their parent organization). Pilot programs to test micro-watershed planning, building upon similar work supported by NGOs, should commence within the next six months. It is envisaged that this work will take place within the broader context of community empowerment and participatory planning programs. (refer Appendix 1 for proposal details)

65. Pilot social forestry projects should be established in those areas worst affected by community fuelwood gathering. These activities could be initiated quickly under the Rural Livelihood (short-term employment generation) Program, and more widely as a component of the Community Development Program. (refer Appendix 1 for proposal details)

66. Urban greening projects could be initiated, quickly under the Rural Livelihood (short-term employment generation) Program. (refer Appendix 1 for proposal details)

67. Forest and Rangeland Assessment Inventory. The status of the remaining forest area and of rangeland to be assessed using GIS technology. The possibility of concluding agreements with local commanders to help curb illegal logging to be assessed. (refer Appendix 1 for proposal details)

b. Medium Term Programs/Investments

68. The Government should commit itself to a target of 5 percent forest cover within 20 years. This target should be allocated by watershed and be made the responsibility of the proposed river basin authorities. A similar target should be set for the rehabilitation of degraded rangeland, above a minimum altitude.

69. In the medium term, forest policy and forest legislation, implementation of institutional reforms and social forestry activities as part of the community development programs will be

the major focus. Policy and legislation will be required for community joint management of forest resource, commercial logging, plantation, biodiversity and developing community forestries. The social forestry activities will involve community management of forest resources. Classification and codification of all forms of tenure rights will be needed to effectively implement these activities.

70. The implementation of a participatory natural resource management strategy in line with AIA policy will require institutional change at the village/district, provincial and national levels. At the village/district level the representative committees will need to develop planning and management skills in addition to their traditional conflict resolution role. At the provincial level, line ministry staff will have to combine technical competence with those of participatory planning and at the national level there will be major reform and reorganization. The institutional and policy issues are covered in more detail in Section V and Section VI respectively in this report.

Table 1: Natural Resource Management Matrix

Key Issues	Strategic Objectives/ Indicators	Needs assessment		Policy Agenda
		Short-Term Program (1-2 Years)	Medium Development Framework (2-5 Years)	
Severe depletion of natural forest and biodiversity resources	Restore and enhance the quality of natural forests. A long term target of 5 percent forest cover should be adopted	Assess state of remaining natural forest (using RS/GIS)	Programs to restore degraded forest and reforestation	Prepare an interim forest policy including protection measures
Conversion of pasture land to crop land	Improve the productivity and sustainable use of rangeland	Assess status of rangeland resources and tenure arrangements	Programs to upgrade degraded rangeland	Integrate grazing rights into micro-watershed plans
Timber demand rapidly increasing	Curb illegal logging	Agreements with local commanders/governors	Enforce offtake agreements using a combination of community wardens and police	Introduce joint forest management of natural forests with communities.
Urban greening	Reduce air pollution and create attractive urban environment	Peri-urban tree planting/employment program		Labour intensive programs
Demand for fuelwood for household energy exceeds supply	An integrated house-hold energy program	Social forestry programs in selected areas	Soil-forestry programs as part of community micro-watershed plans	Rural energy policy
Lack of accountability for natural resource management	Community based micro-watershed plans and management	Formulation of pilot micro- watershed plans in collaboration with communities	Implement micro-watershed plans including investment in forest products	Give communities responsibility for plantation forest, pistachio and other fruits tree forests
Unclear tenure/ leasehold rights	Land registry linked to cadastre	Assessment of existing rights and records	A computerised registry linked to a national cadastre	Land tenure policies
Inadequate institutional structures	A reformed Dept. of Foresty (DoF)	Institutional review and analysis of Dept. of Forestry	Develop institutional arrangements for watershed management	Policies on the role of line ministries in natural resources management
Need for capacity Building	Fully trained staff focused on the new mandate of DoF	Implement NDF “PAIG” at the national and provincial level	Training programs based upon approved institutional review recommendations	Policy on upgrading skills of senior line ministry staff
Demolished Infrastructure	Effective working environment	Rebuild necessary DoF office and facilities in Kabul and provinces for revised role.	A functioning reformed agency responsible for natural resources priorities.	Policy on reconstruction of office infrastructure

B. Water Resources

1. Current Status and Issues

71. Water resources are most precious in Afghanistan. These resources must be managed efficiently and sustainably as they are fundamentally scarce and drought is a common occurrence. Currently opportunities exist to improve efficient water planning, use and mangement with only 15 percent of run-off contributing to aquifer recharge and irrigation system efficiency levels of about 25 percent, when a level of 40 percent should be the norm, and can be achieved with feasible levels of investment. Moreover, demands on the resource have grown and are expected to continue to grow. The scope also exists to expand irrigation area. FAO has estimated that long–term water availability is about 2800m3/head /year, enough to irrigate 5 million ha., which is significantly higher than the current 2.6 million command area.

72. Total developed irrigated area in 1978 was estimated to be 2.63 Mha,[2] consisting of (i) 1.32 Mha by traditional methods from perennial rivers (ii) 0.98 Mha by traditional methods from emphemeral streams, *kereze,* and *arhads;* and (iii) 0.33 Mha by modern systems from perennial rivers. Only 1.44 Mha had sufficient water supply to support double cropping. Approximately 2.3 million ha. or 90 percent of total area uses traditional schemes developed and built by farmers, and operated and maintained according to traditional communal customs and practices.

73. The effects of war and neglect on these systems have not been systematically assessed. While there has been substantial financial and technical support for rehabilitation since 1989 from NGOs and UN agencies, comprehensive data on the scale and the extent of successful and sustainable rehabilitation is not available. In 1997 FAO estimated that about 1.7 mha required rehabilitation, and another 0.68 mha required improved water management. Also, a limited number of large formal irrigation systems have been built operated and maintained by the state, and are in need of major rehabilitation. Most are currently dysfunctional. These large formal schemes raise significant technical, institutional and social issues as the schemes will require infrastructure rehabilitation, repairs to dams and other major structures, and many, particularly those in the plains and in the south, have serious water management problems including water logging and salinity.

74. The Government needs to develop appropriate policies to effectively manage and monitor groundwater development and use. Groundwater, whether a part of annual recharge, or the non-renewable reserves, could serve as the most important safeguard in times of drought or low water availability (a principle mentioned in the 1981 Water Law). Legal and regulatory approaches require effective public institutions and obedience to the rule of law. A more promising approach that is being applied in many areas of the developing world is to involve communities directly in conjunctive use and management of surface and groundwater, in some cases by forming special groundwater management districts in which all water users (surface and groundwater) have an effective role in decision making.

75. While the increase in vulnerability to low rainfall can be traced to unsustainable land use practices–involving over grazing, deforestation and cultivation of marginal lands, these practices are an outcome from increased population density, a shrinking natural resource base, and limited opportunities for alternative employment and income. When prolonged drought occurs, asset depletion, low agricultural production, increased indebtedness; low food supply, poor health and increased uncertainty sustain a downward spiral that is difficult to recover from when rainfall returns to normal. For this reason providing support to the off-farm rural economy is a high priority, as efficiently targeted and implemented labor-intensive interventions to rehabilitate rural infrastructure including roads provide needed employment and livelihood improvement.

76. Given the country's variable climatic conditions and vulnerability to drought, information systems on current and expected weather, rain and water accumulation in winter snow pack are important in terms of both farmer decision making and cropping enterprises, and at a macro level in preparing short and long term strategies to reduce vulnerability to drought. Such strategies may involve water conservation and efficient water use; water harvesting and watershed management, small storage dams, river basin planning and management. In Afghanistan data on the amount of water stored in the snow pack is especially important because snowmelt is the primary source of spring runoff and river flow. Snow surveys to measure such water storage and forecast runoff are common in river basins in many countries.

[2] As reported in the Afghanistan Agricultural Strategy, FAO, 1997

77. The river basin (and sub-basin as appropriate) should be the basic unit for planning and management. To enable multi-sector and often conflicting demands to be managed, a national water coordination agency should be established with responsibility for guiding all aspects of water use across all ministries (planning and regulation) as well as monitoring, protection and conservation of the resource base. Sustainable management of rivers and their use for irrigation and hydropower, the management of flood hazards and risks, as well as other uses, are and will be important in determining the prosperity of the country.

78. There is scope for transfer of the management of larger irrigation schemes to the beneficiaries. The state owns about 0.4 million ha. within such schemes. Their rehabilitation should be based an approaches which are an outcome of active community participation, as the community groups will take over the management.

79. The issues outlined above provide the basis for formulating strategic objectives, lead to the identification of short and medium term needs, and policy requirements for a sub-sector development framework which is summarized in Table 2. The framework is discussed in detail in Appendix 3.

2. Development Framework

a. Short Term Interventions

80. A Government priority is to develop a long-term strategy to manage water resources and reduce vulnerability to drought. The strategy should focus on increasing the water capital, and improving water use efficiency. Specifically, the strategy should include (i) water harvesting and watershed management, including more water storage structures both small and large, (ii) effective control of groundwater use, (iii) better information systems on water availability, (iv) eliminating unsustainable land use practices (v) improved intake structures and corresponding on-farm water management, (vi) the management transfer of state owned schemes, plus, (vii) extending the irrigated command area.

81. In the short term the initial emphasis of the strategy and priorities will focus on: investment in the rehabilitation of traditional small and medium irrigation schemes, with such programs to play a key role in institutional restructuring and capacity building; planning for the rehabilitation of formal and large scale schemes; establishment of database and information systems; and initiating the institutional change process.

82. Water conservation and harvesting through soil, vegetative and forest cover management, construction of check dams, contour bunds and other facilities to conserve water and enhance groundwater recharge in all watersheds. Global experience has demonstrated in arid environments similar to Afghanistan that water harvesting measures are effective. Water harvesting measures are also labour intensive and offer the Government an opportunity to generate short-term employment. Construction of storage reservoirs in selected river basins and watersheds focusing initially on small reservoirs would support more efficient water use in irrigation by improving farmer's control of water supply. (refer Appendix 1 for proposal details)

83. Rehabilitation of small to medium scale irrigation schemes requiring infrastructure repairs work that extend beyond routine preventive maintenance and needs resources (funds, technical know-how and skills, construction materials) that farmers and villagers are unable to mobilize. The program of rehabilitation will be based on a systematic technical assessment of problems and consultation with *mirabs* and farmers. All systems within the basin or sub-basin should be systematically surveyed and assessed before priorities are selected and specific projects formulated in order to ensure that traditional water rights and allocations are preserved, that upstream and downstream impacts and conflicts are

minimized and mitigated. The rehabilitation of these systems will be undertaken within a community development framework, and it is likely to be linked and associated with rural livelihood activities. Pilot projects will also be implemented to support community management of watersheds and water harvesting. (refer Appendix 1 for proposal details)

84. Planning the rehabilitation of formal and large-scale irrigation schemes. Initial assessment work has commenced in MIWR with schemes identified and preliminary technical assessments to be undertaken. Complementary efforts will be needed to facilitate the management transfer of these systems to the beneficiaries. Users will have to be organized into an appropriate institutional framework and water delivery contracts agreed. This will include a water charging policy and collection mechanism. In addition, detailed design work should continue on partially developed or new schemes. (refer Appendix 1 for proposal details)

85. Database and information system establishment should commence as soon as practical. Rebuilding the water resources knowledge base will be a collaborative effort of all the core ministries and agencies, coordinated by the Afghan Information Management System (AIMS). The introduction and use of modern information technology including remote sensing and GIS has the potential of greatly increasing the capacity of the core water sector ministries to plan and manage the reconstruction program. A Government task force including AIMS will be required to develop standards and protocols that will enable efficient sharing and use of a wide range of data for different purposes. Coordination of this work by government is essential to ensure all studies contribute the overall goal. Re-establishing the hydrologic and hydro-geologic network (including stations to monitor snowpack) is a high priority, though it should be undertaken within the context of earlier network designs. The historical knowledge base of maps, reports and studies, is partly lost and every effort should be made to reassemble these. (refer Appendix 1 for proposal details)

86. The need for appropriate institutional arrangements for water resources management is an essential perquisite. These options should be assessed in the context of the broader review of required sector agencies and their respective roles. International experience has shown that the river basin is not only the best unit for planning but also for management of both water supply and demand, and conservation of natural resources. The Government is considering an institutional mechanism for management of each major river basin of the country. There is however an additional consideration that will be very important for Afghanistan, as each of its major river basins are shared with its neighbours. Negotiating and monitoring agreements with each of its neighbours to ensure that Afghanistan has an equitable share of the resource will be a demanding task. It will require establishment of a committee or special body with appropriate specialized technical staff to carry out this task. (refer Appendix 1 for proposal details)

b. Medium Term Programs /Investments

87. The medium term interventions will involve expansion of the investment program, and implementation of institutional and policy reforms. Key activities will include:

(i) Expansion of the traditional small and medium irrigation system rehabilitation program under the community development program;
(ii) Implementation of investment program for rehabilitation of formal and large-scale irrigation schemes. The rehabilitation program to be based on feasibility studies on each scheme and a selection criteria for prioritising individual schemes.
(iii) Institutional reform and capacity building (refer section V for more detail);
(iv) Policy and legislative reform for water policy and rights, water charges, community based watershed management and irrigation system transfer to

users, groundwater and inter-country water transfers (refer section VI for more detail).

Table 2: Water Resources Management Matrix

Key Issues	Strategic Objectives/ Indicators	Needs assessment		Policy Agenda
		Short-Term Program (1-2 Years)	Medium Development Framework (2-5 Years)	
Large number of inoperable, damaged small–scale irrigation schemes	Maximize the scale and efficiency of small–scale irrigation	Critical rehabilitation needs in traditional small-scale systems	Progressive expansion of rehabilitation program based upon detailed assessment	Water rights formally set in legal framework
Poorly or non-functioning major informal and formal irrigation schemes	Fully functioning major irrigation schemes	Technical assessment and feasibility studies	Major investment in medium/ large schemes including appropriate institutional restructuring	Policy relating to ownership and transfer of management of medium/large scale systems to user group
Inadequate water resources knowledge base	Rebuild the knowledge base	Systematic status assessment of hydrologic stations and irrigation systems	Comprehensive river basin system databases using modern information tools	Implement river basin institutional structures
Lack of holistic micro-watershed management	Community based micro- watershed management	Pilot schemes to develop management models	Replication of approved models	Formalize the concept of community based micro-watershed management
Groundwater depletion	Sustainable use of groundwater	Monitoring program on tubewell development and impact. Initiate interim licensing requirement or ban on tubewells	Formal application process to be approved by river basin planning and monitoring mechanism	Policy on the use of groundwater
Lack of appropriate water resources management/ coordination mechanism	A coordination agency with an overall view of the many demands on water resources	Formulation of proposals and options	Establish coordination agency with subordinate river basin authorities	Regulation on the terms of reference of the coordination agency and river basin authorities
Most major rivers are international requiring riparian agreements	An internationally binding set of riparian agreements	Discussion s/negotiations with neighbours; take up seats on existing regional fora	A clear set of water allocations for each major river basin	Review existing agreements and prepare negotiating positions
Outdated ministry roles and organization structures	Reform of the roles and functions of core ministries	Initiate the Planning and Implementation Group concept and undertake full institutional analysis	Implement approved recommendations of the institutional analysis	Guidelines on the role and core functions of govt.and transfer of responsibilities to private sector.
Damaged physical infrastructure of line ministries at the national and provincial levels	Adequate working environment for reformed line ministry staff	Implement reconstruction program in selected provinces according to agreed reforms	Complete reconstruction program based upon institutional assessments	
Shortage of skilled technicians	Full complement of skilled staff	Appropriate incentives to attract returnees	Restarted training programs	Higher education training

C. Community Development Programs

1. Current Status and Issues

88. In Afghanistan the large number of individual communities (about 18,000) has traditionally had a keen interest in the use and protection of natural resources. Communal management, risk mitigation and coping strategies were a common feature of these traditional agricultural systems. Such community mechanisms have been weakened by years of conflict and a legacy of displaced people, widows and orphans, disabled and

uneducated groups. To re-establish social cohesion, village/district level decision making structures must be rebuilt with appropriate policies and sensitive programs and projects.

89. Different communities have distinct social characteristics and different levels of participation by their members, but it is a characteristic of Afghan communities that there be broad consensus over matters that affect all members. The Shura, or community committee is primarily a means of achieving broad understanding and agreement amongst the leading members of society to avoid conflict. The Shura is not necessarily fully representative of the community, and democratic principles of equality and majority rule are not the basis for decisions, which come about through extended discussion. Shuras are valuable resources for reducing conflict and encouraging cooperation and collaboration. Whether the views of minorities, women or the poor become part of the discussions depends very much on the local Shura. Those with the fewest resources are the least likely to contribute to discussions or benefit from economic opportunities for the village. In some places, powerful minorities control much of the land and the local political processes.

90. Community development approaches may conflict with these groups, sometimes to the exclusion of participatory approaches. NGOs have been active in Afghanistan working with rural communities, and have developed a number of approaches to facilitate community participation and development. For example, the Aga Khan Development Network, have a clear method for facilitating growth of inclusive, participatory mechanisms beginning with close collaboration with the Shura. In Badakshan, increasing success and responsibility on the part of Shuras has given rise to expanded programs managed by committees and interest groups operating with approval of the Shura. The “Community Fora” working with UN Habitat in Bamiyan is another approach to expanding alternative, development oriented groups. As the community committees (shura) become a central feature of development programming it will be important for the international community to remember that, (i) there is no stereotype shura; (ii) social differences exist between regions which must be taken into account; and, (iii) the status of women varies across the country, which is reflected in their role in the shura.

91. The vast majority of communities lack basic services, especially communications, clean drinking water, and health facilities. While agriculture is the basis of the economy limited advice on new technologies and varieties is available, and institutional credit facilities are absent. Community infrastructure related to agricultural production, such as irrigation systems and water impoundments, bridges and roads are badly degraded. Community participation in economic development decision-making has been relatively narrowly focused but there are strong village consensus reckoning devices in the Shuras and reliable mechanisms to help vulnerable groups. The community based approach to development will require, (i) strong support programs to assist empowered communities to develop the skills to fully participate in the decision making processes and (ii) funding mechanisms so the processes will have practical outcomes that improve livelihoods.

92. Currently the Ministry of Rehabilitation and Rural Development has very limited if any resources with which to assist communities. As part of the AIA policy, it will need to redefine its role and functions, and restructure to effectively assist communities. MRRD has little recent experience in designing, surveying and implementing and managing community-based programs. Its traditional style of operation will be inappropriate for community-driven approaches that require partnership with communities. Provincial offices have been destroyed, and only a few are still functioning through budgetary and program assistance from UN agencies and NGOs. Consequently, the database relating to the status of community infrastructure and community organisations is highly fragmented.

93. The role of these offices in the context of increased decentralization of decision-making and enhanced community empowerment is yet to be defined. The scale of

rehabilitation of the infrastructure will be determined by identified requirements of the revised roles, and the human resource development and capacity building needs will be designed to support the revised functions.

94. The issues outlined above provide the basis for formulating strategic objectives, lead to the identification of short and medium term needs, and policy requirements for a medium term community development framework which is summarized in Table 3. The framework is discussed in detail in Appendix 4.

2. Development Framework

a. Short Term Interventions

95. One of the major requirements to help implement the proposed community programs is a more detailed village level database. In the short term, the World Food Program (WFP) annual village survey based upon a sample of about 1250 villages is the only significant database. This survey data requires more in depth analysis than has been possible, and further refinement of the questionnaire to enable additional data collection. In the medium term, the annual village survey should become an integral part of the sector's information base. (refer Appendix 1 for proposal details)

96. Community empowerment and the use of participatory planning mechanisms are identified by the AIA as a cornerstone of its development framework. The concept of community development, empowerment, or participation in Afghanistan requires elaboration as it means communities become involved with community needs assessment, program planning, implementation and management. The concept of community development and the model may be country or even regionally specific and evolve with experience and experimentation. Assistance will be provided to support community empowerment and the development of effective development models. (refer Appendix 1 for proposal details)

97. Community development projects have been implemented by NGOs for many years. The mission has identified over 120 ongoing development projects with a community based approach and a total annual budget of over $40 million. To utilize this experience and avoid duplication, the MRRD programs will need careful coordination. A major initial step will be to reorient MRRD staff to the changed relationship with communities and NGOs. MRRD staff will need formal and informal training in participatory approaches and in working with NGOs at the village /district level. All communities must be made aware of the changes taking place and of the opportunities that the changes offer them. (refer Appendix 1 for proposal details)

b. Medium Term Programs/Investments

98. The medium term program will involve investments in: community empowerment and organization, village planning and decision-making processes; and formalizing relationships with government agencies, NGOs and communities that had started on a pilot basis to formulate community development models. The models should be developed by implementing agreed priorities within the context of the communities' use of micro-watershed natural resources. Actual activities could include: rehabilitation of rural roads; water storage or small-scale irrigation infrastructure; re-establishing fodder and agro-forestry plots; livestock and agricultural activities; creation of off-farm small enterprises and related training courses.

Table 3: Community Development Program Matrix

Key Issues	Strategic Objectives/ Indicators	Needs assessment		Policy Agenda
		Short-Term Program (1-2 Years)	Medium Development Framework (2-5 Years)	
Degraded community infrastructure and essential services	Self-reliant village and district communities	Community empowerment and community based public works program	A community development model which empower communities to manage local investment and natural resource management decisions	Empower communities to undertake ownership and management policy formulation
Rehabilitation of water delivery infrastructure for drinking and irrigation	All villages to have a reliable source of water	Start-up of a community based program including criteria for identification of villages and surveys of required works	A formal small–scale irrigation program managed by empowered communities and using a combination of village labour and NGO expertise to implement	Defining the precise role of empowered community representatives (shuras) in project design and implementation
Strengthening community skills in the planning and implementation of projects	Communities capable of full participation in local natural resource management decisions	Community training programs in project design, planning and implementation	Internalised MRRD training programs for enhancing community skills	In-service training programs
Redefining line ministry (MRRD) role	A clear statement of the role and functions of reformed MRRD	Include MRDD in the broader institutional assessment of sector line ministries	Implement approved recommendations of the institutional assessment	Define the public sector role in empowered community development programs
Damaged physical infrastructure of MRRD	An appropriate working environment	Repair physical infrastructure of MRRD in accordance with reforms	Repaired and reformed national and provincial offices	
Weak institutional capacity	A strong MRRD capable of supporting, and monitoring community based programs	Undertake initial training programs in needs assessment, databases, project planning and project finance	Formalise and internalise training programs for MRRD staff	Human resources development policies
Redefining role of provincial level office of MRRD	A clear understanding of the role of MRRD staff in the reformed ministry in relation to participatory planning	Short–term reorientation training	A clear mandate based on the detailed institutional assessment	
Inadequate village level data to apply selection criteria	Village level databases	Sample village level assessments e.g. Build on WFP work	Establishment of an annual village survey based on a fixed sample including each district	Sector information base; future of AIMS

D. Agriculture

1. Current Status and Issues

99. The arable agricultural resource base is about 7.5 million ha. of cultivable land, which is divided into rainfed and irrigated land. The rainfed area is estimated at about 4 million ha. but, the area actually cultivated in a given year varies considerably depending upon the climatic factors such as precipitation and the area left to fallow. The recent succession of dry years has reduced the annually cultivated rainfed area to less than 0.5 million ha. from a maximum of around 1.4 million ha. Rainfed agriculture is largely undertaken in northern provinces and is dominated by cereal production.

100. In recent years, partly as a result of the drought, rainfed cereal productivity levels have been low, averaging some 0.6 tonnes/ha. Currently, rainfed cereal production has fallen to about 10 percent of expected production in a normal rainfall year. As a consequence, food security, especially in these northern areas, is the first priority. Recovery

strategies for these areas must be predicated on the assumption of highly variable rainfall and risk mitigation. Farmers must be able to respond to favourable weather conditions quickly and, since yields will always be relatively low, in a cost effective manner.

101. Farmers must have access to quality seed, fertilizer and farm draught or mechanical power. In addition, they need technical advice on recent developments in dry land farming systems including water harvesting, and access to effective plant protection and disease control systems. To avail themselves of quality inputs, farmers will need to have access to rural finance. In the last 10 years, NGOs, UN agencies and in particular FAO, and the donor community have been involved in agricultural rehabilitation, developing farmer based seed multiplication programs, and promoting technology transfer and supporting agricultural service delivery systems. The lessons learned need to be incorporated in planned strategies and future programs.

102. There is considerable potential for productivity improvements even allowing for the low and variable rainfall regime. ICARDA has promoted drought tolerant varieties and cultural practices for cereals, legumes and forage crops that would significantly increase returns and could double current yields. With extensive and well-designed micro-watershed management and the adoption of micro water harvesting techniques the potential for further yield increases is available. This potential to improve rainfed cereal yields that rainfed farming could play an important role in agriculture sector recovery. In the longer term, the possibility of Afghanistan being able to produce around 1.5 to 2.0 million tonnes of cereals annually, from its rainfed farming areas would transform agricultural development. Food security concerns could be relegated to very specific marginal areas, and high value irrigation water could be used, for the most part, to grow high value cash crops. A further advantage of such a strategy is that it is based on the careful management of micro watersheds, which means that communities are drawn into an integrated approach to resource use combining water, forestry, rangeland and crops. This is the traditional Afghan approach, which has largely broken down in the course of the past 20 years.

103. The relatively low and variable rainfall regime places a premium on irrigated land. It is estimated that 85 percent of all agricultural output is derived from the irrigated areas. The general management of water resources and the efficiency of irrigation systems is therefore of critical importance to the whole food economy. While the potential irrigable area has been estimated at 5 million ha., currently the total developed area is around 2.6 million ha. Under normal conditions about 1.4 million ha have sufficient water for double cropping. Irrigation systems are: traditional systems using informal river diversion structures maintained by the users, which account for about 55 percent of the total irrigated area; traditional systems based on natural springs, kareze or arhads, which account for about 30 percent of irrigated area; and more modern formal river diversion structures, which were built in the 1960/1970s, and which account for the remaining 15 percent of the irrigated area.

104. A key feature of irrigation systems is their very low efficiency rating of about 25 percent, which means there is considerable scope for reducing the wastage of water, and increasing the irrigated area. Reliable data on the current extent and productivity of irrigated agriculture is fragmented, largely due to the combined impact of recent conflicts and the prolonged drought. Many systems have been damaged or suffer from lack of maintenance. A number of the more modern systems and larger traditional systems also suffer from salinity and waterlogging problems. The productivity of all types of systems can be improved substantially. Firstly, improved on-farm water management and appropriate inputs will substantially increase yields. The average national yield of irrigated wheat in recent years has been around 1.3 tonnes/ha. With improved water management and inputs a long-term goal of a national average yield for irrigated wheat of 3.0-3.5 tonnes/ha is feasible. For a comparison, the average yield of CIMMYT bread wheat lines in the period 1995-2000 under a range of agroclimatic conditions varied from 4.6-5.7 tonnes /ha. In addition, to yield

improvements, better water management will contribute to higher cropping intensities, which are a function of water availability and length of growing season. Better water management should enable the proportion of the irrigated command area, which can be double cropped, to rise from 50 percent to at least 65 percent although the second crop enterprise may be restricted to forage.

105. The principal output of the irrigated systems is wheat, accounting for about 80 percent of production, and a range of horticultural crops. It is expected that irrigated wheat area will decline as rainfed wheat production becomes more productive and farmers contribution towards the cost of water is increased. The development and rehabilitation of irrigated agriculture requires significant investment, which has to be recovered, and a single crop of wheat, even at a yield of 3.0 tonnes/ha is unlikely to be sufficient to enable this recovery. A much higher proportion of the irrigated area could support high value cash crops. Agro-forestry and horticulture is a small but previously highly productive sub-sector, at one time accounting for 40 percent of export earnings. These crops plus others, which have not traditionally been grown in Afghanistan, should be assessed and where feasible piloted.

106. The issues outlined above provide the basis for formulating strategic objectives, lead to the identification of short and medium term needs, and policy requirements for a sub-sector development framework which is summarized in Table 4. The framework is discussed in detail in Appendix 5.

2. Development framework

a. Short Term Interventions

107. The conflict and drought of recent years have had a devastating impact on the horticulture industry. Precise figures are not available, but observation and small surveys suggest that approximately 50 percent of orchards have been destroyed. The feasibility of rehabilitating the industry will be determined by the potential to compete in international markets. Other players have entered the markets vacated by Afghanistan and regaining former market share will be difficult. A detailed survey of potential markets and their requirements needs to be undertaken. (refer Appendix 1 for details)

108. The current status of irrigated agriculture raises a number of policy issues related to maximizing the efficient use of available water. System efficiency levels are reportedly as low as 25 percent; and the potential exists to improve on-farm water management efficiencies. If the system improvements are to be sustainable farmers will have to accept the concept of water charges. One option may be to have this done obliquely, by including a water charge in a land tax, a concept with which Afghan farmers are familiar. Further, such as tax can also be made progressive, which would minimize social discord. Such a policy will send price signals to farmers, which will increase pressure to improve water use efficiency, double cropping, and the production of higher value crops, and crops with lower water requirements.

109. Inputs such as seed, fertilizer and agro chemicals are being provided by a number of donors including NGOs. In some instances, inputs are being provided free of charge. There is a need for tight coordination of input provision to ensure that both quantity and quality issues are adequately addressed. In particular, there is a need to form a consensus on a strategy, which moves the current situation towards the Government vision of private sector led distribution networks for the main inputs. Such a strategy will need to address policy issues, which include the role of the public sector in plant protection programs and the need for regulation of quality controls of seeds, fertilizers and agro-chemicals provided by the private sector.

110. Formerly, Afghanistan produced a number of industrial crops such as cotton and sugar beet, which were linked to substantial processing facilities. These facilities are largely moribund. Feasibility studies will be needed to determine the prospects for the industry and based on the outcomes of these studies investment requirements identified. Future investment will be based on private sector involvement. (refer Appendix 1 for details)

111. The recovery of commercial agriculture and much of the cereal sub-sector will require finance, which is not readily available. Currently farmers in need of credit are dependent upon informal sources. It is vitally important to the success of the proposed community based approach that alternative sources of finance are made available. The re-establishment of agricultural credit facilities requires detailed assessment on the feasibility of introducing both community and asset based lending. There is a need to attract commercial funds into agriculture which means asset based lending using land titles as collateral and related bankruptcy procedures. In term of asset based lending these instruments are not well established; and since it is estimated that less than 25 percent of landholders have clear legal title to their land, collateral will be a constraint. A review of the rural financial sector to identify an appropriate institutional framework is required, this will include an assessment of existing functioning and non-functioning bank and non bank financial institutions. (refer Appendix 1 for details)

112. The AIA outlined strategy in the NDF that public institutions will be restructured to undertake core functions represents a significant departure from the traditional role of the Ministry of Agriculture and Animal Husbandry (MAAH). A sector institutional review and analysis is required. In a restructured institution, core responsibilities are likely to encompass policy and planning, plant disease and pest control, certification systems for agricultural inputs and products, animal health and applied agricultural research. Delivery of agricultural extension services will be assessed to determine the most effective and efficient delivery system, be it private or public provision. This institutional reorganisation will result in a smaller organisation. The infrastructure support and staff retraining programs will be based on these new roles. (refer Appendix 1 for details)

b. MediumTerm Programs/Investments

113. The key medium term programs of the agricultural sub-sector will include:

(i) Private sector provision of agricultural inputs (fertilizer, chemicals);
(ii) Private sector led seed industry building on existing private seed multiplication farms;
(iii) Public sector provision of plant protection and disease control monitoring system, seed certification and regulatory systems for fertilizer and agro-chemicals;
(iv) Farmer based comprehensive technology transfer program for dryland and irrigated farming systems, improving production and water use efficiency;
(v) Community based and large scale rehabilitation programs;
(vi) Private sector led investments in horticulture production, processing and marketing systems, and in industrial crops;
(vii) Alternative and innovative crop pilot program (undertaken as part of the ARTTS).

Table 4: Agriculture Matrix

Key Issues	Strategic Objectives/ Indicators	Needs assessment		Policy Agenda
		Short-Term Program (1-2 Years)	Medium Development Framework (2-5 Years)	
Inadequate and outdated dryland farming technology	Maximize rainfed area output	Transfer latest dryland farming methods and mitigate risk of low rainfall	Programs to implement dry-land farming methods	Technology transfer mechanisms
Availability of drought resistant varieties of cereals, legumes and fodder.	Uptake of approved varieties	Multiplication of seed by network of contracted farmers	A private sector led seed production and distribution network	Seed certification and quality control
Fertilizer distribution	Adequate supplies available at world prices	Ensure adequate supplies without undermining private sector activities	Privatize the fertilizer factory and support private sector distribution	Private sector input services delivery policies
Inadequate farm power	Appropriate technology available as needed	Promote farmer organisations and Undertake detailed needs assessment in consultation with farmers recommendations.	Promote machinery hire and machinery coops.	Rural coops and enterprise start-up incentives
Plant protection against selected major pests	Minimize risk of crop losses from major pests	Support MAAH efforts to control pests on an interim basis,	Establish an efficient public sector capacity to control locusts etc.	Scope and funding of public sector plant protection service
Poor on-farm water management	Improve on-farm water management efficiencies by 20percent	Rehabilitation of small scale irrigation schemes which include design measures to improve on-farm water management and technology transfer	Irrigation system investments which incorporate improved agreed on –farm water management techniques	Water pricing, cost recovery and technology and irrigation management transfer policies
Badly damaged horticulture industry	A rejuvenated competitive industry	Re-establish nurseries to provide rootstock on a commercial basis	Private sector nurseries established with bank financing	Rural finance and private sector polices
Inadequate market knowledge	Private sector trade association	Marketing studies for horticulture and other potential high value crops	Promote pilot programs for innovative crops especially in poppy growing areas	Trade policies, start-up incentives and poppy substitution
Moribund industrial crops	Competitive private sector industries	Evaluation and if necessary feasibility studies	Approved investment packages with significant private sector partners	Investment policy in agriculture and agro-processing
Inappropriate institutions with large staff number	A reformed MAAH	Institutional review of role and functions of MAAH	Implementation of approved recommendations of institutional review	Public sector /line ministry roles
Capacity building	Well trained MAAH staff	Short–term reorientation programs	Established training and study programs	In-service training policies
Lack of agricultural credit	Commercial and non bank financial institutions	Review rural financial sector, develop framework for community and asset based lending	Functioning commercial bank and non bank financial institutions lending to agriculture	Land ownership and bankruptcy legislation

E. Livestock Programs

1. Current Status and Issues

114. Traditionally, livestock activities have been an integral part of most farming systems in Afghanistan, with livestock and their products contributing to farm draught power, family nutrition, the raw materials for household goods (wool, hair, hides, dung) and tradable

products. Often livestock activities provided the household with its only source of cash income. Previously the livestock sub-sector accounted for 40 percent of total export earnings but it is estimated that now, livestock numbers are about half the level of a decade ago.

115. Currently, livestock raisers have serious problems involving loss of livestock, decreased productivity due to declining feed and overgrazing, and the affects of animal diseases, which are not being adequately treated. Much of the irrigated land, which formerly supported livestock, is now without water. The small poultry flocks, which were almost exclusively owned and managed by women have for many households almost disappeared, while the smallest and poorest farmers who formerly kept at least one cow to provide for their subsistence needs are now without animals. Disease problems are only being partially contained. Rangeland is overgrazed and nomadic and semi sedentary sheepherders are operating with high livestock mortality rate. Improvements in the small ruminant sector, even in non-drought times, are hampered by traditional user rights and grazing practices and a preoccupation by raisers with livestock numbers rather than the productivity.

116. Over the last decade in the absence of MAAH provision of animal health and livestock services, a number of development partners (UNDP, FAO, bilateral donors and NGOs) have supported a number of project activities. These include the establishment of an alternative system of veterinary field units (VFUs), which have been established in every province and in most districts. While the objective of these units was to become financially self sufficient, in most locations the drought and conflict have reduced both livestock requirements and farmer client capacity to pay for the services. Other key donor activities have involved vaccination programs and deworming treatments. While these activities are beneficial, currently the coverage is inadequate.

117. In the commercial and semi-commercial sector, most herds and flocks have been substantially reduced, and investments in assets such as feed mills, commercial poultry and milk processing facilities have been lost. To re-establish these activities investments in the semi-commercial poultry and dairy sectors will be important if intending producers are to access breeding stock, breeding material, commercial feedstuffs and equipment. Considerable investment is also required for re-establishing feed mills, poultry and milk processing plants. Private sector investment is needed with respect to poultry, red meat and dairy production. Investments need to be made in production and processing facilities, which add value to livestock products for domestic consumption or export. These include operations such as abattoirs, dairy processing plants, tanneries, wool processors and fattening operations. The re-establishment of these facilities would also create a market in that area for small-holder-produced livestock products, to which most small holders presently have no access.

118. Within the MAAH two sub-directorates are responsible for livestock. Currently, both are ineffective as they lack resources to undertake existing functions. Most, if not all of the staff would require retraining. Further, there are also significant weaknesses in private and public sector skills in commercial and semi commercial poultry and dairy production, which need to be addressed. The facilities that government formerly maintained to support livestock production, are no longer operational, and are mostly inappropriate for the anticipated new core functions of government agencies. The current absence of reliable information particularly with respect to livestock numbers and location, and fodder resources limits the capacity for planning development interventions in the sector.

119. The issues outlined above provide the basis for formulating strategic objectives, lead to the identification of short and medium term needs, and policy requirements for a sub-sector development framework which is summarized in Table 5. The framework is discussed in detail in Appendix 6.

2. Development Framework

a. Short Term Interventions

120. The development of a medium term institutional framework to encourage smallholder and commercial livestock development will be influenced by the outcome of the government review of public sector roles and the consequent restructuring of the MAAH. Once this role is clear an appropriate structure and staffing schedule can be developed, and personnel can be trained to perform the tasks for which they remain responsible. Appropriate regulations and legislation will have to be developed to support the new structure. This allocation of responsibilities is particularly important in the livestock sub-sector, as important animal and public health issues need to be resolved.

121. A key initial activity will be a livestock inventory assessment, which will provide the data for planning activities. It will involve a rapid rural appraisal of all provinces, focusing on livestock numbers and distribution, feed resources, husbandry and livestock offtake strategies, and livestock support services. A number of activities will be implemented to improve smallholder livestock productivity; these are likely to encompass fodder production, artificial insemination, vaccination and disease control and animal health and livestock support services. These activities to be supported within a component of a community based development program. Additional support for the small-holder sector should target poultry producers with expanded village poultry distribution, and improved production capability for semi-commercial producers including improved disease control, deworming and supplementary feeding for female breeding stock. Further support to the dairy sector through an expanded programme of artificial insemination using deep frozen semen, liquid nitrogen storage and distribution, and improved fodder production in irrigated areas will be required. (refer Appendix 1 for details)

122. Studies will be required to determine the most effective and efficient systems for livestock vaccination production and delivery, and for provision of animal health and livestock support services. A vaccine quality control laboratory is required, and it will be necessary to define sentinel service needs against trans-boundary diseases, diagnostic laboratory functions and needs, and to identify the requirements for functioning animal health laboratories. (refer Appendix 1 for details)

123. Training to support the new core role and functions of government agencies in animal health services, in meat inspection and in public health is needed. This will also involve infrastructure and equipment support. The input should include post-graduate training for key government positions in epidemiology and technical laboratory positions, and training for strengthened and properly supported regulatory units. Longer term institutional strengthening of government roles would include permanent and strategically located quarantine points manned by well trained and supported staff, and a strengthened central epidemiological capability with field and quarantine activities linked to a central epidemiologist. Other objectives in animal health include linkages between the veterinary department and the international reference laboratories of neighbouring countries. These would lead to an ability to comply with importing countries animal health requirements to facilitate development of export markets for sheep and mutton. (refer Appendix 1 for details)

124. Development of rangeland management policy (refer to Appendix 2), and a rangeland research structure and extension capability in nomadic sheepherder areas is required. This would permit investigation of offtake strategies and seasonal value adding practices, such as fattening for rangeland producers, and in time should lead to a reduction in grazing pressure and improved nomadic flock productivity. (refer Appendix 1 for details)

125. Formal credit facilities will be required to support private sector investment for processing facilities such as abattoirs, feed mills and semi/commercial poultry production. (refer Appendix 1 for details)

b. Medium Term Programs/Investments

126. The key medium term programs in the livestock sub-sector will include:

(i) Sustainable smallholder livestock production systems, as an integral component of a community development programs;
(ii) Private sector commercial livestock enterprises, with access to rural credit;
(iii) Development of private sector based livestock production and animal health input supply and support services;
(iv) Establishing a regulatory environment for livestock production, quality assurance systems, animal disease control, and for animal public health;
(v) Livestock quarantine services and control systems.

Table 5: **Livestock Development Matrix**

Issues	Strategic Objectives	Needs assessment		Policy Agenda
		Short-Term Program (1-2 years)	Medium Development Framework (2-5 years)	
Lack of reliable sub-sector database, therefore no basis for planning livestock programs	Up to date data base on livestock numbers, distribution, systems, performance and resources use.	Rapid appraisal of all provinces on livestock numbers, feed resources, distribution, husbandry, offtake strategies.	Conduct regular surveys to update livestock database/s.	Policy re collection of livestock statistics. Need to establish central Department of Statistics.
Investment in the dairy industry.	Commercial dairy industry supported by breed development, processing facilities and milk collection services.	Market surveys in most urban areas. Implement expanded private sector AI service delivery, supported with fodder demonstrations.	Investment in processing and marketing supported by availability of formal credit.	Agriculture finance and private sector investment
Livestock raisers with too few resources to recover animal and poultry numbers without assistance	Re-establishment of individual livestock holdings.	Assisted restocking for poultry raisers. Extended animal health services including supply of vaccines and medications through VFU	Credit facilities generally available for restocking new breeding base. Soundly based animal heath field service through VFU or similar.	Policy regarding lending to small holders with little collateral. Policy regarding VFU as suppliers of veterinary services.
Unclear policy with respect to roles of private and public sectors in delivery of services	Roles of government and private sectors clearly defined. Private provision of services	Review of government functions, rewrite and update regulations, ensure regulations have backing of law.	Progressive review of regulations and policy to update in line with evolving sectoral needs.	Policy re private and public responsibilities established promoting private sector and passage of new regulations into law.
Lack of government field service; status and function of veterinary field units (VFU) unclear.	Clearly defined VFU role as providers of user-pays veterinary services. Promote private sector ownership and delivery of services	Survey VFUs to determine viability and status. Decision by government re 'ownership' of VFU.	Government subsidy for VFUs if necessary. Others to operate without competition from free service providers. Promotion of private sector.	Establish appropriate policy and regulations re private sector deliverers of veterinary services,
Ineffective and inappropriate structure of Animal Production and Veterinary Directorates	Both directorates soundly structured, resourced and administered with regard to new roles supporting the sector	Determine restructuring needs facilities and training requirements	Longer-term capacity building through provision of equipment, training to retained core facilities and department staff.	Institutional roles and functions of MAAH

Issues	Strategic Objectives	Needs assessment		Policy Agenda
		Short-Term Program (1-2 years)	Medium Development Framework (2-5 years)	
Rangeland overgrazing	Livestock numbers in balance with seasonal feed availability on rangeland. Destocking mechanisms introduced through development of offtake strategies	Survey of owners, livestock numbers and land area. Assessment of rangeland carrying capacity	Involvement of key international organisations in rangeland management and planning. Establish strong rangeland research structure.	Policy with respect to rangeland usage and transfer of communal property to individual user rights. Regulations governing rangeland usage
Investment in commercial poultry production. Lack of supplies of breeding stock.	Soundly based, self-financing poultry industry.	Study tours for key technical and management staff, continued organisation and support for poultry farmers associations through projects.	Availability of credit facilities for feedmills, processing plants and large and smallholder poultry producers. Supportive regulatory environment.	
Significant weakness in technical skills of private and public sector staff regarding poultry and dairy production.	Useful cadre of trained private technical staff capable of usefully managing and advising in these industries.	Study tours key management and technical personnel to relevant production facilities in region	Supportive regulatory and animal health environment.	Development of appropriate import and export and quarantine regulations
Weak livestock disease prevention capability in face of transboundary disease risk and high endemic disease prevalence.	Sound local disease prevention and control capability on part of government.	Immediate implementation of sentinel services against rinderpest. Identify requirements for long-term institutional support for improved animal health capability. Short-term project measures supporting diagnostic capability and sentinel functions.	Properly established and functioning epidemiology-driven diagnostic capability supported by working laboratories, livestock movement controls and quarantine services.	Established regulations supporting quarantine, cross-border livestock movement.
Public health and environmental hazards associated with locally produced meat, milk and poultry.	Hygienic and environmentally sound processing and marketing facilities for livestock products.	Identify staff requirements for meat inspection and public health services. Survey existing facilties to determine needs.	Investment in modern processing facilties.	Policy re government/private sector control of slaughter and processing. Regulations governing meat and milk processing and marketing.
Lack of properly trained technical personnel in livestock sub-directorates.	Both directorates soundly structured, trained and resourced for new roles.	Assist with inventory of staff resources and recommend training needs. Recruitment programme for key positions	Overseas and on the job training where necessary	

F. Agriculture Research and Technology Transfer

1. Current Status and Issues

127. In the past, prior to the conflict, the agricultural research and technology transfer system (ARATTS) was substantial, though not always focused on the real needs of the Afghan farmer. This system is no longer functioning and there has been widespread destruction of the infrastructure and loss of skilled human resources. When operational, the Department of Agricultural Research consisted of 11 sub-departments and the department carried out its functions through 24 research stations (7 main, and 17 sub-main), covering the geographic and agroclimatic variability of the country. The total area of the stations was

about 1750 ha. Before the degradation of the system, these research stations had 1020 staff member, of which 25 percent were technical research staff (graduates).

128. In the future, the ARATTS network will focus on adaptive research and technology transfer directly related to agricultural development, and will not be involved in basic research. Internationally, a wealth of new technologies developed for dryland areas are available. ARATTS major role would be to test, adapt, and disseminate technologies suitable to local conditions. Demand-driven on–farm participatory approaches to research and development will be employed, and use the farming systems approach to agricultural research and development, and the integrated watershed planning approach to natural resource management. Institutional and policy innovations will support on enhanced contribution of research and technology transfer to agricultural development. Human capacity should be strengthened to contribute to institutional innovation in agricultural research and technology transfer for development. This requires new management training methodologies, technology transfer and dissemination techniques.

129. The issues outlined above provide the basis for formulating strategic objectives, lead to the identification of short and medium term needs, and policy requirements for a sub-sector development framework which is summarized in Table 6. The framework is discussed in detail in Appendix 7.

2. Development Framework

a. Short Term Interventions

130. It is an essential requirement that a review be undertaken to assess the needs, policy, functions and institutional structure to establish and operate an efficient ARATTS, that will respond to farmer identified priorities and to future farming needs. This assessment to be undertaken as part of the larger MAAH institutional review. The principles underlying the future shape of ARATTS should include;

(i) Integrating on–farm participatory research and technology transfer activities into practical development programs;
(ii) Development of demand-driven, community-based research and technology transfer programs that recognize the special needs of rural poor, especially the disabled, children, and rural women;
(iii) Adoption of innovative methodological approaches, which utilize the farming systems approach to research and development, integrated natural resource research sites, integrated watershed management, and incorporate socio-economic aspects with technical and biophysical research programs; and
(iv) Determining the most effective institutional framework for linking research with extension delivery agencies and organisations.

131. Programs will be directed at important research and technology transfer areas that previously were either neglected, or not given due attention by ARATTS. Such areas were natural resource management (conservation and use of soil, water, and vegetative cover), biotechnology and information technology, socio-economics, monitoring and evaluation, and adoption and impact research. The ARATTS agenda will include gender mainstreaming, rural women needs and their role in resource management. Based on assessed priorities a particular focus may be given to research for developing the vast rainfed areas in the northern and northeast provinces, where potential exists for productivity improvement. Institutional and policy innovations will support timely and cost-effective services to strengthen agricultural research and technology transfer for the poor.

132. ARATTS policies and institutional arrangements will ensure appropriate use of new technologies for increasing food security and alleviating poverty. Considerations in this respect are modern technologies, managing intellectual property, information systems, and strategic planning through decision support methods. The aim will be to ensure that stakeholders are active participants in determining the research and extension agenda, and involved in monitoring and evaluating the effectiveness of the programs. This will need partnerships and networks, negotiation and conflict resolution, effective governance bodies and management practices, and decentralized and well coordinated research and extension activities. Farmers and the emerging private sector, including NGOs, will be important partners in generating new relevant knowledge responding to social needs.

133. As most research work will be applied research, with ARATTS activities to be implemented on farmers field, it will be important to determine the most effective institutional framework for linking research with extension delivery agencies either public or private, and sector organisations to develop these linkages. This appropriate framework will be assessed and determined as part of the institutional review of MAAH.

b. Medium Term Program

134. In the medium term, ARATTS policy and the required institutional reforms will be implemented. These institutional and policy issues are covered in more detail in section V and VI respectively of this report. Implementation of these reforms will require large investments in infrastructure, equipment and human resource training to establish an effective and efficient ARATTS.

Table 6: Agriculture Research Matrix

Key Issues	Strategic Objective Indicators	Needs assessment		Policy Agenda
		Short-Term Program (1-2 Years)	Medium Development Framework (2-5 Years)	
The scope of the future agriculture research and technology transfer (ARATTS) network	A relevant fully supportive ARATTS network Using on-farm participatory research	Undertake study of the scope of research and extension	An agreed scope of public sector responsibility for agriculture research based on study recommendations	Prepare a policy document outlining the options for funding and managing an ARATTS network
Damaged and looted facilities	Restored research facilities in line with reformed role	Interim measures to allow core work program to continue	Restoration of facilities in line with agreed reforms and scope of work	As above
Potential loss of genetic base	A gene bank in Kabul		Implement recommendations of research study	Conservation of genetic resources
Inappropriate extension service	Effective research and extension service delivery systems meeting community needs	Study to determine cost effective and efficient delivery options.	As above	The role of extension in community based planning and programming of investment

G. Off-Farm Employment

1. Current Status and Issues

135. Off-farm income generation activities are an integral part of rural production systems. It is generally accepted that families with less than 0.5 ha of irrigated land have difficulty earning a living solely from agricultural production in most parts of Afghanistan. This means that about 65 percent of farming families rely upon off-farm income generating activities to achieve a modest living. In addition, there are areas where farming has always been

marginal. Traditionally, the main sources of off-farm income have been hired labour, small–scale enterprises and use of forest products other than timber. The principal small-scale enterprises include carpet weaving, bee-keeping, cheese making, skin processing, sericulture, other handicrafts and rural repair shops.

136. A key feature of many of these rural enterprises is that they operate in villages that are relatively inaccessible. This impacts on both the cost of external inputs, the market opportunities and the price for products. In supporting programs to assist such enterprises, financial feasibility will be a key factor.

2. Development Framework

a. Short Term Interventions

137. For small-scale rural enterprises to flourish will require a supporting package of services, which should include the provision of raw materials, training and market outlets. It is proposed that the most feasible solution to meeting these needs would be the rural cooperative with an apex-marketing arm in the main urban centres. In the short to medium term such development could be supported by an NGO with experience in this area. This initiative would have a strong poverty alleviation impact.

138. This type of organisation and its activities is well suited to promoting and being promoted by enterprises undertaken by women. A range of activities could be supported by individual rural cooperatives run by women for women, but the key to success is the organisation of the marketing function. The rural cooperative becomes the vehicle for extending a range of benefits including training in particular crafts and skills as well as a medium for micro- finance facilities and the the transfer of information from educated women to those less well educated.

139. The issues outlined above provide the basis for formulating strategic objectives, lead to the identification of short and medium term needs, and policy requirements for a development framework which is summarized in Table 7.

Table 7: Off-Farm Employment Matrix

Key Issues	Strategic Objectives/ Indicators	Needs assessment		Policy Agenda
		Short-Term Program (1-2 Years)	Medium Development Framework (2-5 Years)	
Lack of support services	A community /NGO led small enterprise support service	Formation of consortium as independent organisation eg cooperative	Integrate work program with community development plans, especially the role of women	Privatize/ transfer to consortium existing facilities eg. Sericulture and apiculture
Training programs	Supplied by above	Consortium to consolidate expertise and run training programs	Rural womens cooperative movement	Rural cooperative legislation
Supply of raw materials	As above	To be considered by consortium	As above	As above
Marketing outlets	An apex marketing organisation	Rural cooperatives established	Apex marketing organisation linked to a group of rural coops.	Status of the apex organisation
Start-up finance	Rural Bank	Pilot micro-finance projects	Fully functioning village based credit schemes	Rural finance/credit

V. NEEDS ASSESSMENT:INSTITUTIONAL REFORMS AND CAPACITY BUILDING

140. AIA presented the draft National Development Framework to the donor Implementation Group in April 2002. This Framework sets out key principles, policies and strategies to guide the formulation and implementation of the Afghanistan Recovery and Reconstruction Program. This framework is especially relevant to the natural resources and agriculture sector. The institutions in these sectors are faced with developing a new vision of their future role, revision of the policy and institutional framework for the sector, and the massive task of institutional restructuring and capacity building to enable the respective line ministries, provincial and district offices to lead the recovery and reconstruction program. The Government's guiding principles in this regard are as follows:

(i) The line ministries and other state entities will be responsible for overall natural resource planning, policies and related management parameters, the formulation of programs to deliver agreed public services to the community level, including technology transfer, the regulation of private sector activities and the monitoring of performance of development programs. Implementation, to the extent possible, will be entrusted to the private sector, including beneficiary communities. In this regard Government will create the enabling environment for the operation of national and international firms (in particular for engineering and construction).

(ii) Local communities will be empowered to decide their development priorities, to contribute to implementation of their projects and activities where possible, and to monitor the work of government agencies and the private sector. Government's strategy will focus in the near-term on creating employment and supporting livelihoods at the community level.

141. These principles indicate the need for a complete review of the current institutional structure governing the natural resources and agriculture sector at all levels, from the national to the village level. The existing structure is a legacy of several highly centralised administrations whose views were diametrically opposed to the decentralised approach of the present administration. In the short to medium term the line ministries will undergo a process of change management to move away from their current all encompassing functions to one, which reflects the vision of a set of core functions for public sector agencies.

A. Natural Resource and Agriculture Sector National Institutional Structure

142. Currently, there are three ministries primarily involved in natural resource and agriculture sector management. They are the Ministry for Rehabilitation and Rural Development (MRRD), the Ministry of Agriculture and Animal Husbandry (MAAH) and the Ministry of Irrigation and Water Resources (MIWR). In addition, the Ministry of Water and Power (MWP) has considerable influence over river regimes by virtue of their hydropower schemes and the Ministry of Public Works (MPW) is involved in construction and work schemes at the rural level. The roles and functions of these ministries do not form a coherent structure capable of delivering the sustainable and efficient use of natural resources especially water. There are overlapping functions particularly with regard to irrigation programs, and significant gaps in the management of natural resources. It will be necessary to review the mandates of these ministries and to formulate a more holistic view of natural resource management, which will ensure efficient resource allocations to the various users of natural resources.

143. The process of internalising the new vision of Government in Afghanistan and reshaping the roles of public sector institutions at the central, provincial and district levels will be gradual but should begin immediately because many aspects of the short-term strategy depend directly on a measure of reorganization and reorientation of the ministries and their

provincial offices. In effect, there are two parallel processes required. One is to realize the vision in the form of a reformed administrative structure in accordance with the above principles and the envisaged approach to natural resource management. The second is the more pragmatic process of beginning the change process in the existing agencies and influencing the attitudes of staff to the future shape of Government. The latter process is the more sensitive, but requires clear direction from the first.

144. The current composition of sector agencies, their detailed functions and staff complements will be the subject of review. In the context of the current structure of sector agencies such a review should take into account the implications of the following:

(i) Agricultural activity is dependent upon natural resource systems, which need to be sustained. Afghanistan does not have an agency responsible for ensuring that levels of natural resource use are sustainable;
(ii) The protection of a sustainable level of natural resources must be a priority and cannot be entrusted to one of the major users;
(iii) In Afghanistan, 80 percent of agricultural output is dependent upon some form of irrigation system;
(iv) A distinction should be drawn between the largely environmental role of natural forests and the production role of commercial and agro-forestry;
(v) Development priorities will be determined at the community level but the aggregation of community demands must be matched to natural resource availability;
(vi) The delivery of agricultural services will be led by the private sector;
(vii) The scope for technology transfer is substantial but must be responsive to community priorities.

145. In broad terms, a clear institutional distinction is required between agencies with allocative resource functions and those with user functions. In addition, the institutional arrangements should reflect the community-based approach. The water sub-sector provides a key example of the need for significant institutional reform. In Afghanistan, there is no custodian of water resources to set a limit on the various users. To the extent that available resources are assessed, this is done by the MIWR, which is also the major user of water. In these circumstances, there is no objective way in which the demands of sustainable ecosystems are determined. The recent MIWR-UNICEF water conference (Kabul, April 2002) workshop findings indicated the lack of any commitment to significant institutional restructuring, and limited recognition of the current institutional structures lack of objectivity in allocating water resources. Without significant changes to the institutional structure of natural resource management, especially water, in the next two years, there is limited scope for sustained recovery of the agriculture sector. The NDF promotes the concept of river basin authorities which link together the micro-watersheds managed by their respective communities. It is important that the concept of river basin management is not interpreted as a one-dimensional focus on water. Rather, it should encompass the range of natural resources utilised by the communities at the micro-watershed level. In this way, the mandate of the river basin authority is consistent with the range of natural resources actually being used and needing supervision.

B. Individual Ministry Structures and Organisation

146. The current structure of ministries reflects past preferences for a highly centralised form of administration, which is the antithesis of current guidelines calling for decentralised decision-making processes. The organization structures incorporate functions, which often include separate subsidiary structures such as input supply and construction companies. There is considerable scope for divesting ministries of such activities and privatising the assets.

147. The key first step in this restructuring and reform process will be the establishment of "Planning and Implementation Groups"[1] in headquarters of the line ministries and in the provincial offices. These Groups will be an integral part of a Ministry's organizational structure and internal operations working with and alongside the reorganized or new functional units in a Ministry. Their mission will be to translate policy and programs into projects, to build new management capacity and the required skills in the ministry and provincial offices. Implementation of projects and related activities (e.g., preparation of technical designs, surveys) will be out-sourced to the private sector, to the maximum extent possible. The Groups will be staffed first through open recruitment from the staff of the respective Ministry based on technical competence, experience and merit, clear TORs and job descriptions.

148. In the short to medium term one outcome of the institutional review and reorganization will be a leaner organization structure, and it is anticipated existing staffing numbers will be reduced. The infrastructure support and capacity building that will be required, will be for the staff that will be implementing these new roles. The ministries will be staffed by highly qualified and experienced individuals, clearly focused on their new role and who will be paid competitive salaries.

C. Provincial Natural Resource Management Structure

149. Provincial offices will have different roles and responsibilities in a decentralized system. Planning and Implementation Groups will be established in the provincial offices to undertake program and project management. The offices will require infrastructure support and staff training to undertake their new functions. There are certain key activities they should undertake, namely:

(i) They will be key partners in the participatory planning process based on micro-watersheds. Community representatives (shuras) will play a full part in determining community needs.
(ii) Provincial offices will help to rank the village/district level proposals through consultations with community shuras and their knowledge of the areas. They will coordinate various types of assistance, and guide NGOs and government agencies toward communities most in need of specific types of assistance.
(iii) The provincial office should also have a role in project finance, at least to the extent of putting together budgets for each of the districts, ensuring that investment is equitable, and monitoring the flow of funds and completion of projects.
(iv) Provincial offices will also have a role to play in contracting engineering services directly, assessing proposals from the private sector and NGOs to undertake work, and ensuring that only technically qualified firms and individuals receive contracts. District level consultative groups consisting of representatives from all communities, or a provincial group consisting of district representatives should participate in project selection and performance monitoring.
(v) Establishment and maintenance of up to date sector databases and management information systems.

150. As with the national institutional framework, at the provincial level there will need to be the same distinction between the agencies responsible for allocative and user functions.

[1] The Terms of Reference (TOR) for these Groups is being developed by AACA.

1. Village/District Level Structures

151. Initial collaboration between government, NGOs and communities tends to emphasize the flow of material, cash and technology from the outside agencies to the communities. It tends to begin by operating through well-understood local institutions such as the Shuras, placing them increasingly in a new, developmental role. These committees are a prerequisite for broad acceptance and adoption of community-based programs, but over time they are likely to evolve increasingly toward more specialized forms of representative and elected development bodies. This process is not a replacement of traditional Shuras, but seen a predictable move toward more specialized, focused and skilled groups charged with economic advancement of an area. One possible outcome of this process is that individual community based organisations will link together in multi-village committees, or even district level bodies may form a kind of elected council.

152. The above issues provide the basis for formulating strategic objectives, identifying short and medium-term needs, and policy requirements for a medium term institutional development framework. The summary framework is outlined in Table 8 and discussed in detail in Appendix 8.

Table 8: Institutional Development Matrix

Key Issues	Strategic Objectives/ Indicators	Needs assessment		Policy Agenda
		Short-Term Program (1-2 Years)	Medium Development Framework (2-5 Years)	
Structure and allocation of responsibilities amongst natural resource sector agencies	A coherent set of agencies with clear mandates in line with Govt. principles for the public sector and private sector delivery of non core functions	Undertake detailed institutional analysis and provide options for reshaping existing agency structure	Implement approved recommendations of institutional analysis	Number and mandates of public agencies
Role, functions and organization of individual agencies	Govt. approved mandates for all key agencies	Undertake detailed institutional analysis and initiate planning and implementation groups in line ministries	Approve new organizational structures for all sectoral line agencies	Terms of employment and incentive schemes
Large Surplus staff resources in existing agencies	Reduced staff number appropriate for new role	Human resources plan/based on new structure	Fully implemented reorganisation with trained professional staffs	As above
Functions and structure of provincial offices responsible for the natural resource sector	A coordinated approach to natural resource management	Initiate planning and implementation groups in provincial offices	Approve new organizational structures for all provincial offices	As above
Functions and procedures of village/district level shuras	Clear decision making processes at village/ district and provincial levels	Develop decision making processes around the concept of micro-watershed plans	Fully integrated and accepted decision making processes based on community determined priorities	Community empowerment policies

D. Capacity Building Needs

153. Both government institutions concerned with agricultural development and rural and community organisations have been weakened during the long period of conflict. Ministries have suffered damage to buildings, loss of skilled resources and equipment in Kabul and the provinces, and generally lack the capacity to undertake their functions. A number of services are currently being undertaken by NGOs and community based organizations. For a long period the institutions were not exposed to change or to international best practices in public sector management. The National Development Framework emphasizes the AIA

commitment to establishing an efficient institutional framework in the sector, which will involve small streamlined government institutions providing the appropriate policy and regulatory environment for community driven development, based on private sector growth and delivery of services. To develop the capacity to achieve this objective will require extensive human resource development and skill retraining.

154. Currently there are a relatively limited number of highly skilled professionals available in technical and management areas to meet the rapidly increasing demand, as the number and scale of the development programs and projects are expanded. These existing resources will be fully utilised, and a strategy needs to be developed to address the anticipated shortfall. Key aspects will involve establishing capacities to provide training, re-establish training institutions, and encourage the return of skilled Afghan professionals. The later have the potential to provide an excellent resource in modern management, economic and technical approaches. Planned technical assistance, which requires foreign inputs should focus on maximising to the extent possible the employment of Afghan professionals.

155. In terms of re-establishing training facilities, one possible strategy would be to upgrade these facilities and courses in Kabul University, or related institutions through a form of joint venture with an international university. University or training institute staff would benefit and training capacity enhanced. Incentive structures could be provided to encourage participation by government and private sector staff.

156. As NGOs employ large numbers of technically qualified people with relevant experience working in the rural sector, mechanisms need to be developed to utilise this expertise, and strengthen links with local line government agencies. In this manner NGO staff could provide on the job training, and at the same time facilitate closer working relationships with these government institutions. Further, as NGOs are significant employers they need to be participants in the development of the strategies for capacity building, and directly support requirements for medium term development.

157. The conversion of community shuras into primary development agents will require considerable reorientation from their traditional role. Just as government agencies and NGOs need to develop the skills to work together with communities, there are skills community members can develop to make their participation in development more effective. These include basic conflict resolution, communication, and formal meeting capabilities, basic numeracy and accounting, project management, participatory planning and monitoring, all of which are needed in the context of larger scale village and community work. Opportunities may develop for project committees to act as contractors in arranging for local construction. Provision of enhanced capabilities to village leaders, strengthens community decision making links to government resources, providing a common platform for discussion, planning, and improved accountability. The evolution and growth of community organizations will require assistance over a defined period.

158. While improving capacity, and developing strategies to meet requirements in the short to medium term, it is essential that specific strategies are prepared to support and improve the role of women in both the government institutions, and in the rural communities and village economy. At the village level, there is a need to develop a comprehensive program, including training, to support the role and participation of women in community decision making and community organisations, and in a range of income generating skills using local raw materials.

159. Training and retraining needs will be large. It will be important that the delivery of training courses to meet these needs is structured to address particular technical and stakeholder requirements. Key considerations in undertaking a training needs assessment are:

(i) While technical expertise is already available, it requires retraining and reorientation to the community participatory approach envisioned by the AIA. There will be a large demand for retraining programs, especially of technical staff such as engineers.

(ii) The Government has indicated that in the reform process line ministries are likely to be downsided, and that there will be some staff redundancy. Training programs will need to be prepared to facilitate the structural adjustment of these staff, and prepare them for private sector roles. The need will be for supplemental training involving technical management and private sector skills.

160. The issues outlined above provide the basis for formulating strategic objectives, they lead to the identification of short and medium term needs, and policy requirements for a medium term capacity building development framework which is summarized in Table 9.

Table 9: Capacity Building Matrix

Key Issues	Strategic Objectives/ Indicators	Needs assessment		Policy Agenda
		Short-Term Program (1-2 Years)	Medium Development Framework (2-5 Years)	
Shortage of sector/program managers for the public services	A highly qualified, motivated civil service	Provide incentives package for returnees and those with good qualification and/or experience	A stable, lean and motivated civil service	Civil service employment terms and conditions
Senior manager training program	In-service training courses conducted by accredited institutions	Interim joint venture between international institution and Kabul university	Independent management training centre, possibly part of the university.	Post- graduate training and funding
Technical sector training	Well founded vocational training			
Community empowerment skills development	Well equipped communities capable of full participation	Pilot programs in selected areas, part of community dev. Projects	National program to upgrade community participation in the development process	Community based development
Women in development	To upgrade the income generating capacity of women	Specific training courses aimed at off-farm employment	Established training programs through a gender specific organization	Women in development policies

VI. NEEDS ASSESSMENT: POLICY REFORMS

161. The development frameworks prepared for each sub-sector indicate the need for a number of key policy reviews and for preparatory work on a policy reform agenda during the coming two years. The legislative and regulatory aspects of the policy reform agenda will be undertaken in the medium term. A medium term time frame is required as currently institutional and enforcement capacity is minimal and will need to be established before an effective regulatory framework can be developed.

162. The policy requirements in the short to medium term will be significant for an efficient sector framework to be developed, which will enable improved livelihoods and sustainable resource management. To ensure the development of policies, legislation and regulations which are harmonized across the sub-sectors, a dedicated natural resources policy unit to undertake this work is required.

163. Specific sub-sectors where the policy framework needs to be reviewed are outlined in Table 10, with the identified policy issues and potential legislative and regulatory needs detailed for each sub-sector.

Table 10: Policy Agenda

Sub Sector	Policy Issue	Comments
Natural Resources Management	Forestry Laws and tenure rights	New policy and law is needed. Policy and legislation should draw upon experience of countries like Nepal where joint management of forests by communities is working well.
	Micro- watershed planning	There is a need for a regulation/law prescribing the concept of micro –watershed planning and the functions of those involved, especially the communities
	Rural energy	Social forestry provisions should be incorporated into micro-watershed planning and the scale should be consistent with a broader rural energy policy framework
	Environmental protection	There is a need for a law on natural resources protection, including protected areas.
Water Resources management	Watershed (river basin) planning	The concept should be legalised and institutionalised within the broader framework of natural resources management
	Water Law	The 1981 law needs amendment and traditional water rights should be codified.
	Groundwater depletion	Groundwater abstraction needs to be regulated and controlled by river basin authorities
	Irrigation management transfer	A law is needed to permit transfer and specify the conditions
Community Development program	Community empowerment and organisation	A law is needed prescribing the rights, roles and functions of community organisations within the context of the community based approach.
Agriculture crops)	Agricultural trade	Trading regulations should be promulgated covering all major commodities
	Rural Cooperatives	Current law should be reviewed and amended if necessary
	Plant protection	Regulation is needed to cover public sector role, standards, funding and operational procedures
	Seed Certification	Regulation needed covering certification process, and enforcement of quality standards
	Land tenure	Regulation needed on registration and codification of tenure rights
	Agricultural finance	Comprehensive legislation needed on prudential and operational guidelines for commercial banks and non-bank financial institutions
	Technology transfer	Regulation needed covering procedures for the introduction of new technology by the private sector.
	Fertilizer distribution	Regulation relating to enforcement of quality controls
Livestock	Production and importation of vaccines and semen	Regulation on quality controls and licensing of imports
	Animal and public health	Law is needed prescribing the extent of public sector responsibility for the prevention, monitoring and eradication of transboundary livestock diseases, quarantine and meat inspection
	Veterinary services	Regulation of private veterinary services
	Rangeland grazing	Review of grazing rights and enforcement
ARATTS	Genetic resources	Regulation on preservation and collection
	ARATTS network	Policy on the scale of public commitment to ARATTS
Off-farm employment	Privatisation of state owned assets	Transfer of state assets
	Micro-finance	Enabling legislation to be reviewed
	Tax status of rural SMEs	
Institutional Development	Role of the public sector	Mandates and charters of sector agencies
Women in development	Gender policy	A formal gender policy is needed

A. Implementation Strategies

1. Towards a Development Framework Consensus

164. The medium term development framework outlined in this report is based on identified sub-sector priorities, short and medium term needs. It details key strategies and interventions required to achieve agreed sector objectives, and provides a framework for prioritising and coordinating recovery and rehabilitation activities supported by the development partners.

165. The draft framework is the outcome of a wide-ranging consultation with all key stakeholders and it should be treated as the start of a process. It has been revised following initial comments, and the intention is that it be further discussed with the new Transitional Government in late June 2002, and that the government take the lead on reaching a consensus on the framework. The consensus will involve both internal and external aspects. The internal aspect is critically important as agreements and support is required on the priorities and framework from sector ministries. The external aspect will involve the government, AACA, taking the lead and reaching consensus with the donor community on the framework so sector interventions will be coordinated and support identified priorities. It is expected that the consensus on the programming aspects of the development framework will be less problematic as this report and the appendices cover the substantive issues in detail.

166. The past 20 years of activity in the sector have been dominated by NGOs and a small number of UN agencies, especially FAO. Most of the actual work has been done by a cadre of Afghan nationals, many of them based in Pakistan with relatively limited resources. With the enormous expansion in support, the resources available exceeds absorptive capacity and may well exacerbate social tensions. In these circumstances a new institutional order is essential. A new equilibrium incorporating the private sector, line ministries, rural communities, NGOs and international agencies must be found.

167. There is a significant gap between the public sector role as articulated by the AIA in the NDF and the views of many senior members of the line ministries. There is a critical need for a short-term strategy to bridge this gap, and the Government has initiated the concept of Planning and Implementation Groups in each ministry to create a greater awareness of the need for change. Once the Transitional Government is established, a review of public sector administration is planned. Civil Service Commission is expected to recommend wide ranging changes in both the overall composition of sector agencies and their individual structures. This is an area of reform where the international community has high expectations following the statements of the AIA and contents of the NDF. It will have major implications at the sector level.

168. Non-government agencies are established as vital elements in the delivery of a wide range of services to the village and district levels. The established NGOs have professional staff, mostly Afghan nationals, who have acquired skills working with village communities. The challenge is to ensure that these skills remain available whilst adjusting the role of the NGOs to the existence of functioning line ministries, who will have overall responsibility for monitoring their activities. To date, line ministry personnel at the provincial and district levels have not been provided with clear responsibilities consistent with the new vision of the public sector, and are also hindered by their lack of facilities and budgets. However, it is important that the process of adjustment begins early in the recovery to establish de facto roles, and to ensure line ministry staff realize that their new role will include working with NGOs who have been delivering key services for many years. In discussions with the mission, NGOs indicated they have already begun to adjust their programs to draw ministry staff more closely into their activities. However, clearer policies and operational guidelines are required especially at the provincial and district levels, would be helpful.

169. The need will be to create a framework within which communities can play their envisaged role and interact with district and provincial agencies using participatory methods. In doing so, careful consideration will have to be given to the adjustments needed to existing relationships between communities and NGOs who may have been working together for several years and to the relationship between empowered communities and line ministry staff. At a very early stage there will be a need to formulate a “blueprint” which defines, at least in broad terms, these evolving relationships, so that all concerned have a clear understanding of their responsibilities and functions.

170. Afghanistan is receiving unprecedented attention and offers of assistance from the international community. To ensure that resources are used efficiently and effectively, it is essential that efficient aid coordination and management mechanisms be established. The mission noted that various coordination mechanisms are in place, but is concerned that, at least in the natural resources sector, the coordination to date is not being led by the Afghan authorities, especially the AACA. To ensure Government ownership, and that activities are supporting government priorities, and to minimize the risk of duplication within the major donor programs it is essential to have a process established with regular donor meetings chaired by the government, and its representative body. It is envisaged that such meetings should be held and decisions taken within an agreed development framework, such as the one proposed in this report.

AFGHANISTAN

NATURAL RESOURCES AND AGRICULTURE SECTOR

APPENDIX 1

SHORT TERM INTERVENTIONS AND PROJECT PROFILES

I. INTRODUCTION

1. The sector development framework prepared as part of the needs assessment represents the key elements of the recovery process that will be required over the next five years. It identifies the priority short-term interventions that will provide the basis for the medium-term development. While these are the priority interventions, it is essential to recognise that during the period of conflict development activities and programs were ongoing, and that any planning of sector or sub-sector programs, and short-term activities need to incorporate these existing ongoing activities. The difficulty is the absence of an integrated database outlining the scale and scope of these existing projects.

2. As part of the short-term planning process, opportunities may exist to build on or integrate existing programs into the framework. With other activities, due to revised polices or the rejuvenation of core public sector roles it may be necessary to devise a road map to move from the current situation to one that conforms to the medium term framework. This will be necessary for a number of programs that involve moving from an emergency dependency approach to recovery and self-reliance. Also, it will be necessary to initiate activities, which have remained dormant for several years. In terms of developing the short-term interventions and programs it is essential that the development partners coordinate their activities within a government endorsed sector development framework.

II. SHORT TERM INTERVENTIONS

A. Short term Intervention Program Categories

3. The short-term interventions that are required over the next two years have been classified into the following five categories:

(i) Rural Livelihood Program;
(ii) Community Development Program;
(iii) Preparatory Sector Investment Program;
(iv) Institutional Reform and Capacity Building;
(v) Planning and Policy Formulation.

4. **Rural Livelihood Program.** The Rural Livelihood or National Solidarity Program is the Government initiated program to provide short-term employment and income for the rural population who have last assets and livelihoods through the drought and conflict. The program is designed to facilitate national unity and re-establish through a quick disbursing intervention the legitimacy of central government. The program is essentially a national program for asset replacement and is targeted at each district in the country. Within each district, a program of infrastructure rehabilitation will be undertaken, which will provide short–term employment for those most in need who include the landless, sharecroppers, the unemployed, displaced persons and returning refugees.

5. **Community Development Program.** This will be a core program in the recovery and rehabilitation strategy. The program will encompass community development and community investment based activities. It is expected to include the following: community empowerment, organisation, planning and decision making processes, identifying effective community development models, and relationships with government agencies; and investment activities in community infrastructure and rehabilitation. The program will be started on a pilot basis over the first two years, with the models to be developed by identifying and implementing agreed community priorities. The micro-watershed and its natural resources base to form the physical

parameters for the targeted area. Actual activities could include, rehabilitation or building of water storage and small-scale irrigation infrastructure, micro-watershed planning, re-establishing fodder and agro-forestry production, livestock (poultry and ruminant) establishing off-farm small enterprises and related training courses. The program will require substantial countrywide investment and effective coordination.

6. **Preparatory Sector Investment Program.** To develop the framework key studies and field investigations will be required in areas such as: horticulture; livestock systems; forest and rangeland; watershed management and rural finance to identify and prioritize viable agricultural commodities with opportunities for industry development, and feasible interventions. Feasibility studies will be undertaken to appraise and prioritize the large-scale formal schemes for rehabilitation. These detailed studies will be important as a precursor to substantial investment decisions and plans.

7. **Institutional Reform and Capacity Building.** The National Development Framework emphasizes the AIA commitment to establishing an efficient institutional framework in the sector, which will involve small streamlined government institutions providing the appropriate policy and regulatory environment for community driven development, based on private sector growth and delivery of services. This will require a comprehensive review and assessment of the existing institutions, with a functional and institutional analysis to prepare and formulate a re-organization plan for the sector institutions. Capacity building and training will be required, and as a first step support for the establishment and operation of the Planning and Implementation Groups in each of the three Ministries and in some selected provincial offices

8. **Planning and Policy Formulation.** A number of key priority studies will be required to support the formulation of a sound strategic and policy framework in the natural resource and agriculture sector. The studies will involve establishing databases and information systems to support the planning process, and establishing a dedicated natural resource policy unit which would be responsible for developing harmonized sector policies, legislation and regulatory requirements.

B. Existing and Planning Interventions

9. Through the long period of conflict NGOs and a number of UN agencies, in particular FAO, have with their own funds and bilateral donor support undertaken project activities in the sector. The range of the rehabilitation activities and interventions is broad, encompassing seed multiplication, fertilizer supply, pest control programs, livestock and animal disease control, food security, community development and rural rehabilitation, including traditional small scale systems, and community capacity building at the local level. While the area focus of these activities can be determined, the impact and effectiveness of a number of these interventions is difficult to assess in the absence of monitoring and evaluation reports.

10. With the rapid expansion in support from the international community since late 2001, it is important that these lessons learned are incorporated when planning future activities and interventions. As part of this needs assessment an indicative inventory of short-term development partner support to the natural resource and agriculture sector was prepared. This inventory is outlined in terms of crop production, livestock and animal health, food security and rural rehabilitation, water resources, institutional capacity and strengthening, and is also presented in terms of development partner commitments. The data is from a variety of sources and while not complete, and be treated as an indicative outline, it provides a very useful

summary of ongoing and planned development partner activities at a sub-sector level, as of April 2002. The indicative sector inventory is presented in Annex 1, Table 1.

11. The inventory indicates that there are large levels of support, and in which sub-sectors there is currently limited support and commitments, such as for policy and planning, and institutional capacity and strengthening activities. A review of the activities indicates the key role NGOs and FAO have played in supporting the sector, and the potential large increase in sector activities given the planned funding commitments. The AIMS NGO database indicates that over twenty NGOs are involved in over one hundred and twenty ongoing or planned rehabilitation projects. These activities with a budget (estimated for 2 years) of approximately $49 million, and when a number of other large NGO projects are included, it totals approximately $55 million. Since the start of 2002 FAO has received a significant increase in its budget support, with a large number of bilateral donors providing funds through FAO, and its indicative budget for activities in the sector is $40 to $50 million. The EU and USAID have large funding commitments, as does DFID for poppy eradication, AKDN, and the multi-lateral banks (ADB, WB) who are also planning large programs.

12. While the sector development framework prepared as part of the needs assessment, identifies priority short-term interventions required to provide the basis for the medium-term development, the development partner inventory, provides an indicative outline of ongoing and planned short–term activities. A cross-check or comparison between the framework and inventory activities indicates where there are potential gaps or lack of support for priority short-term activities. This comparison is summarized in Table 1, with recommended short-term interventions, current ongoing, planned and proposed interventions (based on Annex 1, Table 1) and an assessment of potential shortfalls. In terms of the five categories used for the short-term interventions, shortfalls exist in all five categories, and in particular with institutional reform and capacity building, planning and policy, and preparatory studies for sector investment programming. In preparing proposals for priority short-term interventions, ensuring that these shortfalls are addressed is of primary importance, and the short-term interventions outlined below cover these areas.

13. Further, the number of development partners, the planned level of support, and potential for overlapping activities, emphasizes the critical importance that the government have a development framework for the sector, and that government lead in the coordination of donor activities in the sector.

Table 1: Agriculture and Natural Resource Sector Short Term Interventions

		Recommended Short-term Interventions	Current Ongoing	Planned and Proposed (indicative)	Shortfall (indicated by x)
1.	**Rural Livelihood Program**				
	Short-term Rural Employment Generation	Under the National Solidarity program the AIA is supporting short term rural employment to generate income, reduce poverty and enable asset replacement. A national program to operate in each district.	NGO and development partners (DPs).	NGO activity, DPs WB Labor intensive program. ADB JFPR pilot	**X**
2.	**Community Development Program**	Establish a program approach integrating several elements, as outlined below.	Number of NGO, and EU funded projects	Large number of DP activities	**X**
	Community capacity building and planning	To be developed as a core activity.	As above	As above	**X**
	Irrigation Rehabilitation	Establish a program approach, for targeted community based rehabilitation of traditional small and medium scale schemes, with management responsibility for the medium scale schemes being transferred to the users. Selection criteria to be established.	Number of NGO projects undertaking irrigation infrastructure rehabilitation. Major requirement.	ADB/WB loans, program based support, with criteria and process to be established. NGO projects Possible EU/USAID	**X**
	- small scale				
	- medium scale				
	- watershed planning	Pilot schemes to develop community based watershed models.	Some existing projects incorporating watershed approaches.	To be incorporated in above program	**X**
	Input Supplies				
	- seed multiplication	Develop sustainable seed multiplication systems, and nursery production units. Establish quality assurance/control systems, and facilitate private sector provision.	Large numbers of DPs involved in seed multiplication and seed provision, FAO key role in seeds/livestock. Fertilizer (USAID, NGO)	Large number of DPs (EU, USAID, others) funding FAO and NGO activities.	**X**
	- fertilizer				**X**
	- horticulture				**X**
	- improved planting materials				**X**
	- livestock/animal health				**X**
	Support services				
	- applied research/ technology transfer	Undertake studies as required, establish and support effective services, either market based, or where essential public provision.	Some NGO extension, FAO animal health and livestock activity.	USAID (ICARDA) No. of FAO proposals seeking funds. Other DPs	**X**
	- extension services/ animal health				**X**
	- plant protection/ disease control				**X**
	- markets/private sector				**X**
3.	**Preparatory Studies for Sector Investment Program**	Studies and preparation work for major			
		- Irrigation Infrastructure			**X**
		- Agricultural Enterprises (cotton/sugarbeet)			**X**
		- Commercial Development Livestock Industry (dairy &meat)			**X**
		- Horticulture Investment			**X**
		- Agro-marketing and Processing			**X**
		- Rural Finance			**X**

		Recommended Short-term Interventions	Current Ongoing	Planned and Proposed (indicative)	Shortfall (indicated by x)
4.	**Institutional Reform and Capacity Building**				
	Capacity Building				
	- Planning and implementation groups	Establish effective groups in sector Ministries, provide essential training and		DPs (DB, WB, EU,	**X**
	- Human resource development	equipment and support	FAO TCP activity UNDP	FAO, others)	**X**
	- Infrastructure				**X**
	Institutional Reform				
	- Institutional review/ analysis	Undertake sector institutional analysis and reorganization.		DPs (USAID, FAO, WB, ADB)	**X**
5.	**Planning and Policy Formulation**				
	Database/Information Systems	National Water Resource Assessment		USAID (ICARDA), possibly EU	**X**
		Livestock Inventory/Survey		USAID, ADB	
		Village Assessment	WFP survey		**X**
		Forestry and Rangeland Assessment			**X**
					X
	Planning and Policy	Proposed Natural Resource Policy Unit, will be responsible for: Agriculture & Natural Resource Policy, Water Policy and Watershed Management, Forestry and Rangeland Management, Horticulture Markets, and Agriculture Export Trade.		DPs (USAID, ADB, EU, other)	**X**

C. Short Term Proposals

14. The list of the short-term intervention proposals is outlined in Table 2, and details proposed duration, indicative cost, and any funding commitments. In the following section a brief summary is outlined for each of the proposals. More detailed information on the proposed interventions is provided in the sub-sector appendices, Appendix 2 to 8.

Table 2: Short Term Intervention Proposals

	Item	Duration (Years)	Indicative Cost ($ million)	Commitment
1.	**Rural Livelihood Program**	One Year	45	WB committed $22million
	-infrastructure rehabilitation			NGO TBD
	-social forestry			
	-urban greening			
2.	**Community Development Program**	Two year	150-200	WB $20 million
	-pilot micro-watershed programs			EU TBD
	-rehabilitation small & medium scale irrigation systems			ADB TBD
	-community development			NGOs TBD
	-livestock, agriculture, forestry interventions			FAO TBD
	-off-farm livelihood activities			USAIDTBD
3.	**Preparatory Sector Investment Program**			
3.1	Feasibility studies and preparatory planning for large and formal irrigation infrastructure rehabilitation	Two year	4	
3.2	Rural finance	One year	0.6	AKDN TBD
3.3	Feasibility study for commercial development of dairy and meat industries	Half year	0.6	
3.4	Feasibility studies cotton and sugarbeet industries	Half year	1.1	
3.5	Horticulture and innovative crop industry and export market studies	One year	1.0	ADB, Other DPs TBD
4.	**Institutional Reforms and Capacity Building**			
	-planning and implementation groups	Two year	5	ADB, Other DPs TBD
	-institutional review and reform analysis	One year	1.2	ADB, Other DPs TBD
	-capacity building and retraining programs	Two year	5	FAO, Other DPs TBD
5.	**Planning and Policy Formulation**			
5.1	Water resources assessment	Two year	1.5	EU, USAID
5.2	Comprehensive water policy and legislative review	One year	0.3	
5.3	Livestock assessment survey	One year	0.5	USAID, ADB
5.4	Village level assessment	One year	0.2	WFP
5.5	Forestry and rangeland assessment inventory	One year	0.8	
5.6	Natural resources policy unit -policy revision required for water resources, forestry, rangeland grazing, public and animal health.	Two year	2.2	ADB, USAID, EU, Other DPs TBD

1. Rural Livelihood Improvement

a. Background and Rationale

15. The Rural Livelihood or National Solidarity Program is the Government initiated program to provide short-term employment and income for the rural population who have last assets and livelihoods through the drought and conflict. The program is designed to facilitate national unity and re-establish through a quick disbursing intervention the legitimacy of central government. The program is essentially a national program for asset replacement and is targeted at each district in the country. Within each district, a program of infrastructure rehabilitation will be undertaken, which will provide short–term employment for those most in need who include the landless, sharecroppers, the unemployed, displaced persons and returning refugees.

b. Objective

16. To provide immediate short-term employment and income for rural households through employment in community rehabilitation activities. These activities to be supported by government and undertaken on a national basis.

c. Scope and Proposed Activities

17. This program is intended to finance quick disbursing activities within a 1-year timeframe. The aim is to repair or rehabilitate public or community (district) level infrastructure using local labour, particularly those families in need of cash income over the next six months. The activities to be included could cover rural road repairs, repairs to secondary and primary irrigation canals, repairs to community buildings such as schools and clinics, tree planting in urban areas and clearing of destroyed buildings including the reclamation and sale of bricks. Possible activities mentioned in the sub-sector matrices include: (i) repairs to irrigation system structures; repairs to water harvesting structures; social forestry, and urban tree planting.

d. Implementation Arrangements and Timeframe

18. The program will be implemented under the supervision of the AACA who will also provide central procurement and monitoring facilities. The lead agency will be the Ministry of Public Works in collaboration with the Ministry of Rehabilitation and Rural Development.

e. Inputs and Indicative Costs

19. It is estimated that on average each district will receive about $130,000-$150,000 which will provide about 85,000-100,000 days of employment during 2002. The total fund required is about $45 million, of which the World Bank has committed $22 million. Approximately 40 percent of all rural families or about 6.5 million people are living in extreme poverty. After allowing for the elderly and children this leaves about 3 million working adults who would receive approximately $15 each. It is likely that this would be the only cash available to most of these families until next spring.

2. Community Development Program

a. Background and Rationale

20. This will be a core program in the recovery and rehabilitation strategy. The program will encompass community development and community investment based activities. It is expected to include the following: community empowerment, organisation, planning and decision making processes, identifying effective community development models, and relationships with government agencies; and investment activities in community infrastructure and rehabilitation, and in supporting services. The program will be started on a pilot basis over the first two years, with the models to be developed by identifying and implementing agreed community priorities. The micro-watershed and its natural resources base to form the physical parameter for the targeted area. Actual activities could include: rehabilitation or building of water storage and small-scale irrigation infrastructure, micro-watershed planning; re-establishing fodder and agro-forestry production; livestock (poultry and ruminant); establishing off-farm small enterprises; and related training courses. The program will require a substantial countrywide investment, and to be successfully implemented effective coordination.

b. Objective

21. To improve livelihoods for all stakeholders in the rural community through community based activities and sustainable use of resources.

c. Scope and Proposed Activities

22. The community development program will, eventually, be a nationwide program and the foundation of the rehabilitation process, with communities determining their development priorities. The program will have several elements, combining institutional strengthening with investment in community infrastructure. Over time the program will cover every micro-watershed in the country and all communities will be drawn into the planning process.

23. In the short term, pilot activities will be undertaken to develop, assess and test community empowerment approaches and the community's ability to contribute to micro-watershed planning. In developing a planning model that is suitable for most communities in Afghanistan it will be essential to build upon the experience of NGOs who have been working in this area. Initially the program would be implemented in a limited number of provinces that lie within the Government's ten priority regions (up to about nine provinces but fewer if provincial capacity is particularly low), and where some capacity exists in the provincial offices of the MRRD.

24. A first step will be to establish the Planning and Implementation Groups in MRRD and a similar but smaller cell in each of the selected provinces. This provincial implementation group would be a part of the MRRD provincial office. The Provincial office would be physically restored and rehabilitated including the provision of equipment and transport, but the staffing would be kept small until the Government has decided on the specific roles and functions of these offices and their relation to both the central Ministry and the Provincial Administration.

25. It is envisaged that the rehabilitation of water delivery infrastructure will be the key priority of most communities. As a consequence, individual community development plans are likely to be dominated by small scale irrigation rehabilitation in the early years but will become much broader once a stable water supply has been achieved. A number of modules or

components will be developed for other livelihood activities, which are likely to include: rehabilitation or building of water storage and small-scale irrigation infrastructure; micro-watershed planning; re-establishing fodder and agro-forestry production; activities to improve smallholder livestock productivity which may encompass fodder production, artificial insemination, vaccination and disease control and animal health and livestock support services; establishing off-farm small enterprises and related training courses. Additional support for the small-holder sector should target poultry producers with expanded village poultry distribution, and improved production capability for semi-commercial producers including improved disease control, deworming and supplementary feeding for female breeding stock.

26. Where communities are dependent on more formal and larger irrigation schemes then the rehabilitation timeframe will be longer, and short-term activities will be focused on technical and environmental assessments as well as the more complex institutional issue of system management transfer.

d. Implementation Arrangements and Timeframe

27. The program will be implemented by the MRDD.

28. The capacity of the Provincial Office/ Group to implement the program could be expanded by contracting with NGOs, consulting firms, or the hiring of short-term consultants (according to well defined TORs and staff selection criteria). Actual construction works would also be contracted with qualified construction companies as indicated in the draft National Development Framework.

e. Inputs and Indicative Costs

29. It is expected that the first two years will establish the program and the development process. The indicative budget is $150 to 200 million.

3. Preparatory Sector Investment Program

30. The AIA in the National Development Framework has committed itself to building an efficient framework for recovery, growth, and poverty reduction. A sound strategic framework, underpinned by clear, consistent, and well articulated sector policies, will be crucial at the outset to set the stage for quick recovery and sustainable long-run development. Achieving this will require the establishment of data support systems for the analysis and monitoring of development programs, and formal and on-the-job training to upgrade the skills of key personnel in the ministries responsible for agriculture, natural resources, and rural development.

31. To develop this framework key studies and field investigations will be required in areas such as: horticulture; livestock systems; forest and rangeland; watershed management and rural finance; to identify and prioritize viable agricultural commodities with opportunities for industry development, and feasible interventions. Feasibility studies will be undertaken to appraise and prioritize the large-scale formal schemes for rehabilitation. These studies will be important as a precursor to major investment decisions.

3.1 Feasibility Studies and Preparatory Planning for Large and Formal Irrigation Scheme Rehabilitation.

a. Background and Rationale

32. The country has over 300,000 ha of formal and large-scale irrigation schemes, which require rehabilitation. The schemes are State owned and the responsibility of MIWR. Many of the formal schemes were financed in part by International Financial Institutions (WB, ADB), and/or by bilateral donors. A number of these schemes currently have major problems in terms of salinity, waterlogging, infrastructure requirements, management and community ownership and participation. A project-by-project approach to rehabilitation should be avoided, and a program approach adopted to ensure that overall priorities and sequencing results in timely, maximized, cost-effective and sustainable impact.

b. Objective

33. To undertake detailed feasibility studies on the formal and large scale irrigation systems, and based on strict selection criteria, prioritise the schemes for rehabilitation. A program approach will be used to prepare the rehabilitation investment plan.

c. Scope and Proposed Activities

34. This study would undertake a systematic technical, economic, social and environmental assessment of formal state owned irrigation schemes as well as the very large schemes found in the northern and western regions of Afghanistan, and support implementation of a prioritized and sequenced program of investment projects. The program would undertake systematic assessment of all schemes, establish priorities for project preparation activities including feasibility studies, social mobilization and participation of beneficiaries, and environmental assessment, complete all studies and related activities, and manage individual project financing and implementation.

d. Implementation Arrangements and Timeframe

35. The Government will need to allocate sufficient funding to establish a well trained team within MIWR working closely with the MIWR Planning and Implementation Group to ensure timely completion of all assessments and feasibility studies, the setting of priorities and formulation of project packages, completion of designs and tender documents. The follow-on medium term investment program would involve the monitoring and supervision of construction and implementation (relying on out-sourcing to other development partners, particularly the private sector as much as possible).

e. Indicative Inputs and Cost

36. The program team will be multi-disciplinary since the assessments and feasibility studies will cover not only the technical or engineering aspects of project rehabilitation, but also the economic, social and environmental aspects, and involve extensive social mobilization and farmer organization to restructure the roles of the state and the farmer in these projects. International and domestic consultants will be required to assist in establishing the process, the selection criteria and undertaking the feasibility studies. An indicative cost is $ 4 million.

3.2 Rural Finance

a. Background and Rationale

37. In the agricultural sector access to rural finance is a priority need. Farmers either recovering from drought or returning to their lands after fleeing conflict, need to finance the reconstruction of irrigation systems, land preparation, seeds, fertilizers, horticulture planting stock, agricultural equipment and new livestock purchases.

38. Currently the only finance available in the rural areas is being provided either through moneylenders or by NGOs, several of which have microfinance programs. Given the diverse nature of the NGOs, their programs and the areas and sectors in which they concentrate their activities, it is likely that while some finance is being provided for small scale activities, most people do not have any access at all to credit or finance. This is certainly the situation for individuals looking for finance for larger investments such as the reestablishment of orchards, the purchase of agricultural equipment or the establishment of commercial livestock production. At present, the Agriculture Bank is essentially insolvent, has no stocks of inputs or equipment, and is doing no lending whatsoever. Reportedly, the Bank still has 500 staff, of which 300 are based in Kabul and the remainder are at the 5-6 provincial offices that have managed to remain open during the last decade.

b. Objective

39. To assess rural finance needs, and to identify and prepare appropriate rural financial framework (policy, regulatory and institutional) required to establish viable bank and non-bank financial institutions that will effectively meet rural household needs for asset and community based lending.

c. Scope and Proposed Activities

40. The study team will:

(i) Review the financial and banking sector policy, legislative and regulatory framework that governs the operations of commercial banks, including the prudential guidelines of the national bank.
(ii) Undertake an option analysis on alternatives for asset and community based lending;
(iii) Prepare recommendations on the framework for rural finance institutions and delivery systems;
(iv) Prepare an action plan to establish a functioning rural finance system that can be operating within two years;
(v) Assess the opportunities for external financial partners, and requirements for foreign banks to establish in Afghanistan.

d. Implementation Arrangements and Timeframe

41. The study team will work under the general supervision of a Steering Group chaired by the Ministry of Finance. It is expected that the first stage of the work will take about 9 months. Counterparts should be sourced from existing bank and non bank financial institutions.

e. Indicative Inputs and Costs

42. A team of international and national consultants will undertake the study based on terms of reference agreed with the Ministry of Finance. An indicative costing of the study is $0.6 million.

3.3 Feasibility Study Commercial Development of the Dairy and Meat Industries

a. Background and Rationale

43. Afghanistan has the capacity to produce dairy and meat products is excess of domestic demands, and the opportunities for export marketing need to be assessed. The two major industries in the livestock sub-sector represent important potential commercial outlets for the country's rangeland resources.

b. Objective

44. To determine the prospects of the dairy and meat industries, and investment requirements for commercial development of these industries.

c. Scope and Proposed Activities

45. The study will:

(i) Review the status of existing facilities, and assess the conditions needed to create sustainable export markets;
(ii) Assess livestock production systems, including breeding policies;
(iii) Assess abattoir facilities and meat inspection systems, public hygiene regulations, animal disease controls;
(iv) Trade regulations and incentives for private investment;
(v) Undertake market analysis, identifying market prospects and export opportunities, requirements to enable Afghanistan to enter selected export markets for meat;
(vi) Prepare an investment plan for the industries.

d. Implementation Arrangements and Timeframe

46. The study team will work under the supervision of a Steering Group chaired by the Ministry of Finance. This committee will include representatives of the MAAH, Ministry of Industry, MIWR, and Ministry of Trade. It is expected that the study would take about six months.

e. Indicative Inputs and Costs

47. The indicative costs to undertake the study are $0.6 million.

3.4 Feasibility Studies Cotton and Sugar Beet Industries

3.4.1 Cotton Industry

a. Background and Rationale

48. The cotton industry was an important industry in Afghanistan during the 1970s, with a production area of more than 170,000 ha. The 1997 FAO Survey indicated a cotton area of 112,000 ha. Processing facilities operated in at least three major centres, including Kandahar, Kunduz and Heart. A study is required to assess if the potential exists for a viable cotton production and processing industry. Such as industry could provide thousands of jobs in downstream textile industries.

b. Objective

49. To determine the feasibility and commercial viability of re-establishing a cotton industry in Afghanistan.

c. Scope and Proposed Activities

50. An assessment is needed on the status of the industry, industry production and processing feasibility, an inventory on existing processing facilities, and assessment of the potential and requirements for a viable cotton industry. The outcome of the study will be a set of recommendations on the prospects for redeveloping the cotton industry and, if positive, a framework outlining the scale, including possible downstream processing, and investment needs. This would provide a framework for private sector investors. One aspect of the study will cover the process to privatise those facilities which were formerly operated as state enterprises.

d. Implementation Arrangements and Timeframe

51. The study team will work under the supervision of a Steering Group chaired by the Ministry of Finance. This committee will include representatives of the MAAH, Ministry of Industry, MIWR, and Ministry of Trade. It is expected that the study would take about 6 months to complete.

e. Indicative Inputs and Costs

52. It is proposed that a two phase approach be adopted, phase 1 with a small prefeasibility study and based on the outcome of that study, a decision would be made on moving to a phase 2 which would be a full feasibility study. The study will require the services of international and national consultants for a period of about six months. The indicative cost of undertaking the study is $0.6 million.

3.4.2 Sugarbeet Industry

a. Background and Rationale

53. Previously sugarbeet was an established industry in Afghanistan, and currently is in a similar situation to the cotton industry. According the FAO 1997 survey sugarbeet area in 1997 had declined to only 2,000 ha. While it does not have the same potential economic importance, it does represent a potential cash crop for farmers, and a possible import substitution product. The viability of sugarbeet production and processing needs to be assessed. Also need to assess and analyze the conditions required for the industry to be viable.

b. Objective

54. To determine the feasibility and commercial viability of re-establishing a sugarbeet industry in Afghanistan.

c. Scope and Proposed Activities

55. An assessment is needed on the status of the industry, industry production and processing feasibility, an inventory on existing processing facilities, and assessment of the potential and requirements for a viable sugarbeet industry. The outcome of the study will be a set of recommendations on the prospects for re-establishing the cotton industry. If these recommendations are positive, a framework to be developed outlining the scale, including possible downstream processing, and investment needs. This would provide a framework for private sector investors. One aspect of the study will cover the process to privatise any facilities, which remain and were formerly operated as state enterprises.

d. Implementation Arrangements and Timeframe

56. The study team will work under the supervision of a Steering Group chaired by the Ministry of Finance. This committee will include representatives of the MAAH, Ministry of Industry, MIWR, and Ministry of Trade. It is expected that the study would take about 6 months to complete.

e. Indicative Inputs and Costs

57. It is proposed that a two phase approach be adopted, phase 1 with a small prefeasibility study and based on the outcome of that study, a decision would be made on moving to a phase 2 which would be a full feasibility study. The study will require the services of international and national consultants for a period of about six months. The indicative cost of undertaking the study is $0.5 million.

3.5 Horticulture and Innovative Crop Industry and Export Market Feasibility Studies

a. Background and Rationale

58. Horticulture production was previously a significant agriculture activity in Afghanistan and accounted for 40 percent of export earnings. The 1997 FAO Survey indicated an orchard area of 140,000 ha, though more recent information is that the area has reduced to 70,000 ha.

59. An assessment of the domestic industry and markets is required to guide those planning to reinvest in the horticulture production and processing business in Afghanistan. The markets have changed while Afghanistan has reduced production, and other countries have entered the export market. A key requirement is for Afghan producers and traders to understand current opportunities with the horticultural produce markets in different parts of the world. Afghan suppliers will need to re-establish trade contacts and maintain regular contact with trade associations. Particular attention should be given to the possibility of introducing one or more high value crops to poppy growing areas.

b. Objective

60. To assess the viability of horticulture and innovative crop enterprises and industries, in particular those that have the prospect or potential for export markets.

c. Scope and Proposed Activities

61. The marketing studies to provide an assessment of the prospects for: (i) horticulture produce, nuts and dried fruit; and (ii) innovative crops providing raw materials to pharmaceutical, nutrition/health and essential oils industries. The market studies will be business orientated with concrete recommendations linking potential export partners to Afghan suppliers. The market assessment, will involve study visits to selected potential export markets. Specific contacts will be made available through an Afghan trade association, which, if not currently functioning, will be established and assisted under the study.

62. The studies will prepare be a detailed analysis of commodity feasibility, and viability of the industry in both domestic and export markets. It will detail export market specifications and trade regulations leading to an assessment of the most likely openings for Afghan produce, both geographically and in terms of commodities. An investment program will be prepared for those commodities, which are viable. With the innovative crop study an action plan for initial piloting with identified market outlets will need to be prepared.

d. Implementation Arrangements and Timeframe

63. It is proposed that the study team comprise two international trade experts and five national experts including representatives from the ministries of trade and agriculture. In addition, the national group should include representatives from the private sector especially prominent businessmen with interest in the horticulture trade. The study team should report their findings within six months.

e. Indicative Inputs and Costs

64. The indicative costs of the proposed studies, which will require inputs from international and national consultants, are horticulture $0.6 million and innovative crop $0.4 million.

4. Institutional Reform and Capacity Building

a. Background and Rationale

65. Over the last two decades the capacity of the public institutions responsible for agriculture, water and natural resources, and rural development in Afghanistan has declined significantly, in terms of both physical and human resources. These institutions, the Ministry of Agriculture and Animal Husbandry, Ministry of Irrigation and Water Resources, and Ministry of Rehabilitation and Rural Development have lacked the capacity to undertake their functions and responsibilities, with a number of the key services being provided by non government organizations (NGOs) and community based organizations. During this period the institutions were not exposed to change or to international best practices in public sector management. The draft National Development Framework emphasizes the AIA commitment to establishing an efficient institutional framework in the sector, which will involve small streamlined government institutions providing the appropriate policy and regulatory environment for community driven development, based on private sector growth and delivery of services.

66. The AIA has indicated that the critical first step in this institutional reform process will be the establishment of Planning and Implementation Groups in the Ministries and their provincial offices to facilitate the management change and re-organization. These Planning and Implementation Groups will be an integral part of the Ministry organizational structure and internal operations, and will be responsible for building management capacity and skills. Establishment and effective operation of the Groups will require technical support, formal and on the job training for key personnel. The second step in the reform process will be a comprehensive review and assessment of the existing institutions, with a functional and institutional analysis to prepare and formulate a re-organization plan for the sector institutions.

67. This assessment and re-organization will be participatory, and is required to establish efficient public sector institutions with appropriate structures and functions for the new operating environment. While the overall process of institutional reform will be guided by the Civil Service Commission, which has been appointed by AIA to undertake this task, the more detailed institutional analysis of individual ministries and their organisation at a sector level will be undertaken as a discrete exercise using terms of reference agreed with the Civil Service Commission.

b. Objectives

68. To: (i) support the establishment and capacity building of the Planning and Implementation Groups in each of the three Ministries and in selected provincial offices to provide a framework for change management, and for efficient program and project management; and (ii) to develop an efficient and effective public sector institutional framework for the agriculture, water and natural resource sector.

c. Scope and Proposed Activities

69. Activities will include:

(i) support for the establishment and operation of the Planning and Implementation Groups in each of the three Ministries and in some selected provincial offices;

(ii) capacity building and training of Ministry and provincial staff in the Planning and Implementation Groups, in identified priority technical and management areas;

(iii) sector institutional and organizational analysis and assessment, which will involve active consultation and participation of all key stakeholders in the sector;
(iv) support for the formulation of a reorganization plan for sector public institutions, in line with the private sector-led and community-based principles of the AIA draft National Development Framework;
(v) preparation of an time based action plan for implementation of the reorganization, with detailed recommendations on physical and human resource requirements and costings, for the follow-on assistance and technical support. Training and capacity building will be a major activities in follow-on support.

d. Implementation Arrangements and Timeframe

70. The executing agency will be the Ministry of Finance, and they will chair a Steering Committee comprised of Deputy Ministers of Irrigation and Water Resources, and Rehabilitation and Rural Development, Agriculture and Animal Husbandry, and senior staff of selected provincial agencies. The Civil Service Commission should also be a member of the committee. The AACA could possibly act as the implementing agency for activities and facilitate the activity implementation with the respective institutional mandates. Within the ministries, activities will focus on the Planning and Implementation Groups that are to be established in accord with the draft National Development Framework. Technical committees and working groups will be established at all levels to ensure coordination.

e. Indicative Inputs and Costs

71. To start in Quarter 3, 2002 and will be implemented initially over a two year period. Indicatively, it will require international and domestic consultants. Core skills will be needed in institutional/ change management, and short-term skills are expected to include, but not be limited to: (i) human resource and training; (ii) change management; (iii) economist; (iv) financial management; (v) rural development; (vi) program management; and (vi) workshop facilitators. The short-term specialists will be recruited on an as-needed basis which will allow the flexibility to respond to both the Government's evolving needs. Indicative costs for the two years have been outlined as: institutional review and reform $1.2 million; Planning and Implemention Group establishment and operation $5 million; and capacity building and training activities $5 million. These costs are very preliminary estimates.

4.1 Sub-Sector Institutional Reform

72. As part of the overall sector institutional reform there will need to be a number of key sub-sector studies to assess the appropriate roles, structure and functions required to efficiently and effectively deliver services in key technical areas such as: water resources, livestock and animal husbandry, ARATTS, plant and disease control, certification systems, and extension service delivery. Once the overall framework for the institutional review is decided these studies could be undertaken in as part of the review, or in parallel and would provide key inputs into the planning for reorganized and restructured institutions. The studies outlined below, provide an indication of the type of studies required.

4.1.1 Agriculture Research and Technology Transfer System (ARATTS)

73. In the past, prior to the conflict, the agricultural research and technology transfer system was substantial, though not always focused on the real needs of the Afghan farmer. This system is no longer functioning and there has been widespread destruction of the infrastructure and

loss of skilled human resources. The ARATTS network has an important role to play in ensuring that Afghanistan has access to the most appropriate technology to enable the agriculture sector to maximize its performance. It is an essential requirement that a review be undertaken to assess the needs, policy, functions and institutional structure to establish and operate an efficient ARATTS, that will respond to farmer identified priorities and to future farming needs. This assessment to be undertaken as part of the larger MAAH institutional review. The principles underlying the future shape of ARATTS will include;

(i) Integrating on–farm participatory research and technology transfer activities into practical development programs;
(ii) Development of demand-driven, community-based research and technology transfer programs that recognize the special needs of rural poor, especially the disabled, children, and rural women;
(iii) Adoption of innovative methodological approaches, which utilize the farming systems approach to research and development, integrated natural resource research sites, integrated watershed management, and incorporate socio-economic aspects with technical and biophysical research programs; and
(iv) Determining the most effective institutional framework for linking research with extension delivery agencies and organisations.

74. Based on a very strong consultative and participatory process involving all stakeholders, the study team to review, assess and prepare recommendations on establishing an ARATTS that will be farmer focused, and respond to priority needs in terms of developing an applied research program, and will be adequately resourced and financed. In preparing the institutional structure, options in terms of delivery services, in particular technology transfer and extension delivery systems need to be assessed to determine the most cost effective systems. The study would detail the physical and human resources required to implement the recommended option.

4.1.2 Livestock and Other Institutional Studies

75. Livestock studies will be required as part of the institutional review to determine the most effective and efficient systems for livestock vaccination production and delivery, and for provision of animal health and livestock support services. A vaccine quality control laboratory is likely to required, and it will be necessary to define sentinel service needs against trans-boundary diseases, diagnostic laboratory functions and needs, and to identify the requirements for functioning animal health laboratories. The outcome from these studies will determine infrastructure and equipment support, human resources and training need requirements. Similar issues and studies will need to be addressed in the other sub-sector areas such as forestry and rangeland, plant disease and control systems, and water resources.

5. Planning and Policy Formulation

a. Introduction

76. In Afghanistan the policy and planning framework in the sector has been neglected during the long period of conflict. For more than two decades, Afghanistan's policy makers and planners have been isolated from progress in international best practices in most areas of development. The AIA has committed itself to building a modern, efficient institutional framework for community based recovery, growth, and poverty reduction in the draft National Development Framework.

77. Currently much of the information relating to the availability of natural resources, productivity and agriculture sector output is either out of date or fragmented. More accurate information is required in several sub-sectors to provide an adequate basis for policy and investment decisions. This process must be set in a framework, which involves the establishment of a comprehensive national statistical agency using standard protocols.

78. A sound strategic framework, underpinned by clear, consistent, and well articulated sector policies, will be crucial at the outset to set the stage for quick recovery and sustainable long-run development in the sector. Achieving this will require the establishment of data support systems for policy formulation and planning, and for the analysis and monitoring of development programs. The policy requirements in the short term will be significant for an efficient framework to be developed in natural resource and water resource management, rangelands, forestry, livestock, community development, and ARATTS.

79. A number of key priority studies will be undertaken to support the formulation of a sound strategic and policy framework in the natural resource and agriculture sector. The studies are outlined in this section and will involve establishing databases and information systems to support the planning process. While five studies are outlined, more may be required additional studies may be required as the work progresses. A dedicated natural resource policy unit is proposed (refer section 5.6), which would be responsible for development of harmonized sector policies, legislation and regulatory requirements.

5.1 Water Resources Assessment

a. Background and Rationale

80. Water resources in Afghanistan are limited, and must be managed efficiently. Currently opportunities exist to improve water planning, use and management efficiency. Government needs to undertake a resource assessment to provide a national database and basis for developing policy on water use, groundwater development, watershed management, and water harvesting. This is required to ensure that any investment and rehabilitation water resources infrastructure, especially irrigation systems, which is planned in the medium term is based on sustainable water sources and use. In addition, groundwater availability is becoming a critical issue as groundwater levels fall. Farmers need to have access to forecasts on expected weather and water accumulation in winter snow pack when making enterprise decisions. Currently such information is not available. At the present time the information base does not allow an accurate assessment of the impact of: depletion of groundwater; inadequate snowfall; or investment in irrigation structures on the availability of water resources.

b. Objective

81. To establish a water resource database information system that will provide the basis for efficient water planning and policy formulation.

c. Scope and Proposed Activities

82. The assessment will concentrate on:

(i) Rebuilding the national knowledge base, using modern information management tools including GIS and remote sensing, and strengthening the monitoring system. The historical knowledge base of maps, reports and studies, and data is partly lost and partly scattered across the former Soviet Union. Every effort will be made to reassemble this database.

(ii) Re-establishing the hydrologic and hydro-geologic network (including stations to monitor snowpack) is a high priority. This will involve a systematic review of the earlier network design, identification of the most appropriate technologies and systems for a cost effective network. The technical options to be assessed will include new technologies for solar powered remote monitoring stations, but especially new remote sensing technologies that have recently emerged. The network investment will be detailed, and a phased implementation plan will be prepared beginning with priority regions and river basins.

d. Implementation Arrangements and Timeframe

83. This project will involve all the core natural resource ministries and agencies, and the Afghan Information Management System (AIMS). A steering committee will be established to oversee implementation. It is expected that the study could take up to two years to establish the comprehensive database.

e. Indicative Inputs and Costs

84. The assessment will involve international and national consultants, and an indicative estimate is $1.5 million.

5.2 Comprehensive Water Policy and Legislative Review

a. Background and Rationale

85. Revision of the existing water policy and water law is required as the current policy and law do not meet sector requirements as outlined in the NDF. Such a revision must be based on a participatory consensus building process. In the present setting in which major changes in institutional arrangements, roles and responsibilities are contemplated in the NDF, it would be prudent to proceed gradually, addressing immediate policy needs while allowing the institutional change process to lead the policy and legislative review process. Clearly these two processes are to a significant degree intertwined. A feasible starting point would be to undertake an analysis of the present water policy and law given the future direction indicated in the draft NDF, and outline key areas of change, and the various options and recommended directions, and particularly the institutional and organizational implications. Such a policy note could be one of the key inputs to the change management process to be initiated in each of the core ministries.

86. There are certain provisions in the existing law that concern administrative procedures and authorities that are in direct conflict with the NDF and current instructions to the core ministries, for example provisions for financing rehabilitation of irrigation schemes by the Ministry of Water and Electricity and cost sharing by farmers through loans from the defunct Agriculture Development Bank. These and other provisions will probably have to be changed by the Transitional Government in the near term if disputes over what ministries are legally obligated to do, or how they are to function are to be avoided. It is likely that the policy and legislative framework will be adjusted in a phased manner, to ensure that the recovery and reconstruction program can proceed in a timely manner while a broader consensus is built in the sector about the future shape of water policy and new legislation.

b. Objective

87. To undertake a comprehensive review of the existing water policy and water law as the first phase of the process of policy and legislative revision.

c. Scope and Proposed Activities

88. The first phase will involve a review and analysis of the present water policy and law, particularly in relation to the draft NDF, and identification of key areas of change, an option analysis and recommendations on policy and legislative directions, and associated institutional and organizational implications. The study will also detail the required follow-on work that will be necessary to revise and reformulate water policy and legislation. The output from this study will also be used as a policy note in the change process.

d. Implementation Arrangements and Timeframe

89. This project will involve a collaborative effort of all the core natural resource ministries and agencies, including AACA. A steering committee will be established to oversee implementation.

e. Indicative Inputs and Costs

90. Indicative costs for the initial study are $0.3 million.

5.3 Livestock Assessment Survey

a. Background and Rationale

91. Traditionally livestock activities have been an integral part of most farming systems in Afghanistan. Currently livestock raisers are faced with a number of serious problems involving loss of livestock, decreased productivity due to the declining feed and overgrazing, and the affects of animal diseases that have been inadequately treated. Livestock numbers have decreased significantly, estimates are that numbers are half those of ten years ago. There is an absence of reliable data on numbers, the production systems, and rangeland resource base, or any useful data on the performance of sheep and goats using rangelands or the influence of the conflict on the scale of nomadic flocks. Such data is essential for identifying feed resources for livestock, and estimating carrying capacity, and to properly plan animal health and disease control interventions. Establishing a database and monitoring system, and benchmarks for livestock numbers and the sustainable capacity of rangeland systems, which support livestock, is required.

b. Objective

92. To undertake a livestock assessment to establish a database and monitoring system which will provide the basis for livestock planning and management of sustainable production systems.

c. Scope and Proposed Activities

93. The livestock inventory assessment, which will provide the data for planning activities. It will involve a rapid rural appraisal of all provinces, focusing on livestock numbers and distribution, feed resources, husbandry and livestock offtake strategies, and livestock support services. It will have to be done in at least 2 parts, one for the sedentary raisers and one for the migratory *kutchies.*

94. The survey and the sampling technique will be professionally designed to ensure statistical validity. The survey will produce nation-wide data on livestock numbers and data with respect to age and sex categories and depending on final design, will permit other categories of information to be captured with respect to offtake and offtake strategies, production constraints and resources. The final data categories would be determined by the TA designer in consultation with animal production experts. The data will be analysed, presented in a summary report with key findings and recommendations for the sub-sector. Mechanisms to be identified for establishing this database and monitoring process in the appropriate agency, with procedures established for regular updating. The database will be made available for use by livestock planners of government departments, NGO and international agencies.

d. Implementation Arrangements and Timeframe

95. The study team will work under a Steering Committee chaired by MAAH.

e. Indicative Inputs and Costs

96. The survey will rely heavily on staff of the Veterinary Field Units and contracted NGOs to conduct the interviews. They will be trained by the consultants and contracted for the work. To obtain some idea of the time needed, an indicative village sampling of 10% will make the 300

VFU each responsible for ten or eleven villages. Three households per village and a day per village to sample them, suggests a sampling period per enumerator of about 2 weeks. The survey should be conducted as soon as possible and could be completed within 6 months. A consultant would be recruited for four months for survey design, the collation of data and a managing consultant would six months to conduct the training and manage the program overall.

97. Indicative costs for the assessment are $0.5 million.

5.4 Village Level Assessment

a. Background and Rationale

98. In Afghanistan the large number of individual communities (about 18,000) has traditionally had a keen interest in the use and protection of natural resources. Communal management, risk mitigation and coping strategies were a common feature of these traditional agricultural systems. Such community mechanisms have been weakened by years of conflict and a legacy of displaced people, widows and orphans, disabled and uneducated groups. To re-establish social cohesion, village/district level decision making structures must be rebuilt with appropriate policies and sensitive programs and projects. The NDF indicates that the basis of the recovery and rehabilitation program will be community based development. Currently limited reliable data is available on these local communities to assist in the planning process.

99. The planned investment in community development programs needs to be guided by a more comprehensive database of the conditions at the village/district level than is currently available. A village assessment is conducted by WFP on an annual basis using a sample of 1250 villages in 250 districts. This work needs to be built upon to provide a better basis for assessing village level conditions across the country. The WFP survey data requires more in depth analysis than has been possible, and further refinement of the questionnaire to enable additional data collection. In the medium term, the annual village survey should become an integral part of the sector information base.

b. Objective

100. To undertake a village level assessment and prepare a comprehensive database on conditions at the village and district level, which will provide a quantitative base for community development planning and program investment activities.

c. Scope and Proposed Activities

101. To assist WFP to refine their village level assessment questionnaire and undertake the necessary analysis to provide a clear assessment of the variations in (i) food security, (ii) access to raw materials and markets (iii) availability and concentration of assets, including land and livestock, (iv) water supply and irrigated area. Provide assistance for the collation and computerization of the completed questionnaires and the analysis and reporting of the results.

102. The survey will provide valuable data on the variation in the level and distribution of assets between villages across the country and between different ecological zones. The information will allow an assessment to be made of the degree of vulnerability of various segments of the population in each surveyed village and their respective districts. This assessment would allow the use of specific criteria to guide the design of subsequent community development program or project loans.

d. Implementation Arrangement and Timeframe

103. The MRRD will be the executing agency, with the WFP the implementing agency under the general guidance of the UN and MRRD. The survey questionnaire is being prepared currently and will be fielded in July. It is expected that the results will be available in September 2002.

e. Indicative Inputs and Costs

104. The required input will be one international expert in agricultural/ rural surveys including their computerised analysis plus two local staff to assist with the collation of the forms and presentation of the results. The international expert will be required for about 3 months plus a total of 10 months of local support staff. WFP currently fund the cost of the survey, including transport outside Kabul. An indicative cost of the proposed inputs is $0.16 million.

5.5 Forest and Rangeland Assessment Inventory

a. Background and Rationale

105. Afghanistan has a total land area of about 65 million ha. of which approximately 80 percent is either mountainous or desert, with forest cover small at around 1.3 million ha. or about 2 percent of the land area. Forest area has declined from 1.9 million ha. in 1996. In recent years forest cover has diminished, due to community demands for fuelwood and illegal logging. It is estimated that offtake rates are exceeding annual growth rates leaving a deficit of about 30,000 ha of forest per year. If nothing is done, Afghanistan will have very little natural forest or its associated wildlife left in 15 years time. Further, the increase in population, and the effects of drought and the conflict have resulted in degradation of the rangelands from overgrazing and a transfer of land into cultivation uses. No reliable inventory is available detailing the status of these resources, and is required to establish a sustainable forestry and rangeland planning and policy framework.

b. Objective

106. To prepare a forest and rangeland inventory for effective sub-sector planning and policy development.

c. Scope and Proposed Activities

107. The initial priority will be to determine the extent, status and condition of forestry and rangeland resources, and based on the inventory, detail recommendations and outline an action plan for the sustainable management of these resources. The methodology will be based on using satellite imagery or aerial photography, which will be supported by limited field truthing. Options on the type of management agreements needed at the local level to establish sustainable practices will be assessed.

d. Implementation Arrangement and Timeframe

108. The study team will work under a Steering Committee chaired by MAAH. The study will be implemented over a one-year period.

e. Indicative Inputs and Costs

109. International and national consultants, and funds for GIS data and some equipment will be required for the study, and the indicative cost is $0.8 million.

5.6 Natural Resources Policy Unit

a. Background and Rationale

110. The development framework details the need for a number of key policy reviews and for preparatory work on a policy reform agenda during the next two years. Specific sub-sectors where the policy framework needs review or amendment include but are not confined to: forestry; water resources; environmental protection; rural energy; rangeland grazing; rural cooperatives; agricultural trade; public and animal health; technology transfer; rural credit and community development. The policy requirements in the short to medium term will be significant for an efficient sector framework to be developed, which will enable improved livelihoods and sustainable resource management.

111. Currently each Ministry has a planning unit, and these units are poorly resourced and in recent years have not had an active policy role. An inherent risk given that a number of these units currently operate in the sector, and some have overlapping responsibilities is that the resulting policy development and legislation will not be harmonized across the sector. To minimize this risk, and establish a sector wide approach, which will ensure the development of policies, legislation, and regulations, which are uniform across the sub-sectors, the establishment of a dedicated natural resources policy unit is required. Such a unit would be responsible for undertaking this work.

b. Objective

112. To establish an effective natural resource policy unit which can formulate a sound policy and regulatory framework for the sector.

c. Scope and Proposed Activities

113. The policy requirements in the short term will be significant for an efficient framework to be developed in natural resource and water resource management, rangelands, forestry, livestock, community development, and ARATTS. The policies which need to be reviewed, and in some cases reformulated, include: forestry, water resources; environmental protection; rural energy; rangeland grazing; rural cooperatives; agricultural trade; public and animal health; technology transfer; rural credit and community development. The policy papers will be prepared.

114. While the requirements for each policy activity are not identified, and it proposed that a fund be established to provide the resources. So while key initial policy work is identified, there is flexibility for the follow-on work, based on priorities and needs. A key activity will be preparing the work program for this work. The assessment studies outlined in this section 5 (ie.5.1 to 5.5), focus on the establishment of data support systems for policy formulation and planning. These assessment studies will be critical inputs in the preparatory stages of the policy formulation.

d. Implementation Arrangement and Timeframe

115. The study team will work with, and under the direction of the Natural Resources Policy Unit. This Unit to be established with an Afghan National Director, and it will report to a Steering Committee chaired by the Minister of Finance. The Steering Committee will consist of

representatives from all the ministries and agencies involved in the natural resource and agricultural sector.

e. Indicative Inputs and Costs

116. International and national consultants will be required, in particular natural resource and agricultural policy economists. Short-term consultant inputs will be identified on a need basis for each discrete study. The indicative cost of implementing the policy work in this unit for two years is estimated at $2.2 million.

Annex 1

Table 1: Development Partner Support to Natural Resource and Agriculture Sector - Indicative Estimate (May 2002)

Activity/ Project	Short-Term 2002	Amoutt ($) (Indicative)	Medium-Term	Amount ($)
Sub-sector: Crop Production				
	On-going/ approved			
Seed Improvement -seed multiplication capacity building programs; -wheat seed procurement ; -improved planting materials	FAO(USAID/ EU/ ICARDA Ireland/ other bilaterals/ NGOs/ Norway). Key funding sources: EU (FAO implementing) USAID (FAO implementing) FAO (from ITAP funds): Afghan Development Association (ADA)- from ITAP funds USAID (ICARDA implementing)	5.2 million 3.6 million 3.8 million 3.1 million 2.7 million 9 million	FAO/ USAID/ ICARDA/EU Some of these approved projects to end 2003 or early 2004.	
Fertiliser Supply	FAO (USAID, Norway, Germany, Ireland) USAID (implemented by IFDC urea and DAP) 17,000 tons	2.5 million 0.8 million 5.5 million	USAID/ NGOs	
Seed/ Fertiliser Inputs	EU (inputs to NGOs supplies)	7 million		
Pest Control Programs -Locust control	FAO USAID (FAO implementing), additional support TBD DFID (FAO implementing)	0.3 million 0.3 million 2.9 million		
	Proposed for funding			
Forestry/ Agroforestry And Horticulture	Walnut and Mulberry Improvement in Irrigated areas (FAO submitted to ITAP for funds under review) Other crop enterprises (FAO preparing)	1 million		

Activity/ Project	Short-Term 2002	Amount ($)	Medium-Term	Amount ($)
Sub-sector: Livestock and Animal Health				
	Ongoing			
Animal Husbandry: Rehabilitation of AI centre MAAH	USAID	TBD		
Animal Disease Control: vaccines, deworming, feed, vet. field units, livestock farmer associations, training basic vet. workers/ paravets, livestock development	FAO (seeking funds) Netherlands USAID (vet services/ vaccinations) DFID NGOs several providing these services in different parts of country: -DCA (EU funding) -MCI -MADERA UNDP/ Sweden (FAO implementing)	1 million 2 million 0.2 million No estimate avail. 1 million		
Control of transborder animal diseases	FAO	0.4 million		
	Proposed for funding			
Animal disease/ livestock production	The following FAO have submitted for funding: Livestock Health, seeking Japanese support Livestock production, support to uprooted people, seeking EU support Dairy & Poultry development seeking GTZ funds FAO have submitted a number of other proposals to ATIMS for funding	1.4 million 1.9 million 1 million 2.6 million plus others	A number of these proposed projects of 2 year duration.	
Transborder disease, livestock surveillence	FAO (ITAP review for funds)	1.2 million		

Activity/ Project	Short-Term 2002	Amount ($)	Medium-Term	Amount ($)
Sub-sector: Food Security and Rural Reconstruction				
Food Security Program	Rural reconstruction activities, EU (NGOs to submit proposals)	27 million		
Integrated Agricultural Development Program	DACCAR (ITAP funded)	4 .1 million		
Hazarajat Agricultural Rehabilitation & Regeneration Project	Concern (ITAP funded)	3 million		
Integrated Rural Development I and II	ADA (ITAP funded)	1.9 million		
NGO Rural rehabilitation and food security projects, excluding emergency assistance projects, and as identified in the AIMs NGO project database. Possible risk of some double counting as some projects may be funded by EU or other agencies listed above.	NGO agriculture and food security projects, over 20 NGOs involved in ongoing and planned projects, the total project cost overstates the annual expenditure as some of the projects will be carried out over a two year period.	Indicative 49 million	NGO activity in the sector will continue in the medium term.	
Labour Intensive works/ Community Development	WB: Rural roads/ irrigation rehabilitation and community development	40 million		

Activity/ Project	Short-Term (2002)	Amount ($)	Medium-Term	Amount ($)
Sub-sector: Water Resources				
	Ongoing/ Planned			
National water resource survey	EU		EU	2-3 million
National Hydrological Survey/ Regional water resource assessments	USAID (ICARDA implementing)	TBD	USAID	
Irrigation rehabilitation (small scale)	WFP, USAID (Shameli Plains), WB, EU, ADB, others. Establish program approach for rehabilitation.	TBD	USAID, WB, EU, NGOs, ADB, Other DPs	
Irrigation rehabilitation (medium and large scale)	Initial studies for USAID (Halmand), China (Parwan), establish program approach for rehabilitation (WB, ADB, EU, USAID, others)	TBD	WB, ADB, EU, USAID, China, other DPs	

Activity/ Project	Short-Term (2002)	Amount ($)	Medium-Term	Amount ($)
Sub-sector: Institutional Capacity and Institutional Strengthening				
MAAH research and technical support	USAID	0.3 to 0.5 million		
Physical Infrastructure for repairs and rehabilitation of ministries	UNDP total budget for all government ministries 2 million, with part to be used for sector ministries			
Capacity Building and Training in MAAH, MRRD, MIWR	FAO/ TCP (May 2002)	0.4 million		
Capacity building MAAH as part of a larger project to strengthen FAO capacity to support agriculture sector (3 million).	DFID (with FAO implementing), one component relates to capacity building of sector institutions	0.45 million		
Capacity building and institutional reorganisation of sector ministries (Planning and implementation groups)	ADB Technical Assistance	1 million	Technical assistance to respond to priority needs planned for following years.	
Support or Agriculture and Natural Resource Strategy, Policy, Planning and Monitoring	ADB Technical Assistance	2.05 million		
Establishing Environmental Management Capacity	ADB Technical Assistance	0.3 million		

Activity/ Project	Short-Term	Amount ($)	Medium-Term	Amount ($)
Development Partner Commitments to Agricultural Sector (indicative humanitarian assistance and recovery/ rehabilitation)				
DFID	Pounds 60 million Sept 01-March 02 fully committed; Poppy Eradication	87 million 80 million	Pounds 40 million (April 02-March 03) TBD; AfTR, quick impact activities, potential cofinancing opportunities	
USAID	Agricultural economic recovery Poppy eradication Humanitarian: Food Aid (into WFP) Non food disaster assistance **Total**	25 million 10 million 75 million 85 million **195 million**	Possibly similar development assistance in 2003	
EU	Food Security Rural development (Aid to uprooted people) Rural development/ productive investment (Asia Program) **Total** (Of this total approx. 25 million is available to fund NGO activities)	27 million 22 million 12 million **60 million**	Indicative similar amount in 2003	
ADB	Capacity building, sector planning and policy support technical assistance Community livelihood improvement (JFPR) Special assistance or program Loan 150 million, an amount will be for agric & natural resource sector	3.4 million Indicative 10 million TBD	Indicative for 2003: 3.9 million, capacity building, institutional reform, key sector studies, development planning and investment portfolio. 2003: Agriculture & natural resources loan , program approach for irrigation rehabilitation (small & medium scale), feasibility studies for large scale, which will be rehabilitated using a program approach in following years, amount TBD Rural and micro finance systems loan TBD	
WB	Labour intensive and community development project (small scale irrigation rehabilitation/ local roads/ other)	40 million	2003: Co or parallel financing with other DPs (ie. ADB), program approach for rehabilitation of small and medium scale systems. Amount TBD. In 2004 starting the rehabilitation of large scale irrigation schemes, also using a program approach. Strengthening policy and institutional framework for natural resource management (forestry, agro-forestry and watershed management), including several pilot sub-projects.	

Activity/ Project	Short-Term	Amount ($)	Medium-Term	Amount ($)
FAO	With funding support from bilateral governments, EU, ITAP and own sources is undertaking: Seed & fertiliser distribution, livestock feed, locust control, crop improvement (seed multiplication, horticulture), livestock program (veterinary services, breeding, fodder, production). Pipeline activities: irrigation rehabilitation, capacity building MAAH, IPM.	Indicative 40-50 million	A number of the 2002 pipeline projects are fro 2 or more years duration.	
Aga Khan Development Network	Rural/ community development, seed multiplication, poppy substitution program, micro-finance institution	TBD	Total Commitment across all sectors (for 5 years) is $ 75 million.	
NGOs (Independent funds/ other bilaterals)	Lack data to estimate of scale of NGO activities in sector that are funded independently of the major development partners.	Not able to be estimated		
Other countries (a large number of other countries are providing funds for ITAP, UN organisations, or NGO activities).	Lack data to estimate scale of activities in sector.	Not able to be estimated		

NOTE:

1) Currently no integrated database exists outlining ongoing and planned government and development partner (DP) activity in the sector. In listing the activities have focused on recovery and rehabilitation activities, and have tried to exclude those activities which are basically emergency assistance;
2) The presented data is a compilation of information obtained from DPs through personal communications, DP press releases and summaries of planned and proposed program activities, from the AIMS NGO database, and ATIMS listing of projects;
3) While the data includes most DPs there are gaps where information was not available from some agencies, and the outlined activities and cost estimates for some DPs are very indicative as their proposed programs are only now being formulated. A number of the bilateral DPs are funding activities through the UN, FAO and NGOs;
4) In the outline of activities there is the risk that some double counting may occur as it is not possible to clearly separate those NGO activities that are being funded by the development partners and those that are being sourced by the NGOs;
5) The short–term listing includes ongoing and planned projects and activities, and for a number of these the duration is likely to be two or more years, which results in a potential over estimation of the current year sector commitment.

AFGHANISTAN

NATURAL RESOURCES AND AGRICULTURE SECTOR

APPENDIX 2

NATURAL RESOURCES MANAGEMENT

I. BACKGROUND

1. Afghanistan is a landlocked country of some 65 million hectares and an estimated population of 20 million. It is characterized by a rugged mountainous landscape, large rangeland and desert areas, limited arable land, scarce water resources, and scattered human settlements (35,000 villages). “Rainfall increases from west to east and vegetation ranges from desert in the south and west, to steppes and dry woodland in the center and north, to coniferous forests in the humid mountains along the Pakistan borders".[1] The prolonged war has massively accelerated already established negative trends in natural resource use, particularly deforestation, over-use of marginal agricultural and pastoral lands, and wildlife harvesting.

2. Although all environmental resources, including land, water, forests, pasture and rangelands, and energy, are interwoven within the larger agro-ecosystems which underpin rural livelihoods in Afghanistan, for the purpose of this particular sector needs assessment, it was agreed that natural resource management (NRM) would cover essentially agroforestry, forestry, and watershed management. Water resources and energy would be covered in separate sector notes.

3. Notwithstanding the narrow NRM focus described above, a number of key issues need further consideration and dialogue with GoA as part of the medium term development framework. Some of these issues are cross-cutting; others are more specific to NRM:

(i) **The need for implementation guidelines of the principles enunciated in the National Development Framework** regarding the role of government, both at the national and local levels, and the implications of civil service reform; this is particularly important for the ministries of agriculture, irrigation, and rural development, and the department of forestry.

(ii) **The link between forest and energy policy, and the demand for timber.** Decisions regarding how to halt the-still ongoing-massive deforestation and watershed degradation, need to be linked on the one hand to the country’s energy policy (particularly in terms of development of gas, coal, and renewable energy, as well as impact on rural household fuelwood and timber consumption), and on the other hand, to the demand for timber which is expected to increase even further during the rehabilitation and reconstruction phase.

(iii) **Watersheds form the most logical platform for sound NRM and community based development in Afghanistan**. Because the predominantly rural population is dependent on a natural resource based economy that provides a safety net for thousands of villages (and millions of people), and given the location and interdependence of key resources (especially, water, arable land, pasture, fuelwood, and fodder) within the confines of narrow valleys closely associated with the country’s river system and water resources, improving rural livelihoods needs to be approached within a (micro) watershed framework, where water harvesting and watershed vegetative cover will play a critical role.

(iv) **The need for a comprehensive rural development focus**. Government policy and development assistance over the medium term in the area of NRM in

[1] Opportunities for Improved Environmental Management in Afghanistan. Nancy MacPherson and B.K. Fernando. UNOCA Report. May 1991.

Afghanistan-including water management-need to be defined as an integral part of an overall Rural Development Strategy to reduce poverty and enhance the productivity and sustainability of the country's natural resource base. This implies that consideration be given concomitantly to the role of the non-farm economy in rural areas;

(v) **The fundamental and urgent role of management information systems (MIS).** The scant availability of data and its quality[2] is such that there is an urgent need to prepare a baseline of the country's resource base, using modern information technology (such as RM/GIS). MIS will play a key role not only in planning and monitoring resource management, but will also be instrumental in raising public awareness, and improving transparency and accountability of public institutions.

(vi) **The need to understand the social and political economy dimensions of natural resource management in Afghanistan**. This is particularly crucial for understanding formal and informal tenure arrangements in the case of natural forest and pasture resources where power relations-at the local level (and what they imply in terms of rent seeking and rent capture)-have determined resource allocation and use rights over the past twenty years at least. Carving out a new role for public institutions would need to be anchored in the "institutional reality at work on the ground."

II. SECTOR ISSUES AND CONSTRAINTS

A. A Seriously Threatened Natural Resource Base

4. Afghanistan is still a predominantly agrarian society with 80% of the population living in rural areas, and directly dependent on natural resources for livelihoods (small scale farming, pasture, and forest products). Despite massive migration to urban areas or outside the country (some 3-5 million people), the conflict over the past twenty years has led to the intensification of natural resource extraction, and particularly the acceleration of loss of natural forests through illegal logging, and the conversion of pasture lands for crop production. These processes have also contributed to increasing soil erosion, flooding, and water scarcity. The war itself directly contributed to massive degradation of farmland and pastures by landmines and through burning of forest and the destruction of the resource base of thousands of villages.

5. Because of the nature of topographic, vegetative cover, and climatic patterns,[3] combined with unsustainable land use practices, particularly on steep slopes and the overuse of grasses, shrubs, and natural forests for fuelwood, it is estimated that as much 80% of the land in Afghanistan is subject to soil erosion. This includes vast rangeland areas. In certain parts of the country (especially in the west, southwest, north and center), these phenomena have led extreme forms of soil degradation (desertification) and the destruction of the sensitive mountain grassland ecosystem, impacting biomass productivity, and thus both livestock and wildlife populations.

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[2] Quite often, the most recent studies are based on data from old reports prepared either outside Afghanistan or based on little ground truthing.

[3] Two thirds of the country is covered by the arid, sparsely vegetated Hindu Kush mountainous ecosystem.

6. By all accounts, natural forest cover[4] has been dramatically reduced over the years, and needs urgent attention. Forest cover is optimistically estimated to be about 1.3 million hectares (or 2.2% of land use in 1996), down from 1.9 million hectares in 1979, corresponding to an annual loss of over 35,000 hectares during the same period. The FAO 1996 Forestry and Agroforestry Report mentions an estimate of 368,000 hectares of actual intact forest, corresponding to an annual loss exceeding 90,000 hectares over the period 1972-1996. Even in the most optimistic case, if the hemorrhage is not stopped now, within 15-20 years, Afghanistan will have no more natural forest left (Figure 1).

7. The major cause of deforestation is the demand for timber production for sale and fuel (Box 1). Timber theft and cross border smuggling (mostly on the Pakistan side) is reported to be more devastating than local community harvesting for fuel and building materials. In the south east of the country, where most of the remaining forest is located, it is estimated that over 500,000 m3 of wood is extracted annually.

Box 1. Major causes and impacts of deforestation

Main causes:

- High demand for timber both for local use and for export markets (large scale charcoal production has destroyed much of the juniper woodland in the north; and the coniferous forests in the east have served as the main fuel source for Kandahar and Kabul)
- Non sustainable practices of felling, use, and natural regeneration
- Weak management of forests and regulatory oversight
- Lack of incentives for the promotion of plantation forests
- Encroachment on forest land for agriculture and urban use
- Lack of community involvement/ownership and focus on social forestry
- Tribal feuds and local conflict.

Main impacts:

- Watershed degradation (vegetation, runoff, erosion, evaporation, recharge)
- Climate impacts (rainfall, carbon sequestration)
- Loss of biodiversity (especially the loss of indigenous species, loss of wildlife habitat)
- Loss of livelihood sources (biomass, non timber forest products)

8. The impact on biodiversity is less well understood but is believed to be significant and in some cases irreversible, as exemplified by the reported capture in 1997 of what was apparently the last pair of Caspian Tigers in the mountains of eastern Afghanistan, and which may have put an end to the survival of this highly endangered and almost extinct species.[5] Other species such as the markhor goat, snow leopard, wolf, red fox, brown bear, ermine, and lynx, much sought after for their furs, have been much reduced by hunting and habitat degradation.

9. Afghanistan used to be a major regional producer of fruits and horticulture products (e.g., pistachio, nuts, apricots, apples, and dried raisins), contributing 50-70% of agricultural GDP. In addition, the country has a limited but well-established tradition of growing poplar and

[4] The main natural forest species are: Olive, Oak, Pine, Cedar, Ash, Willow, Spruce fir, and Juniper.

[5] Forest Rehabilitation in Afghanistan. Agency for Rehabilitation & Energy-conservation in Afghanistan (AREA ZOPP Workshop Report, Peshawar, July 1999).

other high value short rotation trees for building material, furniture, and as a cash crop. However, agroforestry plantations and orchards, while economically important, constitute an insignificant part of the country's biomass stock (Figure 1 summarizes land use distribution), and could, under certain conditions provide "win-win" opportunities for contributing to sustainable livelihoods (Box 2).

Box 2. Afghanistan's pistachio nut forest

The Department of Forestry and Rangelands estimates that most of the 450,000 hectares of pistachio forest (in the northern belt of the country) while still standing, is severely degraded (*). This forest, a major source of income and conservation services, has traditionally been managed as a "quasi common property resource" under an arrangement where ownership and maintenance was the responsibility of the government, and (free) exploitation was left to local communities, with the government collecting taxes on pistachio export. It is estimated that local communities extract 15-20 metric tons of shelled seeds from the forest annually.

In the northwest of Afghanistan, the savanna of the Badghis province supports a unique wild pistachio forests which was one of the major exports of the Afghan economy, with a production of 3,800 metric ton (from 4,700 ha); it is estimated that this forest has been cut in half (FAOSTAT, 2000).

(*) No field surveys were conducted recently to confirm this information. Other sources indicate that half of this forest has been cut for fuelwood and timber.

B. An Institutional Framework in a State of Collapse

10. Currently the DFR is part of the "second tier presidencies" (departments) within the Ministry of Agriculture and Animal Husbandry (MAAH). The department's main facilities in Kabul, a headquarters building a "mapping and information" unit, and several experimental nurseries, were destroyed (or badly damaged) during the war. Thus, DFR is an empty shell with a reported staff of 300, about 60 of which populate a few borrowed offices in Kabul in MAAH, and the rest scattered around the provinces with no clear mandate nor resources. Only about one third of the staff have any technical training in agriculture related fields.

11. Forest legislation has been in draft form for years, awaiting clarification of tenure and use rights of local tribes in many parts of the country, and particularly in the areas along the border with Pakistan (Kunar, Paktia, Logar, Nangarhar, Laghamn, and Nuristan). In addition, the lack of a legal framework clarifying tenure, use rights, and oversight responsibilities, combined with the collapse of government institutions over the years, have led to resource rents being controlled by local elites or tribal leaders.

C. A Disconnect with Community Based Initiatives

12. Most of the conservation work on the ground in the past twenty years has been done by a multitude of NGOs, with little coordination or involvement of the central and provincial government. In most cases, livelihood sustenance was the key objective, and NGOs worked directly with local communities through either formal or informal arrangements with the local *shuras* to provide services spanning the whole range of rural development services. In terms of

NRM, most of the programs appear to have been focusing mainly on horticulture and agroforestry (fruit and non fruit tree sapling distribution and planting; nursery establishment; nursery and orchard development/management; demonstration gardens, seed and fertilizer provision, timber cutting and plantation management, and training and awareness raising).

13. Despite the apparent substantial contribution of NGOs, there has been little coordination of these programs, and no overall evaluation of their cumulative impact on environmental resources, either at the national level or regional level.[6]

III. MEDIUM TERM DEVELOPMENT FRAMEWORK FOR NRM

14. Based on the needs assessment and the sector issues discussed in this note, the overall approach is to focus on key policy and institutional building actions-packaged together with a few pilot activities on the ground--to clarify and restore the "public goods" role of the state (both at the national and local levels), and help empower local communities and the private sector to be the stewards of the natural resources on which livelihoods and profitability depend. A summary of the medium term development framework (MTDF) and a proposed program of actions are given in Table 1.

A. Objectives

15. The overall objective of MTDF is to lay the foundation for the creation of an enabling environment that would lead to the enhancement and sustainable management of Afghanistan's forest and watershed resources, and improve their productivity and socio-economic benefit flows. MTDF's more specific objectives include:

16. **Objective 1.** To support institutional reforms within the Ministry of Agriculture, in line with the principles of the government's National Development Framework, in order to provide a basis for the Department of Forestry and Rangelands (DFR) to fulfill its (newly and clearly defined) "public goods" role in relation to the country's forests and watersheds.

17. Under this objective, the short-term program will strengthen DFR's capacity to help GoA formulate forest, biodiversity, and watershed management policy, in coordination with other government agencies (particularly, MRRD, MAAH, MIWR, and AACA), local communities, and other key stakeholders. At a minimum, DFR's capacity should be restored in order to enable it to urgently begin a dialogue with local communities, tribal leaders, the timber industry, and other stakeholders, in order to halt deforestation and pasture conversion, and begin a process of overhauling forest policy to clarify the role of the public sector and to clarify tenure rights and responsibilities over forest, pasture, and rangeland resources. To achieve these objectives, DFR needs to have a core capacity of trained staff, information management tools, and adequate logistical and recurrent budget support.

18. In addition, DFR should have an important input in the definition of priorities and programs within the agriculture and rural sectors that have NRM implications (e.g., government

[6] This conclusion is based on the findings of the mission, which included a meeting with 15 NGOs in Kabul on April 21, 2000.

policy on water management, agroforestry,[7] agricultural research & extension, livestock, and energy). However, DFR should get out of the business of nurseries, horticulture, and agroforestry, and commercial plantations, with the exception of an information dissemination and regulatory role to insure that appropriate safeguards are adhered to by private operators and commercial forestry.

19. **Objective 2.** To implement a few pilot projects to demonstrate the economic and social impacts of forest and watershed conservation. In rural areas, pilots would be based on the Community Driven Development (CDD) model already initiated by Government of Afghanistan with World Bank assistance. In urban and peri-urban areas, pilot aforestation and promotion of commercial plantations would contribute to employment generation, wood production for urban and construction use, and environmental protection of urban centers (e.g., the Kabul shelter belt program).

20. **Objective 3.** To support Government of Afghanistan prepare and issue an interim forest policy aimed at: (i) curbing illegal logging, (ii) promoting private sector plantation forestry, and community forest and watershed management, (iii) preparing a program for rehabilitation, expansion and conservation of natural forests, and (iv) preparing a detailed assessment of pasture and rangeland resources.

21. **Objective 4.** To consolidate the enabling environment for sustainable NRM in Afghanistan, and promote scaling up watershed and forest conservation projects based on the lessons learned from the early pilots.

B. Instruments

22. It is proposed to support MTDF's implementation:

(i) In the short-term (1-2 years), through the following program:

1. A technical assistance project targeted at institutional reform of the Department of Forestry, and including provision of equipment, information systems and monitoring capacity (including acquisition of remote sensing and GIS database of forest cover and watershed resources), training, and preparation of an interim forest policy (US$2-3 million).

2. A pilot watershed management project building on the ongoing community development program and supporting rural communities to develop and implement livelihood enhancing micro-watershed conservation plans (US$3-5 million).

3. Baseline studies, including: (a) an assessment of household energy use options for fuelwood substitution, and pilot demonstration program; (b) an assessment of existing rangelands; (c) viability of peri-urban forest plantations; and (d) other studies (to be defined).

[7] In addition, in order to maximize its economic and environmental benefits at the farm and community level, DFR should collaborate with other departments within MOA to promote the integration of agroforestry with agricultural programs in the form of (i) short rotation timber trees (e.g., poplar) intercropped with arable crops; (ii) timber/fodder trees grown within pasture and/or rangelands; (iii) shelter belts and edge rows for soil and water conservation; and (iv) orchard intercropping using horticulture.

(ii) And in the medium-term (2-5 years), through the following program:

1. A technical assistance project aimed at (a) consolidating institutional reforms and re-hauling forest legislation to include polices on (i) joint management by communities, (ii) commercial logging in natural forests and timber harvesting, (iii) plantation and agro forestry, (iv) biodiversity conservation, and (v) watershed management; and (b) developing community forestry (of certain types of state owned forests (e.g., pistachio and agro-forestry plantations) (US$5-10 million).

2. A GEF project to support the protection of the remaining natural forest and pilot alternative household energy supplies (US$8-10 million).

Figure 1. Deforestation in South East Afghanistan

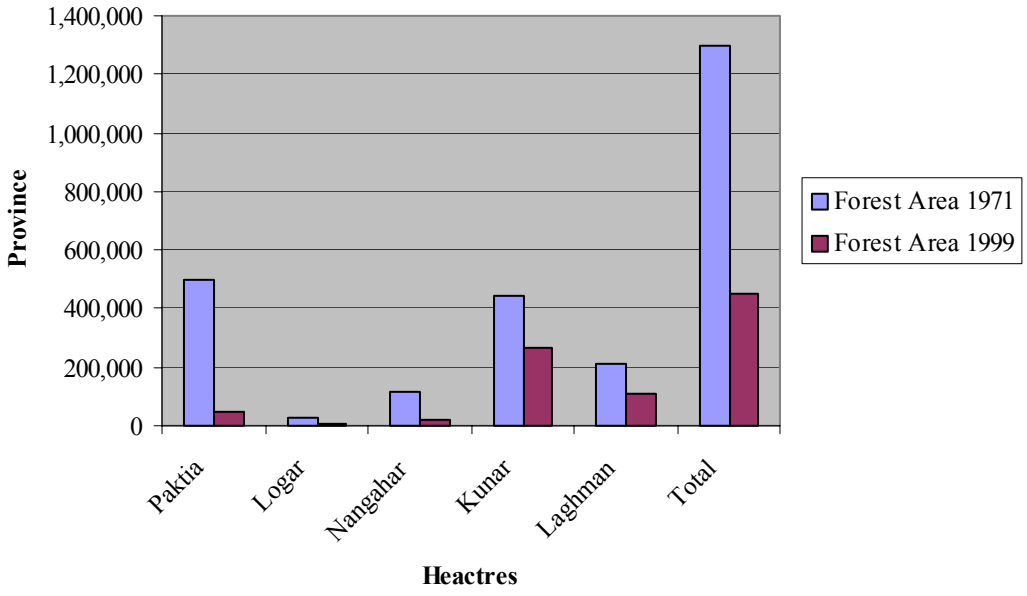

Figure 2. Land Use Distribution (FAO, 2000)

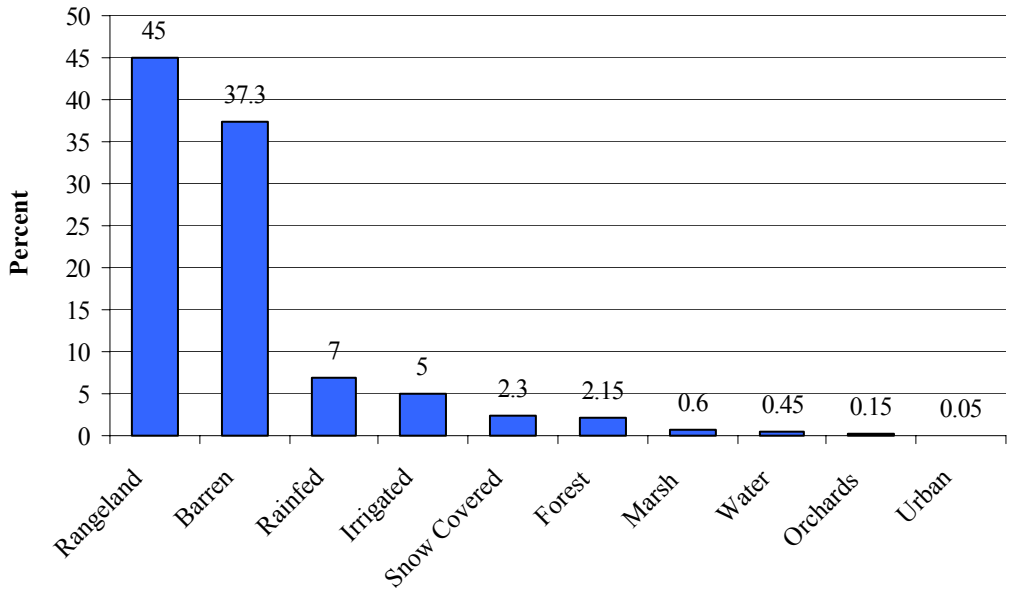

Table 1: Natural Resources Management Matrix

Key Issues	Strategic Objectives/ Indicators	Needs assessment		Policy Agenda
		Short-Term Program (1-2 Years)	Medium Development Framework (2-5 Years)	
Severe depletion of natural forest and biodiversity resources	Restore and enhance the quality of natural forests. A long term target of 5% forest cover should be adopted	Assess state of remaining natural forest (using RS/GIS)	Programs to restore degraded forest and reforestation	Prepare an interim forest policy including protection measures
Conversion of pasture land to crop land	Improve the productivity and sustainable use of rangeland	Assess status of rangeland resources and tenure arrangements	Programs to upgrade degraded rangeland	Integrate grazing rights into micro-watershed plans
Timber demand rapidly increasing	Curb illegal logging	Agreements with local commanders/governors	Enforce offtake agreements using a combination of community wardens and police	Introduce joint forest management of natural forests with communities.
Urban greening	Reduce air pollution and create attractive urban environment	Peri-urban tree planting/employment program		Labour intensive programs
Demand for fuelwood for household energy exceeds supply	An integrated house-hold energy program	Social forestry programs in selected areas	Soil-forestry programs as part of community micro- watershed plans	Rural energy policy
Lack of accountability for natural resource management	Community based micro-watershed plans and management	Formulation of pilot micro- watershed plans in collaboration with communities	Implement micro-watershed plans including investment in forest products	Give communities responsibility for plantation forest, pistachio and other fruits tree forests
Unclear tenure/ leasehold rights	Land registry linked to cadastre	Assessment of existing rights and records	A computerised registry linked to a national cadastre	Land tenure policies
Inadequate institutional structures	A reformed Dept. of Foresty (DoF)	Institutional review and analysis of Dept. of Forestry	Develop institutional arrangements for watershed management	Policies on the role of line ministries in natural resources management
Need for capacity Building	Fully trained staff focused on the new mandate of DoF	Implement NDF “PAIG” at the national and provincial level	Training programs based upon approved institutional review recommendations	Policy on upgrading skills of senior line ministry staff
Demolished Infrastructure	Effective working environment	Rebuild necessary DoF office and facilities in Kabul and provinces for revised role.	A functioning reformed agency responsible for natural resources priorities.	Policy on reconstruction of office infrastructure

AFGHANISTAN

NATURAL RESOURCES AND AGRICULTURE SECTOR

APPENDIX 3

WATER RESOURCES MANAGEMENT

I. WATER SECTOR ISSUES AND CURRENT POLICY FRAMEWORK

A. Summary of Key Sector Issues

1. Since rainfall is scant and highly variable over most of the country where topography and soils are suitable for agriculture, there are few areas where rainfed crops can provide a reliable basis for livelihoods. Hence, the evolution and growth of agriculture in Afghanistan, indeed even permanent settlement, has been dominated by the opportunity to develop irrigation. By 1978 surveys indicated that 80 percent of wheat and 85 percent of all crops were produced on irrigated land, and this is reported to be the prevailing situation today. Food security therefore depends in large part on water availability and water security. Restoring agricultural production and farmer incomes depends on restoration and recovery of traditional and to a lesser extent formal state-owned irrigation schemes, but achieving levels of water security that would encourage new investment and promote growth depends more broadly on improved water resources management and conservation.

1. Access to irrigation water

2. Nearly 90 percent of all irrigation systems in Afghanistan, covering about 2.3 million ha, are traditional schemes developed and built by farmers and operated and maintained by them according to traditional communal customs and practices. Total developed irrigated area in 1978 was estimated to be 2.63 Mha,[1] 63 percent from perennial rivers as summarized below. Only 1.44 Mha had sufficient water supply to support double cropping.

(i) 1.32 Mha by traditional methods from perennial rivers

(ii) 0.98 Mha by traditional methods from emphemeral streams, *kereze,* and *arhads*

(iii) 0.33 Mha by modern systems from perennial rivers

3. The effects of war and neglect on the functioning of these systems have not been systematically assessed, and the extent of successful and sustainable rehabilitation by UN agencies and NGOs over the past 10+ years is unknown, but in 1997 FAO estimated that about 1.7 mha required rehabilitation, and another 0.68 mha required improved water management to overcome the growing menace of waterlogging and salinity. Rapid recovery of agricultural production and farmer incomes depends not only a adequate supply of affordable inputs (improved seed, fertilizer, etc.) but also on ensuring that an adequate quantity of water is flowing in these traditional systems from head to tail.

2. A seriously degraded knowledge base

4. The human resources and technical capacity of the Government's line Ministries and their provincial offices have been decimated by years of war and civil strife, but so too has the sector knowledge base including data, monitoring stations and records, reports and the results of studies, and maps. These have been lost, looted and in part scattered across the former Soviet

[1] As reported in the Afghanistan Agricultural Strategy, FAO, 1997

Union at the end of the civil war.2 Effective planning, priority setting, design of programs and projects, and management all depend on this knowledge base. The introduction of modern information management technology, including GIS and remote sensing, will be a major help in rapid recovery, but there will be no substitute for detailed, systematic field surveys and primary data collection, and reestablishment of the monitoring network, to provide the kind of reliable water related data these modern tools need to be effective.

3. Drought

5. Afghanistan agriculture is well known to be highly resilient and farmers to be innovative and willing to adopt new technology and practices, but the ongoing drought covering most of the country, and extending for the fourth year, is a major constraint, as well as perverse incentive to plow marginal lands and pastures in hopes of harvesting a small rainfed crop if there is even the slightest indication of enough spring rain. Moreover, available records indicate that droughts on a local and regional scale within Afghanistan are frequent. The persistence of the current widespread drought will retard and diminish the growth spurt expected from the improved flow of agriculture inputs and irrigation system rehabilitation, while the risks of recurrent drought tend to decrease incentives to invest and improve further constraining growth. Hence, the Government should attach a high priority to developing and implementing a comprehensive drought management strategy.

4. Redefining Public Sector Roles, Institutional Arrangements, Policy Frameworks

6. Globally, the past 20 years of development experience have led to a consensus that a central function of government is to establish an enabling legal and regulatory environment where private risk-taking and investment can succeed and generate income and employment. However, during this time, public administration in Afghanistan has stagnated. For more than 20 years, officials from line ministries concerned with agriculture, irrigation, and rural development have had little exposure to developments in international best practices in public sector management. The AIA's draft National Development Framework (NDF) places particular emphasis on improving and modernizing governance, and on shifting the roles and responsibilities of the line ministries in accordance with the its new policy directions. The NDF goals of developing a lean administration and promoting market-oriented growth imply that the roles of the public sector must change quickly from State-led interventionism to facilitating, financing, monitoring, and regulating a range of new public sector development partners, including the private sector, the rural communities, and NGOs. Although the broad outlines of AIA's economic and related policy directions are clear, sector-specific strategies and approaches for implementing this policy need to be developed within the line ministries. In regard to water resources and irrigation, for example, the existing water policy as it is reflected in the 1981 Water Law, is not fully consonant with the NDF, and does not reflect the line Ministry's new mandates, and roles responsibilities that will emerge in response to the NDF. New capacities will need to be developed in the public sector to achieve

[2] Valuable data and information may perhaps be found in the personal files of Afghan specialists forced to leave government or emigrate. For example, the FAO Irrigation Unit Office in Peshawar has for several years built a substantial library by gathering books, reports, maps and other sources of data on water resources and irrigation subjects pertaining to Afghanistan by copying personal records and scouring book shops and venders, and they have maintained good records of all the projects they have been associated with in Afghanistan since 1989 including engineering data and drawings. Assistance could be sought from Russia and various states of the former Soviet Union as well as other donors to retrieve copies of reports and data that may lie in files and libraries or with specialists who worked in Afghanistan–one important example would be the various hydro-geologic studies of groundwater occurrence and quality done for different parts of Afghanistan in the 1970s and 1980s.

this, especially management, planning, policy analysis, regulation, and a new approach to administration that is more oriented towards facilitating and ensuring the success of its development partners particularly communities, NGOs and the private sector. A well-structured change process would be needed to be established within these line ministries at central and provincial levels to achieve these outcomes.

5. Institutional Infrastructure and Limited Human Resource Capacity

7. The capacity of Afghanistan's public institutions, including both physical and human resources, has declined substantially. Many skilled staff in the civil administration have been lost entirely due to emigration. Buildings and facilities are in many cases unusable and lack the most basic facilities for effective functioning. The majority of Government staff at central, provincial and district levels to date have not received any salaries; and among those that have received some salary, it is barely sufficient to live on. Revamping public institutions and reorienting and upgrading the human resource capacity will present a formidable challenge during the next few years, but the situation also presents an excellent opportunity to rebuild on a lean and sound basis in accord with the principles of efficiency and good governance outlined in Chairman Karzai's Tokyo speech and the recent draft National Development Framework (NDF).

B. Present Government Policy and Development Framework

8. The Afghanistan Interim Administration provided to the donor Implementation Group a draft National Development Framework (NDF) in April 2002. This Framework sets out key principles, policies and strategies that serve among other things to guide the formulation and implementation of the Afghanistan Recovery and Reconstruction Program. This framework is especially relevant to the water resources, irrigation and rural development sectors. The institutions in these sectors are faced with developing a new vision of their future role, revision of the policy and institutional framework for the sector, and the massive task of institutional restructuring and capacity building to enable the respective line ministries and provincial and district offices to lead the recovery and reconstruction program. The Government's key policies and strategies in this regard include:

(i) The State (i.e., the line ministries and other state entities) will set priorities, design programs, and monitor performance of its development program and partners, but implementation will be entrusted to the private sector–in this regard Government will create the enabling environment for the operation of national and international firms (in particular for engineering and construction)

(ii) Local communities will be empowered to decide their development priorities, to implement their projects and activities where possible, and to supervise and monitor the work of government and the private sector–Government's strategy will focus in the near-term on creating employment and supporting livelihoods at the community level

(iii) In addition, in the water sector, communities are to be consulted on problems and priorities, and participate in the planning, design and implementation of rehabilitation projects. The traditional community ownership of their irrigation systems including responsibility for their operation and maintenance, and the traditional *mirab* and *hashar* systems of water management and maintenance will be preserved and supported. Where these traditional farmer managed systems does not exist as in the large formal irrigation systems built in the 1970s and 1980s, Government's strategy for rehabilitation will involve a restructuring of the roles and responsibilities of the farmers and the state including the mobilization, organization and training of farmers, legal turnover of responsibility for operation

and maintenance of distributary and minor canals to farmer organizations (based on the traditional *mirab* or an adaptation of the water user association concept), and the allocation of water entitlements and rights to these farmer organizations based on traditional practices in Afghanistan.

(iv) State interventions will be cost-effective, stress labor-intensive methods, balance real economic benefits with equity, ensure long-term sustainability (avoiding in particular social and environmental risks while enhancing social and environmental benefits), and avoid costly long-term consequences of short-term measures

(v) The organization and staffing of government ministries and provincial and district offices, in particular the core ministries concerned with water and water use for agriculture and rural development,[3] will be restructured to conform with and implement the Government's new vision and development framework, and the necessary capacity developed–these transformed institutions will focus in particular on setting priorities, evaluating policy options, preparing feasibility studies and designing programs, coordination, and regulating and monitoring activities of their development partners.

(vi) The key first step in this restructuring and reform process will be the establishment of "Planning and Implementation Groups"[4] in headquarters of the line ministries and in the provincial offices.

1. these Groups will be an integral part of the Ministry's organizational structure and internal operations working with and alongside the reorganized or new functional units in the Ministry
2. their mission will be to translate policy and programs into projects, to build new management capacity and the required skills in the ministry and provincial offices, and to supervise and monitor implementation by the Ministry's development partners
3. implementation of projects and related activities (e.g., preparation of technical designs, surveys, etc) will be out-sourced to the private sector.
4. the Groups will be staffed first through open recruitment from the staff of the respective Ministry based on technical competence, experience and merit, clear TORs and job descriptions, a transparent selection process, and will be compensated at salary levels comparable to market rates. If additional professional staff is needed, Afghan specialists will be recruited from the private sector, other organizations including NGOs, and from overseas.

(vii) Water resources are considered one of the country's most precious resources, and will be managed judiciously and in a sustainable manner. Because water resources are fundamentally scarce, drought is a common occurrence, and demands on the resource have grown and are expected to continue to grow, greater attention will be given to planning and management of water resources. The river basin (and sub-basin and watershed as appropriate) will be the basic unit for planning and management. To enable multi-sector and often conflicting demands to be managed, a national water authority or mission at the senior most level (possibly within the framework of AACA) will be established with the responsibility for guiding all aspects of water use across all ministries (planning and regulation) as well as monitoring, protection and conservation of the resource base.

(viii) Sustainable management of rivers and their use for irrigation and hydropower, the management of flood hazards and risks, as well as other uses, are important to the

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[3] The Ministries of Agriculture and Animal Husbandry, Irrigation and Water Resources, and Rural Rehabilitation and Development, and others, for example, the Groundwater Department of the Ministry of Mines and Geology.

[4] The Terms of Reference (TOR) for these cells is being developed by AACA.

prosperity of the country. International experience has shown that the river basin is not only the best unit for planning but also for management of both water supply and demand, and conservation of the resource. The Government is therefore considering creating a Commission for management of each major river basin of the country. There is however an additional consideration that will be very important for Afghanistan. Each of its major river basins is shared with its neighbors. Negotiating and monitoring agreements with each of its neighbours to ensure that Afghanistan has an equitable share of the resource is a demanding task, and countries commonly create special bodies, such as basin commissions, with appropriate specialized technical staff to carry out this task.

C. Key Lessons from Past Irrigation Rehabilitation Programs

9. There has been substantial financial and technical support for the rehabilitation of the irrigation sector since 1989 from NGOs and UN agencies (a comprehensive and detailed data base of all these projects and programs, how much has been spent, and what has be sustainably achieved, unfortunately does not exist). In the early years this support was based in Peshawar and mainly benefited the more accessible eastern region of Afghanistan, but in the past few years these activities have expanded to many other parts of the country. These programs have included a wide range of community development and agriculture sector support activities including the provision of agriculture inputs, rehabilitation and in some cases expansion of traditional irrigation systems including *kerezes* and tubewells, provision of village drinking water, micro-credit, and agro-forestry among others. The formulation and implementation of the recovery and reconstruction program, especially the rehabilitation of traditional irrigation, should reflect the important lessons learned during this period from these activities. A few of the key lessons on which there appears to be wide consensus among professionals working on these programs, include:

(i) The government and donors should not pay for work that would traditionally and normally be done by farmers by *hashar*–canal and *kerez* cleaning and maintenance is an activity that has always been done by farmers and villagers with their own resources.[5] Experience shows that if payment is given for these activities, traditional practices will be undermined and may be irretrievably lost, undermining the sustainability of the irrigation systems that are the platform for future growth in the rural sector.

(ii) Repair of serious damage to canal structures, requiring work that goes beyond routine preventive maintenance, often requires resources (funds, technical know-how and skills, construction materials) that farmers and villagers are unable to mobilize–the government therefore has a role, and a national interest, in providing these incremental resources during this emergency phase of reconstruction to ensure that systems are fully functional, i.e. that water flows from the head to the tail of these systems.

(iii) A program of rehabilitation should be based on a systematic technical assessment of problems and consultation with *mirabs* and farmers. The river basin (or sub-basin or watershed) should be the planning unit, and all systems within the basin or sub-basin should be systematically surveyed and assessed before priorities are selected and specific projects formulated in order to ensure that traditional water

[5] This does not refer to the formal irrigation schemes built by the State between the 1960s and the 1980s. The structures and primary and secondary canals, and in some cases the rest of the distribution network as well in these systems are state owned, operated and maintained (there are even state farms in some of these systems)–of course at present there is very little if any capacity to do this and in any case no funds.

rights and allocations are preserved, that upstream and downstream impacts and conflicts are minimized and mitigated (including, for example, changes in water allocations or flood hazards), and that proposed solutions are sustainable.

(iv) Rehabilitation projects are best formulated, designed and implemented in consultation with and with the participation of communities, farmers and *mirabs*. These projects are also best implemented, supervised and monitored at the provincial and local levels. A high degree of decentralized, accountable authority for the rehabilitation of small and medium scale irrigation systems (roughly systems that command up to about 2000 ha) should therefore be given to provincial and local authorities, and the required capacity developed on an urgent basis.

(v) Sustainable, robust, standard designs for the simple canal structures commonly used in traditional Afghan irrigation systems should be adopted. Designs should be based on accurate topographic data, and wherever there is uncertainty or lack of data (by far the most common situation), sufficient new data should be obtained to support planning, design and cost estimation. Designs should be cost-effective and least cost, and labor-intensive methods should be used wherever possible (e.g., use of gabions or stone masonry in place of reinforced concrete). Every opportunity should be taken to provide skills training to villagers during construction (e.g., weaving and installation of gabion baskets, simple masonry) to improve community capacity and enable them to improve and sustain future routine preventive maintenance.

(vi) Despite the focus on rehabilitation and reconstruction, the opportunity to install small, low cost structures that improve water management and equity, and reduce conflict, should be included in project plans and designs. An important example is the addition of structures to regulate the division of flow where canals branch according to prevailing water rights, allocations and local agreements.

II. STRATEGIC DEVELOPMENT ISSUES: DROUGHT AND WATER RESOURCE MANAGEMENT

A. Water Resources Management

1. Background

10. Over 80 percent of the country's water resources have their origin in the Hindu Kush mountain ranges at altitudes above 2000 m (reliable snow cover in adequate quantities is more likely to be found above 3000-3500 m). These areas function as a natural storage of water in the form of snow during winter that is the primary source of stream flow in all major rivers in spring and summer. The volume of water received in these areas is estimated to be about 150,000 Mm^3, while over the rest of the country precipitation is estimated to be only about 30,000 Mm^3. Groundwater is commonly abundant in the sediments underlying all major river valleys where infiltration of surface water is high. There is anecdotal evidence of groundwater mining from unplanned and controlled use of deep tubewells. Water tables are reported to have dropped by as much as 22 m in the plains of the major river basins. Groundwater quality is generally good but varies from place to place. The overall water balance for the country, estimated by FAO in 1997, is summarized below.

Table 1: A Preliminary Water Balance for Afghanistan (million m^3)

Water Resources	Potential	Present Use	Balance	Future Use[a]	Balance
Surface Water	57,000	17,000	40,000	30,000	27,000
Groundwater	18,000	3,000	15,000	5,000	13,000
Total Water	75,000	20,000	55,000	35,000	40,000

[a] With all irrigation schemes rehabilitated and managed efficiently
Source: Afghanistan Agriculture Strategy, FAO, 1997

11. Systematic measurement of rainfall, streamflow, groundwater levels and other critical meteorological and climate data is essential for effective water resource management. There were over 140 stations located all over the country where rainfall and river flow were measured regularly. In 1997, the FAO Study estimated that all or most of these stations were destroyed and their measurement equipment looted, and could find none operational.[6] Substantial amounts of historical data were available for many of Afghanistan's rivers, particularly for the Kabul and Helmand rivers and their tributaries, but it is reported that many of these records may have been lost in the chaos of the past few years.

2. River Basins and Shared Water Resources

12. Afghanistan is part of 3 large river basins–the Amu Darya basin in the west and north which flows into Tajikistan and Uzbekistan to the Aral Sea; the Indus River basin in the east which flows through Pakistan to the Arabian Sea; and the desert river basins that flow into lakes and marshes along the border with Iran in the South and Southwest (only ephemeral streams flow into the Pakistan Province of Baluchistan). Among the eight principal river basins in Afghanistan, only one can be exclusively used by Afghanistan itself (the Southwestern basin which includes the Farah, Harut and Kajrud rivers among others) and a group of small rivers in the north and northwest including the Murghab and Balkhab rivers and the small rivers in the Amu Darya deserts. The remaining rivers, including all the substantial perennial rivers in the rest of the country are shared with neighboring countries. Water sharing agreements exist only with Iran for the Helmand river. Development of the balance of surface water (as indicated in the above table) will likely require some major storage investments that will surely affect transboundary stream flow patterns that downstream riparians have recently come to expect (so will accelerated groundwater development where this reduces baseflows in summer and fall in these rivers. As pressure builds to expand water resources development in Afghanistan, these riparian issues concerning water sharing will have to have been resolved if costly delays and disappointment is to be avoided.

3. The Effects of Growing Demand for Water

13. An estimated 99 percent of developed water resources are used for irrigation. Demands on surface water and groundwater resources are likely to grow substantially in the near term in part due the large number of returning refugees and IDPs–villages, towns and cities will demand improved drinking water supplies almost as a first priority; hydropower resources will be

[6] FAO is reported to have established and maintain 8 stations in the provinces of Jalaabad, Heart, Kandahar, Ghazni, Kunduz, and Baghlan. The Danish NGO, DACAAR, is reported to have established and maintain 6 stations.

developed to meet energy needed in both rural and urban areas, and industrial development to expand employment will require reliable supplies of water. Domestic and industrial demands may also negatively effect water quality in the absence of effective monitoring and enforcement of environmental standards. Traditionally, village irrigation schemes were also used to deliver water to the village for domestic, livestock and other uses. Many villages may be able to shift to better quality groundwater supplies, but this will require not only increased investment, but more vigilant management of groundwater recharge and groundwater quality. It is clear therefore, that even if the development of remaining surface water resources for irrigation is deferred for the longer term (which is not entirely possible since it is likely that there will be investment to expand hydropower production, irrigation, provide additional flood management, and other purposes, in at least the mid-term), improved water resource management will be required in the short to medium term to overcome barriers and constraints to full recovery and sustained growth.

4. Water Resource Management Issues

14. As the Recovery and Reconstruction Program gets underway and gains momentum, attention must be given to a number of important water resource management issues if the anticipated results are to be sustainable and costly disputes avoided. There will no doubt be intense pressure to construct dams and storage reservoirs to increase water supply for multiple purposes, and to construct permanent river barrages and weirs to improve diversion of water for irrigation. This project will involve not only improvement of existing schemes but their expansion to unserved areas and new lands. In general the full rehabilitation of existing irrigation capacity, and the development of the remaining water resources for irrigation, hydropower and other purposes will present certain important problems including:

(i) as noted earlier, nearly all Afghan rivers are shared with its neighbors, and any change in flow regime that reduces downstream trans-boundary flows to neighboring countries, in the absence of prior legal agreements, is bound to create costly conflict.

(ii) within Afghanistan, storage reservoirs and other modern means of river flow regulation may also affect existing water sharing arrangements and locally recognized water rights along the river causing conflict by constraining existing patterns of water use and *de facto* reallocating traditional water rights.

(iii) the pressure to expand irrigation and water development for other purposes will be great. In the early 1970s the estimated irrigated area was about 3.4 mha, about 0.6 mha above what might be achieved by full rehabilitation of existing community and public irrigation schemes. While there is sufficient water on average to do this (see the table above, which indicates a potential increase from surface water alone of over 2 mha) it will be increasingly costly and problematic to do so as development progresses, especially in light of the need to manage both domestic and international water agreements and rights–the traditional project approach would in this scenario be a recipe for disaster.

(iv) flood damage and risk is a recurrent problem, and frequently is a high priority for communities and farmers. However, in the notoriously unstable rivers in Afghanistan where flood flows, which are accompanied by large changes in discharge in relatively short time periods and large amounts of rock debris and soil from erosion, small changes in channel alignment and flood plain encroachment can have immediate and severe consequences downstream and upstream–this problem would therefore need to be addressed from a river basin or sub-basin perspective.

(v) as the above table indicates groundwater recharge is a relatively small part of the resources base, but it is a vital one from the point of view of water for domestic and

livestock use, small scale irrigation and drought mitigation. Storage and diversion of surface water may reduce groundwater recharge in the lower parts of river basins (though small storage dams in the upper watersheds is an important water harvesting technique that enhances groundwater recharge at least in the immediate catchment), and uncontrolled expansion of tubewells may negatively effect groundwater tables affecting some traditional irrigation practices by reducing and possibly rendering obsolete the use of springs and *karezes*. Managing both groundwater abstraction and ground water recharge is best accomplished on the basis of a river basin or aquifer rather than scheme of project by project basis.

15. Hence, a river basin approach which focuses on developing management measures to ensure long-term sustainable use of water, avoid conflict and resolve disputes, and protect and conserve the resource should be one of the pillars of the program to rebuild institutional arrangements and capacity in the sector.

5. The AIA Response

16. The draft National Development Framework (NDF) recognizes the unique importance of water in the social and economic life of Afghanistan and the necessity to give the management and sustainable use of these resources a special focus at the highest level within the Government. The NDF establishes the river basin as the basic unit for planning and management. To enable the country to address the above issues in a holistic manner 2 institutional initiatives are outlined in the NDF: establish an apex body, in the form of a national water authority or commission at the senior most level (possibly within the framework of AACA) with the responsibility for guiding all aspects of water use across all ministries (planning and regulation) as well as monitoring, protection and conservation of the resource base: establish a river basin commission for the management of each river basin.

6. Creating a new apex organization for water resources management

17. In addition to the institutional and human resource capacity issues noted above, the structure and division of responsibilities one finds in the current government is at once highly fragmented and overlapping. It is as was noted earlier state-centered and highly centralized despite the existence in theory (and in the 1981 Water Law) of provincial and district offices. Coordination and efficient administration is a severe problem (compounded of course by the lack of basic infrastructure such as telecommunications). The Ministry of Irrigation and Water Resources (MIWR) is responsible for policy, planning and implementation (and according to the 1981 Law, regulation of water use in agriculture). These circumstance and the associated problems are quite typical of the situation one finds in developing countries where governance has remained weak, especially the inherent conflict of interest created by concentrating so many key water management functions in a single line Ministry. The NDF initiative moves the key functions of policy, comprehensive planning, regulation, and coordination out of the MIWR and into a new body.[7] This policy is consistent with what is considered sound practice today and with current trends elsewhere.

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[7] The World Bank provided the AACA with a copy of an example concept note which outlines the possible functions, roles, responsibilities, business principles, organization and staffing of such a body (the example provided is of the new state water planning department being created by the Indian State of Rajasthan). The core concepts in this note can be readily adapted to whichever approach is adopted by AACA to implementing this initiative.

18. This new apex body can be established in a number of ways – as a new ministry, as an ad hoc unit attached to the AACA until the Transitional Government is established, or as an independent authority whose statutory framework could be defined later by the new Transitional Government. In the very short run, say the next 1-2 years, the most critical steps would be to outline the roles, responsibilities, and functions of the body, and to recruit its managers and core technical staff (it would presumably function very much in line with the NDF, i.e., remain a lean and efficient unit that relies on its partners (Universities and Institutes, NGOs, private sector and the various line departments and ministries) to carry out much of its analytical work. A key step would also be to engage in a dialogue with the concerned line Ministries and Departments to reach a consensus on this policy, and to form an advisory committee that would represent their views and interests during the transition.

7. Institutional arrangements for river basin management

19. One of the cornerstones of the NDF is decentralization, the empowerment of communities, and in the water sector, support for traditional community ownership and maintenance of their irrigation systems. The NDF accordingly aims to shift the roles of the line ministries but is silent about what changes this would imply for the provincial and district offices of these line Ministries, especially in light of the policy on decentralization. This is important in part because the issues outlined above (paragraph 3.5) cannot be managed from a central body or line ministry. Global best practice suggests that the creation of a apex authority for policy, planning, and regulation must be complimented by a separate institutional arrangement for river basin management that incorporates these principles of decentralization and community participation, and brings decision making close to both the problems and the users. We have noted earlier that the first major task of such “river basin commissions” as the NDF suggests would be to deal with international riparian issues. A second major task in the short-term would be to form representative river basin committees (the forerunner of river basin management arrangements that would be established in the new water law) and begin working with these committees and the new apex authority on preparing river basin plans.

8. A cautious or crash approach?

20. The governing constraints to putting in place the policy and institutional arrangements for improved and sustainable water resources management and development are the scarcity of human resource capacity, the on-going transition in both administration and government structure, and the lack of familiarity with development experience elsewhere over the past 20 or more years. These constraints argue for a cautious and gradual approach in which the first critical step is to put in place the outline and basic structure of the policy, choose one priority river basin, and concentrate the work there of developing human resource capacity, information systems and the knowledge base, adaptation of the planning process to conditions in Afghanistan, address riparian and transboundary issues, and begin to develop the institutional framework for decentralized river basin management. As learning progresses, changes and adjustments in policy are made, and budget resources become available, the emerging policy and institutional framework can be scaled up to cover all areas of the country. A crash approach would create the entire institutional framework immediately covering the whole country-this approach is likely to spread the government’s financial and human resources too thinly, and create confusion when it becomes apparent that most of the institutions created cannot function effectively.

B. Drought Adaptation, Mitigation, and Management

21. The impact of the continuing drought, and its implications for the recovery and reconstruction program, is an ever-present concern in Afghanistan. The immediate question on many people's minds is whether the approach to recovery and reconstruction in the agriculture and water sectors should be changed, or makes any sense at all, if the drought persists this year (which is very much what appears to be happening in most parts of the county). The current approach involves, among other things, ensuring the availability and distribution of agriculture inputs, repair and rehabilitation of rural infrastructure including existing small and medium scale irrigation facilities, and water conservation and harvesting. These actions would establish conditions for rapid recovery if the drought this year were much less severe than is presently thought to be the case. Equally important, if the drought should persist or become even worse this year, this approach would put in place the conditions and facilities required for farmers to rapidly benefit from more normal water availability next year if that were to be the case. The important point is that this strategy remains valid whether the drought continues this year or not. What would be different if the drought persists is the requirement for continuing and perhaps increased humanitarian assistance focused on the most vulnerable for a longer period of time, and the need to place a higher priority on the stimulation of the non-farm rural economy as a means of strengthening livelihoods and increasing employment and income, i.e., in the short-run at least, agriculture production would continue to be a weak basis for rural growth because it lacks water despite the improved infrastructure and availability of inputs.

22. Beyond the immediate needs of the recovery program, an analysis of available climatic data and drought records[8] suggests the Government should be concerned now with developing a long-term strategy to reduce vulnerability to drought. This is because drought is a common occurrence in Afghanistan. The records indicate that:

(i) Localized drought in small parts of the country (parts of one or more provinces, for example) have a return period of 3-5 yrs
(ii) Drought covering large areas or zones (a large river basin for example) recurs every 9-11 yrs
(iii) Drought with national scope has a return period of about 20-30 yrs.

23. As one might expect therefore in a country whose climate is predominately arid or semi-arid, some form of drought or water shortage is almost a normal or common experience. The recent drought extending over 2-3 years, which is apparently persisting this year and affecting the entire Central Asian region and Pakistan, is clearly an unusual and very damaging event. The last major drought of this magnitude is reported to have been in the 1970s. Nevertheless, the records indicate that it is important to focus not on annual variations in rainfall or snow pack (although better monitoring and reporting to farmers would be of enormous value in their seasonal planning and help to reduce their vulnerability) but to evolve a longer term policy framework and strategy that significantly reduces the impact of the natural high degree of variability in rainfall and snowfall. Such a policy framework might involve:

[8] "Current Drought Situation in Afghanistan", Syed Sherif Shobair, National Water Expert, Afghanistan, August, 2001

1. Water conservation and efficient water use

24. Reduction in water wastage and improvements in water management, efficiency and conservation in traditional and modern irrigation schemes,[9] and in industry, villages, towns and cities. For example:

(i) Government could require new industrial development investment proposals to include a water management program specific to that investment that might consist of water recycling (for example, for cooling), wastewater treatment and recycling, or new process technology that minimizes water use (the choice of approach or technology should be left to the private investors–its is reasonable targets consistent with industry best practice and sustainable water use that is the Government's interest).

(ii) Municipal water utilities could be required to gradually reduce unaccounted for water and other loses and waste according to a definite agreed, but realistic, timetable.

(iii) However, irrigation remains by far the largest user and consumer of water, and savings in the irrigation water use can have a large impact. Hence, if expansion of water use or development for irrigation is needed in a river basin, or present shortages or deficits are to be overcome, a policy and strategy to improve efficiency and conserve water both at the farm, distributary and canal levels, ought to be a high priority. Targeted programs to improve on-farm water management (OFWM) that introduce new water saving irrigation technology and practice (e.g., low pressure plastic pipe for water distribution, and low-cost drip irrigation especially for upland horticulture) could be developed once rehabilitation of systems is complete. Better water management would also have the twin effect of supporting an increase in yields and incomes, as well as new opportunities for diversification. The strategy to implement such a policy would likely involve a coordinated effort of the agriculture research, extension, irrigation and rural development departments among others.

2. Water harvesting and watershed management

25. Water conservation and harvesting through soil, pasture and vegetative and forest cover management, construction of check dams, contour bunds and other facilities to conserve water and enhance groundwater recharge in all watersheds. The wet season is short in Afghanistan (Dec to April) and comes at a time when the vegetative cover is low, and many areas are still snow covered. Moreover years of deforestation and the conversion of pasture to rainfed wheat cultivation have left much of the landscape denuded and degraded. If watersheds do not have substantial snowcover at higher elevation the result is that people in the upper watershed are unable to use much of the annual rainfall. Global experience has demonstrated in a wide range of arid environments similar to Afghanistan that water harvesting measures combined with pasture restoration and reforestation can improve water management, increase water available for drinking, livestock and for irrigated farming and in a variety of ways strengthen livelihoods and reduce their vulnerability (the often small additional area of irrigated land is still significant where water supplies are so scant, especially when farmers use this small additional water supply for high value added uses such as nuts, fruit, fodder, and vegetables). Water harvesting measures

[9] Both better scheme management and better, more efficient on-farm water management. In areas where it is particularly scarce, new methods of water distribution such as low-pressure plastic pipe should be experimented with especially in orchards where drip irrigation methods should be tried.

are also very labor intensive and offer the Government an important opportunity to generate short-term employment during this present emergency.

3. Small storage dams

26. Construction of storage reservoirs in selected river basins and watersheds focusing initially on small reservoirs (ranging, for example, from small check dams and reservoirs storing a few thousand m^3 of water to those which might store a million or more m^3 and prolong water availability in the last half of the spring growing season), which together with improvements in diversion works, would support more efficient water use in irrigation by improving farmer's control of water supply so that he can better match supply with crop water requirements.

4. River basin planning and large storage dams

27. Comprehensive river basin management plans might include larger dams that would provide seasonal storage and flow regulation, and provide multiple benefits (e.g. flood management, hydropower, village and town drinking water, etc.). Several larger dams and storage reservoirs have been designed and built in Afghanistan. Nevertheless, such schemes need to be planned, selected and designed in the context of an effective river basin planning program, and require quite intensive technical, economic, social and environmental analysis before they can be undertaken. Hence they are expected to possibly be a part of a much longer-term strategy.

28. These measures help the country to maximize its use of water and the associated benefits, regardless how much is available in a particular year, but they do not change or reduce the high variability of water availability (except where groundwater recharge is significantly enhanced, see below). The impacts or consequences of water shortages are manifested in many ways that undermine livelihoods. Reducing the vulnerability of people and their livelihoods to recurrent water shortages should be the second critical dimension of the Governments long-term drought risk reduction strategy.

5. Access to timely information on water availability

29. Information is critical to farmers. Farmers have to make a great many decisions each cropping season, and knowledge of options and the factors that affect their choices are important. One item of information that is obviously important in Afghanistan is current and expected weather–particularly rainfall, and the amount of water accumulating in the winter snowpack. The amount of water stored in the snowpack is especially important because snowmelt is the primary source of spring runoff and river flow. Snow surveys to measure water storage and forecast runoff can now be done quite economically by remote sensing and are quite common in river basins in many countries where winter snow is an important component of the hydrologic cycle, especially where such forecasts have economic importance–perhaps the best example of this is the use of such forecasts in predicting reservoir inflows and deciding on water allocations between irrigation and hydropower. In Afghanistan the decision might be, for example, between planting wheat or a higher value crop requiring more water, or the relative proportions of these crops, or how much land to prepare and the amount of inputs to buy. Over time using radio, and eventually television the Government could evolve an effective system of disseminating this and other important information to farmers that would help farmers to control risk and maximize their returns, and hence reduce their vulnerability.

6. Groundwater reserves and drought mitigation

30. First, the Government must find a way to effectively manage and monitor groundwater development and use. Groundwater, whether a part of annual recharge, or the non-renewable reserves, could serve as the most important safeguard in times of drought or low water availability (a principle mentioned in the 1981 Water Law). Legal and regulatory approaches require effective public institutions and obedience to the rule of law.[10] A more promising approach that is being tested in many areas of the developing world is to involve communities directly in conjunctive use and management of surface and groundwater, in some cases by forming special groundwater management districts in which all water users (surface and groundwater) have an effective role in decision making (not unlike the approaches to community and user management of forests and surface water). Much awareness building and training is required, but the buildup of costly and largely ineffective bureaucracy, and incentives for rent seeking, are avoided by this approach.

7. Reducing the vulnerability of livelihoods and stimulating the growth of the rural non-farm economy

31. Much of the increase in vulnerability can be traced to unsustainable land use practices– over grazing, deforestation, cultivation of marginal lands, etc. When prolonged drought occurs asset depletion, low agricultural production, increased indebtedness, low food supply, poor health and increased uncertainty sustain a downward spiral that is difficult to recover from when rains return. When drought is frequent, recovery may be less each time as the natural resource base degrades. These practices and conditions stem in part from too many people living on a shrinking natural resource base with few opportunities for alternative employment and income. Hence giving a high priority to stimulation of the off-farm rural economy (the labor intensive public works projects presently being finalized is an important temporary stop-gap measure in this regard) can be a powerful component of a drought mitigation and preparedness strategy because it promotes more balanced and sustainable use of natural resources and more diverse and less vulnerable livelihoods.

IV. MEDIUM TERM DEVELOPMENT FRAMEWORK FOR WATER RESOURCES AND IRRIGATION

32. Recovery and reconstruction of the agriculture and water sectors is not just a matter of repairing or replacing damaged or neglected infrastructure. The NDF makes clear that this urgent program will be accompanied by sweeping fundamental changes in policy, institutional arrangements and in administration. Hence, in formulating strategies, projects, and a host of other initiatives and interventions, the government in partnership with the donors will need to sustain a focus on the medium-term outcomes it is seeking to achieve. Three outcomes are suggested by the NDF and discussions with the core ministries and AACA:

(i) sustainable agricultural recovery,
(ii) reduced vulnerability to drought; and
(iii) favorable conditions for sustainable rural development and growth

33. To achieve these outcomes, for which specific measurable indicators will need to be formulated and a mechanism for monitoring these indicators developed and implemented, four programs are outlined below, which provide a framework for formulating and financing specific projects. Each program requires a strategic mix of physical investment, technical assistance,

[10] It is noteworthy that the draft National Development Framework focuses on strengthening the rule of law as a basis of good governance.

institutional reform and capacity building to achieve the intended outcomes, and hence projects financed under a specific program will often include elements of the other programs. Overall the intention is for the four programs to provide a comprehensive framework for AACA to coordinate and guide specific strategies and projects by multiple donors.

A. Rehabilitating traditional small and medium irrigation schemes and pilot watershed management

34. As a first priority, this program would address critical rehabilitation needs in the over 2 million ha of tradition irrigation, focusing on reconstruction, repair, replacement and the addition of new structures, as well as limited canal remodeling, required to ensure water for irrigation is accessible to all farmers from the head to the tail (Attachment A summarizes a menu of measures typically needed). Project priorities and identification would be based on a systematic valley or basin assessment of needs and problems in consultation with communities, *mirabs* and farmers. An integrated approach would guide project formulation, with attention given to the broader range of village and community water needs especially water for drinking and livestock. In this same context, pilot projects would be implemented to support community management of watersheds and water harvesting to enhance both water supplies and livelihoods.

B. Planning for and initiating investment in major informal and formal irrigation schemes

35. This program would focus on a systematic technical, economic, social and environmental assessment of the over three-hundred thousand ha of formal state owned irrigation schemes as well as the very large traditional schemes found in the northern and western regions of Afghanistan, and support implementation of a prioritized and sequenced program of investment projects. A project-by-project approach would be avoided to ensure that overall priorities and sequencing results in timely, maximized, cost-effective and sustainable impact. The program would undertake systematic assessment of all project, establish priorities for project preparation activities including feasibility studies, social mobilization and participation of beneficiaries, and environmental assessment, complete all studies and related activities, and manage individual project financing and implementation.

C. Establishing the basis for comprehensive water resource management

36. This program would put in place and develop the capacity and capability of the institutional arrangements for water resources management, initiate the process of developing a new water policy and law, and rebuild the knowledge base, introducing modern information management tools including GIS and remote sensing, strengthening the monitoring system including the hydrologic and hydro-geologic monitoring networks. The institutional basis for long-term comprehensive water resource management would be introduced by establishing a new apex authority for comprehensive, multi-sector water policy, planning, coordination and regulation. Pilot river basin planning would be launched to develop integrated water resource planning capacity and develop a planning methodology suited to Afghanistan's own circumstances. Establishment of the initial river basin commission would be supported.

D. Restructuring of lead sector institutions and building new capacity

37. This program would establish a change management process within each of the core sector ministries and the respective provincial offices to systematically develop a shared understanding of the National Development Framework and a new vision and mandate, and

functions, roles and responsibilities, for each institution. New organization arrangements and staffing plans would be developed, and a comprehensive, phased training and capacity building program designed and implemented to help achieve this new vision, and support the short and medium term development framework and strategy for the sector.

38. The key issues and strategies for the medium term development framework are summarized in Table 2.

V. THE SHORT TERM STRATEGY

39. The short-term priorities and strategy, outlined below in Table 3, consist of the highest priority elements of the Medium Term Framework. The short-term strategy strikes a balance between responses to the needs of emergency recovery and initiatives to establish the investment, policy, information and technical basis for sustained long-term development and management of water resources in Afghanistan. The reason for incorporating essential elements of a longer term program into the short-term strategy and specific program of investments is the long gestation period required to build the needed capacity and institutional arrangements–for example, when one is making decisions about major new water resource projects, or negotiating agreements with downstream countries, is not the time to begin developing the data and knowledge base or planning capacity needed to support these decisions.

40. Hence, while the initial emphasis of the strategy and the priorities focus on investment in the rehabilitation of traditional small and medium irrigation schemes, such programs will be designed to play a central role in institutional restructuring and capacity building–balancing quick, targeted investment with essential institutional changes and capacity building that create through the experience gained in managing and implementing the recovery and reconstruction program the kind of sustainable, responsive and cost-effective institutions the country will need over the long-term. Table 1 below outlines the basic elements the short-term strategy and who in AIA would be responsible for each initiative (within the overall coordination framework of AACA).

A. Program A -- Rehabilitation of traditional small and medium schemes

41. Responsibility for rehabilitation of traditional small and medium schemes would be assigned to MRRD. A *program* approach would be used because the portfolio to be financed consists of a large number of small projects that are similar technically and fall within a limited number of types or categories. The emphasis would therefore be on developing the implementation capacity for such a *program* using the framework as outlined in Attachment B. It consists of a definition of the categories or types of projects to be financed under the *program*, the criteria for eligibility and setting priorities, and the process to be followed for the identification, preparation and implementation of sub-projects selected under the *program* (the steps in this process are outlined in Attachment C). Sub-projects would not be pre-selected at the time the *program* is financed. The first few would be reviewed by the financing agency at the time of tender and contract negotiation, and these and later sub-projects would be subject to ex-post review and periodic supervision. Demand from communities for investment is high, but the pace of such a *program* is dictated more by the capacity of the organizations responsible for its implementation and the information and databases available to guide and focus the work program

(strengthened under Program C). Financing would be provided in an amount commensurate with capacity over a three or four year period.[11]

42. If the pace of implementation is much quicker than anticipated for any number of reasons (expanded staffing, improved skills and capacity developed in the early stages, efficiencies learned and incorporated into the *program*, etc.) additional financing could be quickly arranged to increase the ability of the *program* to implement additional sub-projects.

[11] The Table in Attachment E, which is based on the extensive field experience of the FAO Irrigation Unit, indicates how long a typical well trained provincial level technical team (there could of course be more than one such team in a province) would require to properly identify, prepare, design and cost, and tender typical rehabilitation projects (Attachment D). The Table highlights the management problems of meeting unrealistically high implementation targets.

Table 2: Water Resources Management Matrix

Key Issues	Strategic Objectives/Indicators	Needs assessment		Policy Agenda
		Short-Term Program (1-2 Years)	Medium Development Framework (2-5 Years)	
Large number of inoperable, damaged small–scale irrigation schemes	Maximize the scale and efficiency of small–scale irrigation	Critical rehabilitation needs in traditional small-scale systems	Progressive expansion of rehabilitation program based upon detailed assessment	Water rights formally set in legal framework
Poorly or non-functioning major informal and formal irrigation schemes	Fully functioning major irrigation schemes	Technical assessment and feasibility studies	Major investment in medium/ large schemes including appropriate institutional restructuring	Policy relating to ownership and transfer of management of meduim/ large scale systems to user group
Inadequate water resources knowledge base	Rebuild the knowledge base	Systematic status assessment of hydrologic stations and irrigation systems	Comprehensive river basin system databases using modern information tools	Implement river basin institutional structures
Lack of holistic micro-watershed management	Community based micro- watershed management	Pilot schemes to develop management models	Replication of approved models	Formalize the concept of community based micro-watershed management
Groundwater depletion	Sustainable use of groundwater	Monitoring program on tubewell development and impact. Initiate interim licensing requirement or ban on tubewells	Formal application process to be approved by river basin planning and monitoring mechanism	Policy on the use of groundwater
Lack of appropriate water resources management/ coordination mechanism	A coordination agency with an overall view of the many demands on water resources	Formulation of proposals and options	Establish coordination agency with subordinate river basin authorities	Regulation on the terms of reference of the coordination agency and river basin authorities
Most major rivers are international requiring riparian agreements	An internationally binding set of riparian agreements	Discussion s/negotiations with neighbours; take up seats on existing regional fora	A clear set of water allocations for each major river basin	Review existing agreements and prepare negotiating positions
Outdated ministry roles and organization structures	Refocus and reshape the roles and functions of core ministries	Initiate the “PAIG” “implementation cell” concept and undertake full institutional analysis	Implement approved recommendations of the institutional analysis	Guidelines on the role and core functions of govt.and transfer of responsibilities to private sector.
Damaged physical infrastructure of line ministries at the national and provincial levels	Adequate working environment for reformed line ministry staff	Implement reconstruction program in selected provinces according to agreed reforms	Complete reconstruction program based upon institutional assessments	
Shortage of skilled technicians	Full complement of skilled staff	Appropriate incentives to attract returnees	Restarted training programs	Higher education training

Table 3: Short Term Strategy for Water Resources and Irrigation

Program	Elements of the Short Term Strategy	Remarks	Responsibility	Possible Financing
A	• Restore and rehabilitate small and medium scale traditional irrigation schemes	• Systematic program of targeted, community driven rehabilitation of traditional small and medium schemes using labor intensive, low-cost methods	MRRD	
	• Community based watershed management including water harvesting and reforestation	• Pilot schemes beginning in highly vulnerable, degraded, drought effected areas to develop and test community based watershed management models suitable for different social and physical conditions in Afghanistan	MAAH & MRRD	
B	• Complete preliminary technical, economic, environmental and social assessment of large informal and formal irrigation schemes, set initial priorities, and carryout required feasibility studies	• Once initial assessments are completed for all schemes, priorities and investment sequences can be decided • Once feasibility studies (to the level and detail required by each case) are completed financing can be quickly arranged	MIWR	
	• Build knowledge base and information systems to support investment programming and comprehensive water resource management	• A very high priority, the systematic survey as proposed by FAO should be undertaken immediately to provide not only the information for investment program (Program A) but to support both AACA and water resource planning	AIMS in collaboration with core sector ministries and provincial offices	
C	• Establish new apex water resource management entity, and launch river basin planning program	• This initiative, outlined in the draft National Development Framework, needs to be in place and functioning before decisions are made on major investments or changes in the management of any of Afghanistan's river basins.	AACA in collaboration with MIWR	
	• Undertake a comprehensive water policy review	• This can be undertaken as a part of the process of establishing the apex WR planning body, and a part of the institutional change management process (see Program C below), i.e., begin this activity when these two activities are established and ongoing.	AACA in collaboration with core sector ministries	
	• Initiate a change management process within the core sector Ministries beginning with the senior level staff (at headquarters and in the Provinces) to redefine roles, responsibilities, functions, organization and staff structure	• A framework with TORs for implementation of this process has been prepared. • If the Planning and Implementation Groups are put in place under the next series of projects as proposed, then this process must be underway as soon as possible and be supported by the forthcoming report of the Civil Service Reform Commission.	AACA in collaboration with core sector ministries	
D.	• Launch a systematically designed capacity building program design to meet the needs of the new Ministries, and provincial and district offices	• The initial priority would be to establish the Planning and Implementation Groups and the Provincial Offices of MRRD and MIWR to support implementation of Program A • Broader capacity building needs would be defined during the change management process, and programs would be designed as the needs are defined • A very high priority should be given to restoration of the physical infrastructure and capability of the core ministries and the provincial and district offices – little or no professional work can be expected under the present conditions.	Core sector ministries and provincial offices	

1. Institutional arrangements for implementation of the traditional irrigation rehabilitation program

43. Initially the *program* would be implemented in a limited number of provinces that lie within the Government's ten priority regions (up to about nine provinces but fewer if provincial capacity is particularly low) and where some capacity exists in the provincial offices of the MRRD. The first *program* would establish the Planning and Implementation Groupsin MRRD (paragraph 2.7), and a similar but smaller groups in each of the selected provinces. This provincial implementation groups would be a part of the MRRD provincial office. The Provincial office would be physically restored and rehabilitated including the provision of equipment and transport, but the staffing would be kept small until the Government has decided on the specific roles and functions of these offices and their relation to both the central Ministry and the Provincial Administration. The capacity of the Provincial Office/Group to implement the *program* could be expanded by contracting with NGOs, consulting firms, or the hiring of short-term consultants (according to well defined TORs and staff selection criteria). Actual construction works would also be contracted with qualified construction companies as indicated in the draft National Development Framework.

2. Role of NGOs and UN Agencies

44. The UN agencies and the NGOs, both international and Afghan, have carried the relief, rehabilitation, and community development load for many years. Mechanism must be found to ensure that this invaluable institutional memory and experience is fully internalized within the new Government of Afghanistan. In the context of the draft National Development Framework and policy, the UN agencies and NGOs must become full development partners of the line ministries and provincial offices, assisting them to build capacity and supporting implementation. It is expected that NGOs in particular will be engaged to directly support and implement many aspects of this *program* through competitive selection. Some, for example the FAO Irrigation Unit, have a long institutional memory and extensive rehabilitation experience widely respected both for sustainability and cost-effectiveness that will be especially important for the Government to capture and internalize. In cases such as this a special relationship under which this experience and expertise can be transferred to existing and newly recruited Government staff should be developed.

3. Status of the quick Impact projects (QUIPs)

45. In March a team from the FAO Investment Center, supported by the World Bank-FAO Cooperative Program, worked with MIWR and MRRD to select and prepare a set of so called Quick Impact Projects (QUIPs). These 2 QUIPs consist of 20 small traditional schemes, and 19 medium traditional schemes, with a total incremental area of about 77,000 ha costing an estimated $12,000,000. While this exercise was extremely useful in focusing the staff of the MIWR and MRRD on developing a portfolio of sub-projects and on the process of sub-project preparation, it also caused AACA to raise several concerns, principally in relation to the project identification process, priority setting, and on cost-effectiveness and cost estimating. The shift to a *program* approach outlined above and in the Attachments is intended to address these and other concerns. The initial efforts to develop QUIPS are not wasted as all of these schemes would be incorporated into the *program*, subject to the project preparation process (Attachment B) including the reconnaissance survey and consultation with local communities, the concerned *mirabs* and farmers to verify their priority and formulation. Detailed surveys as outlined in Attachment C would also be done to ensure a sound basis for cost estimates.

B. Program B - Formal and large traditional schemes

46. The portfolio of State owned and large traditional schemes are the responsibility of MIWR. Many of the formal schemes were financed in part by International Financial Institutions (WB, ADB), and/or by bilateral donors. The latter have expressed interest in supporting the rehabilitation and modernization of these schemes. If these commitments can be secured and the assessment and feasibility study work funded, then these activities should be initiated as soon as possible. However, the Government should see its work in this irrigation sub-sector as a *program* rather than a series of uncoordinated projects with uncertain funding and timing, in order to have a basis for setting priorities and efficiently allocating financial resources. Donors may not be willing or able to do all that needs to be done. To ensure that the entire portfolio is addressed, the Government should allocate a sufficient amount of funds to establish a well trained team within MIWR working closely with the MIWR Planning and Implementation Group to ensure timely completion of all assessments and feasibility studies, the setting of priorities and formulation of project packages, completion of designs and tender documents, and the monitoring and supervision of construction and implementation (relying on our-sourcing to other development partners, particularly the private sector as much as possible). Note that this program team should be multi-disciplinary since the assessments and feasibility studies will cover not only the technical or engineering aspects of project rehabilitation, but also the economic, social and environmental aspects, and involve extensive social mobilization and farmer organization to restructure the roles of the state and the farmer in these projects. This program team can be looked upon as the first to be established in accordance with the direction set in the National Development Framework and the new vision of the role of the State and the core line ministries (apart from the Planning and Implementation Groups).

C. Program C - Rebuilding the knowledge base and establishing the basis for sustainable water resources development and management.

47. This program would have three elements: (i) rebuilding the knowledge based to support investment planning and river basin management; (ii) establishing the new apex body to manage, coordinate and regulated water resources development; and (iii) undertake a comprehensive water policy review and reformulation, and formulate a new water law.

(i) Rebuilding the knowledge base involves a collaborative effort of all the core ministries and agencies, coordinated by the Afghan Information Management System (AIMS) established within the framework of AACA. While the emphasis on the introduction and use of modern information technology including remote sensing and GIS has the potential of greatly increasing the capacity of the core water sector ministries to plan and manage the reconstruction program, the process will of necessity be gradual. It should begin in a very systematic manner overseen by a Government task force headed by AIMS to develop standards and protocols that will enable efficient sharing and use of a wide range of data for different purposes. Coordination is essential, and isolated projects, studies and TA that don't contribute to the overall goal of this program should be avoided. Afghanistan has neither the time nor money for wasted or inefficient efforts. Reestablishing the hydrologic and hydro-geologic network (including stations to monitor snowpack) is a very high priority, but this should also be done in the context of a systematic review of the earlier network design, begin in priority regions and river basins, and should take advantage of cost-effective new technologies for solar powered remote monitoring stations, but especially new remote sensing technologies that have recently emerged. The historical knowledge base of maps, reports and studies, and data is partly lost and partly

scattered across the former Soviet Union. Every effort should be made to reassemble this base of knowledge.

(ii) The boldness of the draft National Development Framework in recognizing the need to separate comprehensive and integrated water resource planning and policy making from the narrow sub-sector interests of the line ministries should be matched by quickly establishing this new unit and recruiting Afghan specialists from all the required disciplines, beginning with qualified and motivated staff from the existing ministries and throughout the Government. Establishing such a body and building the necessary capacity is a gradual process that should begin immediately because of the long gestation period. The immediate priorities of this new body should be to initiate a basin planning program in a single priority basin and to work with AIMS and the line ministries and provincial offices to develop the information systems and data bases needed to support basin planning and management for the long-term. It would also have responsibility for a major and comprehensive review of the water policy and water law.

(iii) Revising the water policy and water law is a consensus building process that must be highly participatory, but in the present setting in which major changes in institutional arrangements, roles and responsibilities are contemplated in the NDF, it would be prudent to proceed gradually, taking care of immediate policy needs while allowing the institutional change process to lead the policy and legislative review process. Clearly these 2 processes are to a significant degree intertwined. A starting point might be to analyze the present water policy and law in light of the draft NDF, and outline key areas of change and the various options and directions the country could go, particularly their institutional and organizational implications. Such a policy note could be one of the key inputs to the change management process to be initiated in each of the core ministries. There are also certain provisions in the existing law that concern administrative procedures and authorities that are in direct conflict with the NDF and current instructions to the core ministries--for example provisions for financing rehabilitation of irrigation schemes by the Ministry of Water and Electricity and cost sharing by farmers through loans from the defunct Agriculture Development Bank. These and other provisions would probably have to be changed by the Transitional Government in the very near term if disputes over what ministries are legally obligated to do or how they are to function are to be avoided. It therefore seems likely that the policy and legislative framework will be adjusted in a phased manner to ensure that the recovery and reconstruction program can proceed in a timely manner while a broader consensus is built in the sector about the future shape of water policy and new legislation.

D. Initiating the institutional change process (Program D)

48. The process of internalizing the vision of a new kind of Government in Afghanistan and new roles for the public sector institutions at the central, provincial and district levels within the traditional ministries will be gradual but should begin immediately because many aspects of the Short-term Strategy depend directly on reorganization and reorientation of the ministries and the Provincial Offices, and the building of the required capacity. Investments in capacity building

may be wasted if this change process in not well underway with the full participation of the ministries and provincial offices (to the extent that they actually exist today).

49. **The way forward.** Three investment projects are outlined below on which fast-track preparation activities could begin immediately. These project concepts would be co-financed or parallel financed by a number of different donors including the World Bank and ADB.

1. Rehabilitation of Traditional Small and Medium Scale Irrigation Project.

50. This project is a priority to be developed and processed for finding in financial year 2003 as a fast-track operation. It will most likely be co or parallel financed by the ADB, WB and/or other donors. There may be a single co-financed project or 2 or more projects targeting different geographical areas. This project would be implemented with the Ministry of Rehabilitation and Rural Development. The Project would address critical rehabilitation needs in the over 2 million ha of tradition irrigation, focusing on reconstruction, repair, replacement and the addition of new structures, as well as limited canal remodeling, required to ensure water for irrigation is accessible to all farmers from the head to the tail. Project priorities and identification would be based on a systematic valley or basin assessment of needs and problems in consultation with *mirabs* and farmers. An integrated approach would guide project formulation, with attention given to the broader range of village and community water needs especially water for drinking and livestock. The Project would include a component to support the establishment of a change management process within the MRRD and its provincial offices to establish a shared understanding of the National Development Framework, develop a new vision and mandate for the MIWR including roles, responsibilities, organization, and staffing, and design and support implementation of a training and capacity building program to match this new vision. The project would support establishment of the Planning and Implementation Group in MRRD and a similar but smaller group in each of the selected provinces. This provincial implementation group would be a part of the MRRD provincial office. The Provincial office would be physically restored and rehabilitated including the provision of equipment and transport, but the staffing would be kept small until the Government has decided on the specific roles and functions of these offices and their relation to both the central Ministry and the Provincial Administration. The capacity of the Provincial Office/Group to implement the project could be expanded by contracting with NGOs, consulting firms, or the hiring of short-term consultants (according to well defined TORs and staff selection criteria). Actual construction works would also be contracted with qualified construction companies as indicated in the draft National Development Framework.

2. Rehabilitation of Formal and Large Scale Traditional Irrigation (and Water Resource Management) Project.

51. Preparation of this project should be initiated in financial year 2003 and processed for funding in financial year 2004 or earlier if possible. This project would work primarily with the Ministry of Irrigation and Water Resources, and the new apex body created by the AIA to assume responsibility for water resources management. A program approach would be used. The project would support a combination of technical assistance and investment in the first few packages of rehabilitation projects. The project would include three components: Preparation of the rehabilitation investment portfolio. Technical assistance to systematically assess rehabilitation and other investment needs in the formal and large scale traditional irrigation schemes. Establishing the basis for comprehensive water resources management. This component would support the establishing and strengthening of the knowledge base including development of a shared information system including GIS and remote sensing tools, a systematic geo-referenced survey using a basin approach to irrigation and water management

and use infrastructure, re-establishment of the hydrometeorological and hydrogeologic monitoring network beginning in priority basins, technical assistance to support the start-up of the apex water resource management entity, and support to a pilot river basin planning program in a high priority basin. Change management and restructuring of the MIWR. This component would support the establishment of a change management process within the MIWR and its provincial and project offices to establish a shared understanding of the National Development Framework, develop a new vision and mandate for the MIWR including roles, responsibilities, organization, and staffing, and design and support implementation of a training and capacity building program to match this new vision.

3. Natural Resource Management Project

52. This project would focus on the reforming and strengthening policy and institutional framework for sustainable natural resource management in Afghanistan, concentrating on forestry, agro-forestry and watershed management including water harvesting and conservation. Preparation of this project should be initiated in financial year 2003 and processed for funding in financial year 2004. It is possible that GEF co-financing may be appropriate for some of the proposed components. The project could include the following components: Policy and Institutional Reform for NRM. This component would strengthen the Government's capacity to develop a new interim forest policy, to test new strategies and approaches, and use new information technologies (GIS and remote sensing) to monitor the status of forest, pasture and grasslands, and the condition of watersheds. Pilot Watershed Management and Community Forestry. The component would support several pilot sub-projects to test community-based approaches to watershed management and community-managed forests. In addition a pilot peri-urban afforestation program and promotion of commercial plantations would be supported. It may be possible to that community based watershed management pilots be financed in financial year 2003.

VI. WATER POLICY ISSUES AND DIRECTIONS

A. The present status of water policy

53. Other than the draft National Development Framework, the only available document that suggests what the existing water policy framework might be is the 1981 Water Law (unfortunately the only English translation available is an informal one–a new official translation is urgently needed). While a comprehensive review and revision of water policy and water law will be needed for the medium and longer terms, the 1981 Water Law provides an important starting point for considering future needs in the context of the recovery and reconstruction program. The Law reflects both traditional elements of Afghan water management as well as some elements that would be considered progressive today. For example, traditional water rights are recognized, and provision for licensing all uses of surface water is established. Although the Law asserts that the use of water will be free of charge, it establishes the authority to charge water users for services (e.g., bulk water supply), and stipulates that water users will pay for maintenance and for the services of the chief water supervisor (the water master or *mirab*) as has been traditionally the case. Water pollution is strictly prohibited and sanitary zones can be designated to protect drinking water (an approach that has generally failed in other countries where regulation of land use is weak).

54. The importance of deciding early the respective functions, roles and responsibilities of the Provincial Offices of the central Ministry is underscored by the nature of the main duties allocated to the Provincial Offices under the 1981 Water Law, listed below. There will be a

strong temptation to centralize many of these functions and duties because of the lack of people, capacity and infrastructure in many districts where the former Provincial Offices have virtually disappeared. Key aspects will involve:

(i) study and survey water sources and supervise the same,
(ii) determine the right of using water from irrigation systems,
(iii) draw annual plans for use of water (one month in advance of the irrigation season, plans are to be approved by the Provincial Governor)
(iv) supervise the effective utilization of water from the water sources of irrigation installations,
(v) determine the volume of work and prepare the plans of participation of land users in collective work in connection with the irrigation system concerned,
(vi) organize collective work to combat floods and other unpredictable phenomena in cooperation with the Emergency Preparedness Department of the Council of Ministers,
(vii) control the management of the provincial irrigation system,
(viii) adopt measures to develop irrigation,
(ix) participate in the election of the chief water supervisor and his assistant for the irrigation system whose maintenance costs are paid for by the water users

55. Near term water policy needs. It will take time to consider what a revised water policy for Afghanistan should include, and more importantly, to develop a consensus among all stakeholders on a revised policy. But there are policy issues in the sector that the government needs to address to ensure that the recovery and reconstruction program begins in the right direction. These issues are discussed below and suggestions provided on how the government might consider them:

1. Roles and functions of sector institutions and provincial offices.

(i) Consensus and shared understanding of policy, priorities and direction
(ii) Roles and functions of the Ministry and Provincial Offices
(iii) Relation between Provincial offices and the districts and communities
(iv) Implementation Cells and the Ministries and Provincial Offices
(v) Civil service reform
(vi) Capacity and capability
(vii) Development partners

2. Monitoring and the knowledge base.

56. We have noted in a number of paragraphs above the importance and approaches to strengthening and rebuilding the monitoring system and knowledge base of the sector. Perhaps the most important policy initiative at this point, beyond those outlined in the NDF, is one that would ensure open access to all data and information. Initiatives by the Interim Administration to improve transparency in line with such a policy such as the acquisition and use of modern information management technology can have significant impact on efforts to strengthen governance as well as provide a basis for effective water resources management.

(i) As noted above there is very little systematic technical information about the existing irrigation system. Acquisition of such data, geo-referenced to make it compatible with a sector GIS, is a very high priority. A good proposal to conduct such a survey systematically covering each river basin and sub-basin, has been prepared by the FAO Irrigation Unit in Peshawar. This proposal after review deserves urgent support.

(ii) One step that would help to implement this policy in the water sector is to create a Water Resource Data and Analysis Center (WRDAC) attached or within the new apex body created to assume responsibility for water resource management, coordination, planning and regulation. This center would not only have responsibility for consolidating the data and knowledge base, but the acquisition and development of new and additional analytical tools, and for outreach and training to support the improved use of data and analytical tools by the line ministries and other concerned agencies.

3. Investment strategy and policy.

57. The performance and functioning of most of the country's water infrastructure, including vital irrigation infrastructure, have suffered from destruction and neglect during the long period of civil strife. In 1997, FAO estimated that at least half of the entire irrigated area required rehabilitation, and another 20 percent suffered from severe water management problems such as water logging and salinity. One critical problem is that there is very little systematic information about the condition or functioning of the existing system. Rapid rehabilitation of this infrastructure, with the participation of communities and users of water, is an important part of one of the three pillars on which the draft National Development Framework is based. But, where to begin? In what sequence should reconstruction and rehabilitation of irrigation infrastructure proceed? And how should financial and human resources be deployed and allocated to achieve the country's development outcomes in a timely manner? Each line ministry tends to answer these questions in terms of what they know best, i.e., what they did in the past. This of course is not a rational basis for answering these critical questions.

(i) First, global experience suggests that the "low hanging fruit" should be selected first, i.e., select those systems that are most easily rehabilitated and benefit the most people while avoiding technical or implementation complexity that threatens rapid success and impact. Since over 85 percent of irrigation is found in traditional farmer managed small and medium sized systems that serve from a few hectares to about 2000 ha this is a logical place to begin. Rehabilitation these systems, i.e., repairing and rehabilitating the key structures (e.g., intakes,[12] wash crosses, flumes, embankments, and flow dividers) to ensure that water flows from the head to the tail, is the fastest way to enable a rapid recovery in agricultural production (since the other inputs appear to be available) and a much needed increase in farmer income

(ii) Large traditional systems are found in the plains that stretch northward and westward from the central highlands that cover very large areas (up to 200,000ha). There are also a more limited number of large formal irrigation systems that have been built, operated and maintained by the state and are in need of major rehabilitation (most are currently dysfunctional). The condition of both of these types of schemes poses significant technical and social challenges. Among these problems are repairs to dams and other major structures, and many, particularly those in the plains and in the south, have serious water

[12] Some caution is needed before intakes are rehabilitated to ensure that proposals to change the configuration of the intake or its capacity do not alter or impact on water rights and water agreements downstream. One hears much talk in Kabul about expanding the area irrigated either within or near present command areas, or in new areas to accommodate newly returned refugees and IDPs. There is simply no data and information available today to check whether in fact there is extra water available that is not already committed downstream by traditional rights or other agreements. This includes flood flows, which seem like a real waste upstream where the excess water rushes by, but this is not always so downstream where the peak flow is attenuated and farmers are able to divert these flood flows.

management problems including water logging and salinity. Moreover, ownership, operation and management of the distributaries and lower canal should be transferred to farmers to improve their sustainability. Hence, investment in these schemes should be based on systematic technical, economic, social and environmental assessment and analysis and time will be need for the necessary social mobilization and farmer organization (particularly where traditional practices are not possible at present). If these assessments, followed by necessary feasibility studies, were initiated soon, decisions on priorities, sequencing and financing could be made in time to initiate the best of these projects within perhaps three to five years or sooner.

4. Specific policy guidance for the near-term rehabilitation program.

58. Specific guidelines and policies are needed to direct the planning and design of the reconstruction program. While the Government's draft Development Framework provides some important policy guidance in this regard, specific policies would help Afghan engineers, particularly those who have been involved mainly in the planning and design of large formal schemes, to adapt their thinking to the types of rehabilitation projects that are needed and to the new process of rehabilitation project development and design that is substantially different from the top-down mainly technical approach that most are familiar with. Complimentary training may have to accompany this interim policy.

(i) participatory, community based approach to project planning and implementation
(ii) community commitment to participation and to operation and maintenance
(iii) technical survey and investigation
(iv) multiple uses of water in community irrigation systems
(v) project formulation
(vi) setting priorities
(vii) cost minimization and cost-effectiveness in project design
(viii) environmental and social risks

5. Groundwater management

59. Persistent droughts, and the flow of money into Afghanistan from donors and remittances, have provided a stimulus to groundwater development by means of deep tubewells (those with turbine pumps set in the well). These wells are able to withdraw all available recharge and extract non-renewable reserves (one of the few means of directly coping with drought), and in the process lower water tables and dry up *Kabul's* and springs that lie within their zone of influence. This is a serious and possibly catastrophic development for Afghanistan if it is not managed. Not only does the country lose possibly lose important drought reserves, but water rights are illegally transferred from those who owned and use the spring or *kerez* to those who are able to invest in the tubewell. Until the Government is able to develop an effective monitoring and regulatory system for groundwater, it would seem sensible and prudent in the interim for the Government to develop and implement a monitoring program on an urgent basis in sensitive areas, and restrict and in many areas to ban all new deep tubewells.

6. Water rights and water allocation

60. Water rights and water allocation are very sensitive issues. As one might expect in a country with extreme water scarcity and a long drought, water rights are a matter of frequent dispute and a source of instability. Stealing of water by modifying canals and structures to take

water is reported in many areas. The Government will have to take particular care in scrutinizing its own project proposals, the rehabilitation program as it develops,[13] and proposals by NGOs, UN agencies and bilateral donors to ensure that traditional rights to rivers, springs and groundwater as well as those established in the past under the provisions of the Water Law are respected. Consultation with villagers and *mirabs* in areas where water theft is taking place should be undertaken to find ways to strengthen the enforcement of traditional rights and water management practices. In the long term it may be necessary to establish a formal legal system of water rights administration adapted to the particular traditions and hydrologic setting of Afghanistan.

[13] The step-by-step project identification, preparation and implementation process outlined in Attachment B is designed in part to address this issue. The initial valley survey would collect data that would enable the project team to determine if proposals by *mirabs* and farmers would effect existing water rights or create other effects upstream or downstream, or elsewhere in the watershed.

Annex 1

Table 4: Irrigation Sector Rehabilitation Program Measures

STAGE	MEASURES
Verification	Identification of priority river basins and watersheds Community mobilization Scheme assessment in collaboration with farmers and village authorities (walk through) Survey, investigation, (re)design, project formulation,
Maintenance (a farmer and community responsibility)	Cleaning of canals and *Kabul's* Service and minor repairs of flow regulating devices and turnouts, canal embankments and flood protection works (Re)establishment of temporary intake structures
Construction	Headworks,[14] wash-crosses, flumes, canal repair, redesign, realignment, lining and bank stabilization, retaining walls, culverts, bridges River training, flood protection works Permanent intake structures Spillway, gates, distribution and drainage system structures
Management	(Re)establishment and strengthening of *Mirab* and *Hashsar* system; village and district *Shuras* Reservoir operation and intake regulation Watershed management and development, and groundwater recharge management Protection of domestic and livestock drinking water from pollution Strengthening of national, provincial and district level irrigation and water management authorities Development of policy and regulatory framework for sustainable water resource management and development Installation and operation of rainfall, river flow, groundwater, meteorological climate monitoring stations Dam safety and asset management programs (there are 12 dams higher than 15m)
Training	Training of technical professionals at national provincial and local levels Training of *Mirabs*, community organizations, farmers

[14] There will be a strong demand or at least temptation to replace earthen or brush diversions with masonry or other permanent structures because funds are available to do so. There has been good success with rebuilding intakes using gabions over the past 10 years and a systematic evaluation the sustainability of these works would be very useful. The problem is replacing existing structures with weirs or similar cross-river structures. These may not be more effective than previous structures, are not always as cost effective, and are more difficult to repair and maintain (FAO 1997). Their stability and maintainability given the high flood flows and massive amounts of rock debris will present special design problems with important cost implications. Certainly the negative effects of lack of control, and the potential for expansion of the area served, needs to be carefully compared to the full cost and efficacy of more permanent structures.

Annex 2

Rehabilitation of Small and Medium Scale Irrigation Systems

A Preliminary Outline for a Program Approach

Eligible Categories of Investment (sub-projects)

(i) Water Resources. This category would include a wide range of measures to harvest and conserve water resources and improve groundwater recharge, including check dams, delay action dams, contour bunds, small storage dams, pond, and tanks.

(ii) Community and Rural Drinking Water Supplies. The category would include rehabilitation of community and rural water supplies where services have been lost or seriously diminished, and new systems, where an assured source of supply can be confirmed

(iii) Agriculture and Water Management. The category would include coordinated, multi-sector interventions at the watercourse, tank, pond, and small tubewell, and small water storage dam level to improve the management of scarce water resources by improving efficiency (land leveling, channel improvements, etc.), introducing new irrigation and cropping practices, and introducing new technology (crops, tillage, sprinkler and drip irrigation).

(iv) Irrigation System Rehabilitation. This category would include measures (as outlined in Attachment A) to rehabilitate small and medium scale irrigation systems in consultation with farmers and mirabs based on a valley assessment of needs and problems.

(v) Recovery and Conservation of Fragile Natural Resource. This category would include multi-sector, integrated development and management of small catchments and water sheds to harvest rainfall, restore rangeland and forests, increase livestock fodder availability, improve groundwater recharge and water availability, conserve soils and stop erosion and sedimentation.

Eligibility Criteria

Sector	Criteria
General	Subprojects will have clearly identifiable beneficiaries Individual schemes cost less than US$_____ and have a construction period of one year or shorter. Design and implementation arrangements are consistent with _____ operational guidelines, including environment, and involuntary resettlement. Subproject plan and design have been endorsed by the concerned communities. Communities are allowed to participate in implementation. Planning, implementation and operation of subprojects are clearly within the demonstrated capability of the concerned sector agencies and/or communities. All subprojects will comply with the Government's laws and regulations and _____ guidelines for involuntary resettlement and environmental assessment, including environmental screening and preparation of an environmental assessment, if required based on the screening exercise. Subprojects in excess of $_____ will require environmental clearance by ____. Moreover, environmental assessments for any proposed reservoirs or dams in excess of 15 meters in height or at a cost in excess of $_____will be subject to review and clearance by ____.
Water Management	Subprojects are aimed at directly restoring and/or enhancing the sustainable water supply capacity without aggravating the water resource constraints (as outlined in Attachment A).[15] Subprojects have no obvious financial risks in future operation. Subprojects do not involve resettlement or acquisition of land other than Government-owned land. Watershed and upland rangeland improvement measures (e.g., planting of trees and grasses) are required. Extension of applied research recommendations to farmers and demonstration activities for more efficient water management would be supported under this component.
Agriculture	Extension to farmers of applied research recommendations designed to promote adaptation to drought, to improve and restore agricultural production, and to protect watersheds.
Water Supply	Small-scale community-based water supply schemes, using either hand pumps, windmills, or wells.

The Project Identification, Preparation, and Implementation Process
See Annex 3

[15] Private irrigation systems must be owned by communities. The rehabilitation or improvement of such facilities should be one time only, and thereafter, the facilities should be maintained by the communities.

Annex 3

REQUIRED STEPS FOR THE REHABILITATION OF THE IRRIGATION SYSTEMS

During the implementation of Irrigation schemes for labour intensive projects in Afghanistan, the following steps should be taken:

Step I

1. Idenntification of provinces (River basins) according to the established criteria such as population, land under cultivation, vulnerability, number of IDPs and refugees, etc…

Step II

1. If there is no preliminary data available:
   a. Collection/review of data, information and activities undertaken by different agencies in the target area
   b. Allocation /copying of the topo maps from original
   c. Provision of command area maps, GPS and any other survey related instruments
   d. Field Reconnaissance/Assessment and projects identification Surveys

2. If the preliminary data are available:
   e. Reconfirmation of the targeted project and rechecking the present situation.

Step III

1. Detailed topo survey of sites for structures repair/ improvement and sending the data to the design without delays after completion of each site survey.

Step IV

1. Structure design by adapting the standard design,
2. Drafting of the maps if needs would require,
3. Preparation of work plan,

Step V

1. Preparation of contracts for biding
2. Finalization of implementing partners
3. Signature of contracts

Step VI

1. Implementation of the structural work,
2. Monitoring and follow-up,

Note:

1. The steps III, IV, V and VI can be overlapped,
2. To go in detail and to have more information for further improvement of the traditional irrigation schemes, there are other steps too to be implemented before detailed topographic site survey) such as:
   a. Inventory survey of the canal to know details on both sides of canal
   b. Long section of main and branch canals plus cross sections at each 20 to 50m. design of canal

Table 5: Some Typical Costs for Rehabilitation of Structures in Small and Medium Scale Irrigation Projects

	Afs	$
Unskilled Labor cost per manday	45,000	1.50
Exchange rate (Afs/$)	30,000	

	Type of Structure	Original Estimate of Total Cost	Escalated Total Cost	No. of man-days	Cost of Unskilled Labor	Ratio of Labor Cost to TC
1	Intake structure with protection	$ 9,725	$ 14,588	3558	$ 5,337	0.37
2	10m Stone masonry wall (5m high)	$ 3,020	$ 4,530	373	$ 560	0.12
3	10m Gabion wall (3m high)	$ 1,245	$ 1,868	480	$ 720	0.39
4	30m Long wash culvert	$ 8,160	$ 12,240	2063	$ 3,095	0.25
5	20m Long wash culvert	$ 7,138	$ 10,707	1825	$ 2,738	0.26
6	Flow divider (Q=1m3/sec)	$ 687	$ 1,031			

Typical 1-structure project	No. or Length	Unit Cost	Total Cost	Unskilled Labor Input	Unskilled Labor Cost	Labor/TC
Structure (Average of #s 1, 4 & 5)	1	$ 12,512	$ 12,512	2482	$ 3,723	
Total			$ 12,512		$ 3,723	0.30
Typical 3-structure project						
Intake structure	1	$ 14,588	$ 14,588	3558	$ 5,337	
Wash culvert (Avg of No 4 & 5)	1	$11,474	$ 11,474	1944	$ 2,916	
Flow divider	1	$1,031	$ 1,031			
Total			$ 27,092		$ 8,253	0.30
Typical 4-structure project						
Intake structure	1	$ 14,588	$ 14,588	3558	$ 5,337	
Wash culvert (Avg of No 4 & 5)	1	$11,474	$ 11,474	1944	$ 2,916	
Gabion wall	1	$1,868	$ 1,868	480	$ 720	
Flow divider	1	$1,031	$ 1,031			
Total			$ 28,959		$ 8,973	0.31

Note: Structures - estimates include 10% supervision and 10% contingencies; Original estimate of total cost based on unskilled labor rate of 60Rs/day; unskilled labor includes weaving of gabions and collections of stone at man-days per m3 of gabion

Table 6: Rehabilitation of Structures in Small and Medium Scale Irrigation Systems

Required duration for a well trained Irrigation Unit Consisting of 2 Design Eng, 2 Monitor Eng and 2 Draftsmans to spend 20 million $

Type of Project	Budget $	Total No of proj	No of struc.	Required time (days) for different activities*								Total duration for 1 team Years
				Assess. Sur.	Topo Sur.	Design	Costing	LOA	Biding	Total Prep.	Total for 1m	
Typical 4	32,000	31	125	1	8	8	4	2	1	24	750	41
Typical 3	27,000	37	111	0.5	6	6	3	1.5	1	18	667	37
Typical 2	13,500	74	148	0.25	4	4	2	1	1	12	907	50

Typical 4: Includes 1 Intake structure, 25m wash culvert, 10m gabion wall, and medium size division structure
Typical 3: Includes 1 Intake structure, 25m wash culvert, 10m gabion wall, and medium size division structure
Typical 2: 25m wash culvert and 10m gabion wall,

Number of Design Eng, Monitor Eng and Draftsmans to spend 20 million $ in one year duration

Type of Project	Budget $	Total No of proj	No of struc.	Required time (days) for different activities*								Man Power for 20 million		
				Assess. Sur.	Topo Sur.	Design	Costing	LOA	Biding	Total Prep.	Total for 1m	Design Eng	Monitor Eng	Draftsman
Typical 4	32,000	31	125	1	8	8	4	2	1	24	750	82	82	82
Typical 3	27,000	37	111	0.5	6	6	3	1.5	1	18	667	73	73	73
Typical 2	13,500	74	148	0.25	4	4	2	1	1	12	907	99	99	99

Typical 4: Includes 1 Intake structure, 25m wash culvert, 10m gabion wall, and medium size division structure
Typical 3: Includes 1 Intake structure, 25m wash culvert, 10m gabion wall, and medium size division structure
Typical 2: 25m wash culvert and 10m gabion wall,

* Note: 1- To reduce the survey time, the survey work can be contracted separately,
2- Prior to the training session, a standard design manual must be prepared, otherwise the time for design will increase significantly

Table 7: Formal Irrigation Schemes Built by the Government

No	Name of schemes	Province	Area under Irrigation (ha)	Main structures	Remarks
1	Helmand & Arghandab project	Helman & Qandahar	103,000	Kajaki & Dhala Dams, Diversion of Boghra, Main canal of Boghra, Shahrawan, Shamalan, Darweshan and Baba Walee	
2	Sardeh	Ghazni	15,000	Reservoir (164 m.m^3), Left and right canal (15 m^3)	
3	Parwan	Parwan & Kabul	24,800	Diversion, Main canal (27 m^3), Eastern and Southern canals, Pumping station, Power House (2.4 Mega W),	
4	Nangarhar Irrigation system	Nangarhar	39,000	Darunta dam and Power station, Main canal Qmax=50m^3, Pump station, State farms,	
5	Sang Mehr	Badakhshan	3,000	Intake and main canal Q=2,5m^3,	
6	Kunduz-Khanabad	Kunduz	30,000	Diversion, left and right canal, regulators,	
7	Shahrawan	Takhar	40,000	Intake, main canal	
8	Gawargan	Kunduz	1,400	Intake, main canal	
9	Kilagai	Baghlan	2,000	Intake, main canal	
10	Nahr-e-Shahee	Balkh	50,000	Diversion, main canal and division structures	
11	Reeg	Herat	9,000	Intake structure and spillway	
Total			***317,200***		

Source: MIWR, 2002

Annex 7

Table 8: Additional Public Sector Schemes

S/N	Project	Location (Province)	Approx. Irrigated Area (ha)	Approx. Electricity Generated (Mw)	Status	Remarks
Multi-purpose Schemes						
1	Char Dara and Gawargan	Baghlan	4500	10	Partially functioning	
2	Salma Dam project	Herat	20000	40	Not functioning	Implementation was done 30 percent
3	Kajakai Spillway project	Helmand		133	Functioning	Needs repair feeding source for other areas
Irrigation Schemes						
4	Kokcha irrigation project	Takhar	2300		Not functioning	Needs pumping station
5	Nahri-e-Shahi irrigation project	Balkh	7000		Partially functioning	
6	Nahr-e-Lashkari irrigation project	Nimroz	18000		Not functioning	
7	Kamal Khan project	Nimroz			Not functioning	Implementation was done 20 percent
Projects Not Started						
8	Kelagai irrigation project	Baghlan			Feasibility completed	
9	Chashma Shefa Dam project	Balkh			Feasibility completed	
10	Khush tepa irrigation scheme	Blkh & Kunduz			Feasibility completed	
11	Kabul river basin scheme	Ningarhar Kabul Kunar, Logar			Feasibility completed	
River Bank Protection Schemes						
12	Amu river bank protection				Not functioning	

Source: UNOPS, 2001 (PNA Annex 6, December, 2001 as adjusted to deletes projects listed in Table 1)

AFGHANISTAN

NATURAL RESOURCES AND AGRICULTURE SECTOR

APPENDIX 4

COMMUNITY DEVELOPMENT PROGRAM

I. BACKGROUND

1. In Afghanistan, the rural sector is the basis of the country's economy, and the major source of employment. The contribution to GDP derived from farming, livestock rearing, horticulture and forestry, far outstrips any other current or potential source of livelihood.

2. Reliable census data are not available, and population estimates are subject to debate, but the rural population of some 16 to 18 million (either living in or returning to the rural areas) living in some 30,000 villages[1] and dependent on agriculture, livestock and renewable natural resources, is probably about 85% of the total population. Population estimates and cultivation area by province are outlined in Table 1. Rural people make up a number of clearly distinct ethno-linguistic groups, but with considerable geographic overlap amongst them. Ethnic tensions have been severe since the early 1990s, a fact that obscures the historically peaceful relations between these groups. The recent conflicts also tend to divert attention from the consensus reckoning and conflict resolution functions of existing social forms, such as the committees of leaders ("Shura") found in most village areas of Afghanistan. The Interim Government recognizes the potential in these committees as a strong base for future development of communities.

3. Two major environmental factors influence economic activity and human settlement: availability of water and topography. Water for human and animal consumption, and for agriculture is critical, and a major determinant of population carrying capacity, location and type of settlement. Altitude differences create the warmer or colder conditions for types of crops and growing seasons. Topography can be very dissected, challenging communication, and transportation links. Population is dense in the few, larger and well-watered river valleys around Kabul and in the east and southeast. Settlements tend to widely scattered in the dry plains of the west, south and north. In the mountainous north, northeast and central regions, villages are sparse, growing up near water resources, and surrounded by rocky, imposing, and dry hills.

4. Agriculture depends for more than 80% of its production on some form of water management. Irrigation is vital for producing both grain and fruit crops. Much of the irrigated land is in mountain valleys and terraces where rain and snowmelt provide water to farms through torrent irrigation, channels and kerezes. In the whole country, formal irrigation schemes cover about ten percent of the total irrigated area. Most villages use small-scale and locally managed irrigation, with water-sharing rules determined at the village and multi-village level. Operation and maintenance of small-scale irrigation systems rely on quite sophisticated but simple technologies residing with village irrigation artisans.[2]

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[1] The number of villages is quoted by various sources as 40,000; 30,000; 18,000. The exact number probably has not been counted recently, and the term "village" may include a main village and several satellites, or it may refer to any single human settlement. The lower figure is more consistent with the idea of "community", which refers to people living within a contiguous area, who identify themselves as belonging to a particular group, a particular area, or both.

[2] See Appendix 3 Water Resources Management – Medium Term Development Framework for detailed review of issues and potentials in rehabilitation of irrigation systems.

Table 1: Asian Development Bank Afghanistan Comprehensive Needs Assessment: Agriculture and Natural Resources

Land Use: Provincial Landcover Atlas of Islamic State of Afghanistan, March 1999, FAO Project AFG/90/002. COVERAGE IN HECTARES

Population Estimates and vulnerable population: World Food Programme Food Security Assessment July-August 2001

Province	Population 2001 (WFP VAM)	WFP-Percent vulnerable population 2001	Land under cultivation 1990/93 (not orchards)	Percapita land under cultivation	Irrigated cultivation 1990/1993	Percapita land under irrigation	Rainfed cultivation 1990/1993	Percapita land under rainfed cultivation	Rangeland	Rangeland percapita
Faryab	955,146	80.0%	759,829	0.80	133,823	0.14	626,006	0.66	898,218	0.94
Ghor	572,622	76.1%	205,926	0.36	70,963	0.12	134,963	0.24	3,193,617	5.58
Saripul	549,794	73.7%	515,868	0.94	48,618	0.09	467,250	0.85	1,081,897	1.97
Badghis	395,772	71.5%	510,247	1.29	48,459	0.12	461,788	1.17	1,513,017	3.82
Samangan	461,795	67.9%	385,689	0.84	21,225	0.05	364,464	0.79	684,745	1.48
Jawzjan	516,844	66.0%	282,775	0.55	184,019	0.36	98,756	0.19	155,965	0.30
Baghlan	836,718	57.8%	352,275	0.42	108,052	0.13	244,223	0.29	1,599,558	1.91
Nimroz	182,605	54.6%	74,546	0.41	74,546	0.41			3,472,243	19.02
Bamyan	477,318	49.0%	51,838	0.11	34,978	0.07	16,860	0.04	1,309,818	2.74
Badakshan	842,703	48.7%	459,461	0.55	52,853	0.06	406,608	0.48	2,812,664	3.34
Farah	554,505	48.4%	182,499	0.33	168,178	0.30	14,321	0.03	910,904	1.64
Uruzgan	739,350	46.5%	182,502	0.25	124,807	0.17	57,695	0.08	2,797,086	3.78
Zabul	303,864	45.0%	105,333	0.35	100,492	0.33	4,841	0.02	1,250,296	4.11
Herat	1,178,044	44.6%	632,417	0.54	249,835	0.21	382,582	0.32	2,125,265	1.80
Balkh	1,046,769	44.0%	684,840	0.65	275,240	0.26	409,600	0.39	370,366	0.35
Wardak	497,770	37.1%	78,424	0.16	62,460	0.13	15,964	0.03	794,017	1.60
Kapisa	585,788	36.2%	21,595	0.04	17,124	0.03	4,471	0.01	133,465	0.23
Ghazni	1,079,933	30.9%	294,037	0.27	245,491	0.23	48,546	0.04	1,694,290	1.57
Kunduz	1,083,854	24.9%	244,332	0.23	157,083	0.14	87,249	0.08	190,980	0.18
Helmand	902,298	22.8%	240,723	0.27	236,555	0.26	4,168	0.00	939,805	1.04
Paktiya	506,345	22.5%	79,483	0.16	68,953	0.14	10,530	0.02	381,723	0.75
Khost	353,147	22.1%	47,443	0.13	34,942	0.10	12,501	0.04	194,882	0.55
Nangarhar	1,372,369	19.6%	96,137	0.07	96,112	0.07	25	0.00	166,940	0.12
Takhar	883,910	18.3%	599,885	0.68	71,358	0.08	528,527	0.60	446,749	0.51
Parwan	693,764	16.1%	73,413	0.11	59,951	0.09	13,462	0.02	662,365	0.95
Kandahar	1,131,013	15.3%	304,554	0.27	251,030	0.22	53,524	0.05	707,871	0.63
Laghman	562,504	14.6%	23,668	0.04	23,581	0.04	87	0.00	435,891	0.77
Logar	366,446	14.5%	70,030	0.19	33,821	0.09	36,209	0.10	311,805	0.85
Paktika	479,944	12.1%	66,323	0.14	63,842	0.13	2,481	0.01	1,010,163	2.10
Kabul	2,946,848	5.6%	66,644	0.02	62,530	0.02	4,114	0.00	350,296	0.12
Kunar	464,955	2.9%	31,491	0.07	25,590	0.06	5,901	0.01	75,832	0.16
	23,524,737		7,724,227		3,206,511		4,517,716		32,672,733	

5. Production from rain-fed agriculture contributes significantly to grain and livestock production in good years, but yields have experienced catastrophic plunge of some 84% since 1999[3] due to drought. Significant parts of the northern and western rangelands have come under cultivation, due to increasing population pressure and questionable government policy even before the Soviet invasion. Reportedly, these areas have experienced significant environmental degradation, much compounded by the recent drought. Population pressure has brought about cultivation of hill pastures with consequent reduction in grazing area and environmental degradation of these lands at the extreme margin of agricultural utility.[4]

6. Where there is irrigation, animals rely on crop leavings for fodder; in rain-fed areas, livestock may have to graze over large expanses to find adequate sustenance. Transhumant pastoralists, called "Kuchi" practice seasonal movement of herds of goats and sheep; they account for perhaps 40% of the normal small ruminant population of Afghanistan. The social and agro-ecological relationships between the Kuchi and settled farmers is quite structured, with the pastoralists symbiotically involved with the crop cycles of the farms, as well as using the grazing resources in non-farmed areas. Transhumance breaks the link between livestock and local agro-ecological cycles by making use of a range of seasonal resources in different communities over several watersheds and agro-ecosystems. The seemingly un-tethered and "nomadic" lives of the Kuchi, actually make a significant contribution to the economic potential of the settled villages. As noted in the draft National Development Framework, agreement on the use of resources is not always possible and conflicts arise between pastoralists and villagers. Increasing population in the settled villages and resultant increases in intensive agriculture results in resource competition. These issues will be addressed in a national policy of sustainable resource use.[5]

7. Rural women are important contributors to the household economy, especially through agricultural labor and rearing of goats, sheep and poultry. Crafts based on animal husbandry, like weaving, add value to production and contribute vitally to family income in some areas.

8. Women also provide drinking water for the household from wells, irrigation canals or springs. Clean drinking water is a major stated need within villages and amongst women for whom provision of clean and healthy water is both a task and a family responsibility.

9. In most of the rural areas, especially in the east, south and west, social convention restricts women from interacting with outsiders. Because of this, and strict expectations on proper behavior by females over 10 or 12, they do not normally have access to education and health services. Despite their importance in agriculture, women frequently cannot avail technical advice from government departments or NGOs, a situation much exacerbated by the Taliban in recent years through further restrictions on women's access to public services. Illiteracy among women is normal, women and children's mortality rates are high, nutrition for women and children is especially poor and sanitation is minimal. On the other hand, women run the home and they have a strong hand in guiding the upbringing of male and female children. They

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[3] See: Table 1, Cereal Production and Area under Cultivation 1979-81 to 2001, Draft report Afghanistan Recovery and Reconstruction: Preliminary Needs Assessment of the Agriculture and Water Sub-sectors, World Bank and FAO, December 6, 2001.

[4] Broad areas of the country practice rain fed agriculture. In some places, such as high mountains and dry steppes, pasture has been turned into cultivated fields in what can only be described as desperation farming on increasingly degraded dry lands. The environmental impact and appropriateness of such farming should be a consideration in determining whether assistance to such areas should be in improved crop production or in more environmentally appropriate production activities.

[5] NDF, page 35

generally control household finances, and they use what they earn from livestock, vegetable or wood sales and crafts as they see appropriate to benefit the household.

10. Poor communication, transportation and governance, civil unrest, violence and social disruption in the last 23 years contribute to the existing isolation of the rural people living in a fragile environment to make rural Afghanistan one of the poorest places on earth. UN and NGO estimates and sample economic and social indicators point to massive women and children's health problems, general malnutrition, illiteracy and low incomes. What social and economic statistics exist result from WFP and UNICEF sample surveys, few of which are in a detailed quantitative form, but the results of these estimates, studies and rapid appraisals consistently bear out observation and anecdote: the situation in the rural areas is grim and poverty is the norm.

A. The Decline in Food Security

11. Afghanistan's production of food has declined markedly in the last decade. Some reports put the reduction in grain production for districts relying on rain-fed agriculture at over 80% in just the last three years of drought. Under current drought conditions, agricultural production even in irrigated rural areas cannot sustain the existing population. Nonetheless, there does exist potential for much higher sustainable production. Assistance to agriculture by UN agencies and NGOs has operated under enormous obstacles, especially in the last three to four years. Review of the databases available from the UN and ACBAR indicates that coverage of these programs must be increased to mountainous and rain fed agricultural areas.

12. Internal displacement of some people and temporary or permanent migration of others abroad has played a role in the decline of the rural economy, creating labor constraints for cultivation activities as well as maintenance of irrigation infrastructure, which has deteriorated badly. Productivity has declined due to inadequate labor supplies, lack of fertilizers and pure seeds, vastly decreased use of mechanical power due the absence of machinery and fuel, degraded irrigation systems, and poor roads for transporting agricultural inputs.

13. Grain production and animal husbandry are the bases for subsistence. Fruit crops are important to some farmers as a cash crop; dried fruits and nuts were once the primary national export. The quality and quantity of Afghan production has declined greatly since the late 1970s. Although established markets have been lost, the potential for sales to the Gulf, Pakistan and India are worth exploring and could be significant.

14. Finally, the demography of war creates a further obstacle to reviving agricultural production and rural incomes. Many of the men and women who would be expected to undertake agricultural activity have been refugees for much of their lives. Many families with lands near the border have traveled into Afghanistan from refugee camps in Pakistan on a regular basis to look after their lands, but others have not been able to make this trip. Young men have voluntarily joined the fighting or been pressed into service by various warring parties over the years. Those that stayed in Pakistan were without access to land and agricultural experience.

II. THE POTENTIAL FOR COMMUNITY DEVELOPMENT IN RURAL AFGHANISTAN

15. The basis for a community-based development approach to rehabilitation of livelihoods already exists in Afghan society. Different communities have distinct social characteristics and

different levels of full or equal participation by all their members, but it is basic to Afghan communities that there be broad consensus over matters that affect all members. The Shura, or community committee is primarily a means of achieving broad understanding and agreement amongst the leading members of the rural society to ensure consensus and avoid conflict. The Shura is not necessarily representative of all members of the community, and democratic principles of equality and majority rule are not the basis for decisions, which come about through extended discussion and common agreement by the most respected members of society. Conflict in small communities is costly in terms of loss of social cohesion, and in disruption and fighting between neighbors or communities in unresolved disputes; the Shura has a significant role in maintaining harmony within the villages. These are valuable resources for reducing conflict and encouraging cooperation, collaboration and collective awareness, when they are allowed to operate. Whether the views of minorities, women or the poor become part of the discussions depends very much on the local Shura. Afghan villages include landowners with significant holdings, small landholders, sharecroppers, the landless, artisans, and women headed households. Those with the fewest resources and the least security are least likely to contribute to community discussions or benefit from economic opportunities for the village. In some places, powerful minorities control much of the land and the local political processes. Community development approaches can conflict these groups, sometimes to the exclusion of any realistic participatory approach in the area.

16. Where governments impose decisions on communities, the consequence in terms of level of conflict can be quite high. It is axiomatic that the principle of community consultation by the Afghan government and other agencies with rural communities is well established, even if the specific practice varies. Matters that bring government investments or interventions to villages and communities require dialogue and approval if they are to be accepted and effective.

17. With the practical disappearance of government agencies from the rural areas, Afghan and international NGOs have undertaken assistance to communities. Along the way, they have discovered that their programs are more successful when implemented, at a minimum, with the agreement of the local Shura. Indeed, programs undertaken without the understanding and consensus of this local organization often find their operations ineffective and poorly accepted even to the point of hostile rejection of well-meant assistance. Virtually all NGOs utilize some form of consultative mechanism with the community, starting with direct agreement with the Shura to operate in the area.

18. A few NGOs, for example, the Aga Khan supported FOCUS actually have a fairly clear method for facilitating growth of inclusive, participatory mechanisms beginning with close collaboration with the Shura. In Badakshan, increasing success and responsibility on the part of Shuras has given rise to the establishment of expanded programs increasingly managed by committees and interest groups operating under the approval of the Shura. The “Community Fora” working with Habitat in Bamiyan are another approach to expanding alternative and more development oriented groups.

A. Ministry of Rehabilitation and Rural Development

1. History and Recent experience

19. The Ministry of Rehabilitation and Rural Development was established in the mid-1970s as the major contact agency between the government and the people in the rural villages. Years of disruption and war have degraded the capability of the ministry through loss of staff, lack of training in international best practices, and inadequate budgets for mobilization in the

provinces. Subsequent to the Soviet invasion, MRRD was unable to carry out its program in the rural areas, but began to recover somewhat in the early 1990s, before the near-total abandonment of budgetary support by the Taliban government. Until the establishment of the Interim Administration, the Taliban had imposed a series of appointments to ministry positions of Minister, Deputy Minister and even Presidents of various departments without regard to technical skill, method or program. In recent years, United Nations agencies, most notably UNICEF, or NGOs have funded most MRRD activities.

20. At one time, MRRD had a significant presence in each of the 32 provinces of Afghanistan, where it held a mandate to work closely with rural communities. In the years when it was last fully functional, it performed this task through a staff presence at the provincial and district levels, and with the provision of technical engineering and logistical assistance. For example, before the Soviet invasion, the Kabul headquarters approved, designed and supervised projects and had 190 dump trucks it made available for project construction throughout Afghanistan. That number was in addition to capabilities and equipment at the larger provincial offices. The Ministry was multi-sectoral and included small infrastructure assistance to villages in health, roads, irrigation, and education and with assistance in procurement and distribution of fertilizer and improved seed. In some ways, provincial staff acted as brokers with other ministries in communicating the needs and requirements of villages where MRRD was the only regular government provider of services. Not all provinces had full MRRD capability in all areas, with Kabul providing centrally based assistance to smaller or more impoverished districts in surveying, planning, engineering design and construction supervision.

2. Staff experience and capability

21. The ministry might have as many as 2500 staff on its books in Kabul and the Provinces, but no detailed, current count is available. The capability of MRRD prior to the 1979 invasion is the point of reference by officials in discussing numbers of staff, capabilities of field offices and methods of operation. The actual situation is unclear, and in terms of ability to extend its reach to the rural villages, the organization is moribund. This makes for an inconsistency in discussions about needs and capabilities that can only be resolved through a detailed capacity and needs assessment some time in the future.

22. On the technical side, the Ministry in Kabul is made up of a Deputy Minister with responsibility for ten departments, each with a President and Vice-President and General Director, although not all of those positions are filled at the moment. Table II describes these departments, which in larger provinces mirror the center with equivalent capacity.

23. MRRD's operating pattern from the past is highly formalized, with written communications passing from communities to provincial offices, forwarded to the center, assessed and surveyed by central offices or provincial offices where that capacity exists, then forwarded to engineering design and construction. For larger schemes, the Ministry of Planning becomes involved in providing budgetary allocations in the provincial budgets for specific community programs. On the face of it, the system appears ponderous and entirely dependent on improbably accurate filing, rapid turnaround of proposals and plans, efficient bureaucracies and good communications.

3. Provincial Offices

24. In field trips to Parwan, the Panshir valley, and Bamiyan no MRRD provincial offices were functioning. According to the D/Minister–Technical, provincial offices still functioning and with significant staff resources are Herat, Jalalabad (Nengarhar), Kabul, Kandahar, Mazar-i-Sharif (Balkh), and Lachman. These are the larger offices that have managed to obtain funding from UN or NGO sources. MRRD does not have the resources to bring together these provincial office heads to begin the process of re-establishing communication and resource flow between the center and the provinces.

Table 2: Technical Departments, MRRD

Department	Function
International Relations and Documents	External training and travel, protocol and communication with donor agencies
Planning and Survey	Initial survey of community project requests, project selection based on set criteria, planning and liaison with Ministry of Planning for larger projects
Engineering and Technical Design	Detailed engineering plans
Construction	Construction of larger approved projects and supervision of community projects; pre-casting of standard construction components where appropriate
Technical Control	Reporting directly to the Minister, this department of accountants and engineers audits projects' financial expenditures, materials and quality of work.
Materials Regulation	Procurement and logistics
Water Supply and Sanitation	Integrated sectoral focus on drinking water and sanitation; currently conducting well drilling program with UNICEF
Training	Using internal resources, department does orientation training and sponsors specialized training; also conducts work shops supported by donors.
Education	Village schools construction and liaison with Department of Education
Social Services	Liaison with Ministries of Health and Agriculture for agriculture, animal husbandry, health and education needs of villages; also involved at one time with cooperative development and women's welfare

4. The Recent MRRD Team Approach

25. Whether through the needs and stresses brought about by civic disruption, or because everyone realizes the formal system can't work, in today's Ministry actual project survey, planning and design follows a much more efficient and truncated set of procedures. In recent projects undertaken for UNICEF, Ministry staff from the various departments work as a team to move the projects along. This rather presages the current plans of the AIA to form "Implementation Cells" within the Ministries to address rehabilitation of government services. Similarly, training activities draw heavily on a range of current staff to help orient and prepare more junior staff. The informal team approach is indicative of the willingness and eagerness of Ministry staff to get to work. The danger is that with greater resources, and a more secure bureaucratic environment, MRRD will revert to the heavily centralized and ponderous formality of a previous era. Clearly, there is significant potential within MRRD's current staff complement, and beginning toward a team approach, which might serve as a first step toward effective restructuring and reform of the Ministry.

5. MRRD in Community Development

26. Although the central offices in Kabul still receives visits from village leaders seeking assistance, few communities receive any kind of support from MRRD, with the exception of training and water projects funded by UN agencies. The few functioning provincial offices also owe their operational capabilities to UN or NGO programs. It is difficult to assess MRRD's capability in direct and independent project management or in working with community structures far from Kabul in the absence of more demonstrable experience, but one must assume that in the absence of adequate remuneration and with constant disruption, current capacities are low. This is not the view of professionals below the level of Minister and Deputy Minister at MRRD headquarters, who appear to understand their institutional problem as exclusively one of financial and material resources, so that if they had vehicles, engineering tools and equipment, they would be able to pick up program implementation quickly. Yet, the rules in rural development have moved on. International community development best practices have evolved toward fundamental empowerment of communities to determine their own needs and mobilize their own as well as donor resources. Heavy involvement by government in the delivery of basic services has given way to creation of techniques for assisting community mobilization and responsibility through community capacity development in conflict resolution, management, and planning skills. A different set of skills and very different operating procedures are required of government workers to both assist community empowerment and work with responsible community organizations. These skills and procedures will have to be taught to MRRD staff.

27. As a supporter of a community driven approach, the AIA will have to determine the nature of government assistance and thus define its role in community programs. Then it must develop its message and how to get it out, and how to plan, organize, and monitor the flow of resources. MRRD will need a clear message and some manner in which to convey it.

III. KEY ISSUES

28. The quality of interaction between rural communities and the Ministry of Rehabilitation and Rural Development is central to government abilities to address the problems of rural Afghanistan. The Ministry and rural people have been badly affected by war, and poor governance. The key issues for development of rural communities are:

(i) Communities lack basic services, including communications and roads, clean drinking water, schools and health facilities. Agriculture is the basis for the economy but little advice on new techniques and varieties is available. Institutional credit facilities are absent.

(ii) Community infrastructure related to production, such as irrigation systems and water impoundments, bridges and roads are badly degraded.

(iii) Communities do not have a tradition of self-help and participation in economic development, but they do have strong village consensus reckoning devices in the Shuras.

(iv) The Ministry of Rehabilitation and Rural Development has no resources with which to assist communities, and has to redefine its role in assisting them to plan a response to their major needs.

(v) MRRD has little recent history of experience in designing, surveying and implementing community-based programs, and its style of operation is

inappropriate for community-driven approaches that require cooperation and partnership with communities.

(vi) MRRD staff has little or no recent experience with large-scale programs of assistance to rural communities.

(vii) Provincial offices have been destroyed and plundered, only a few are still functioning through budgetary and program assistance by UN agencies and NGOs.

(viii) The responsibility of provincial offices outside of Kabul was oriented in the past toward the provision of basic services to communities, particularly in infrastructure identification, survey and construction. The role of these offices in the context of increased decentralization of decision-making and enhanced community empowerment is yet to be defined.

IV. STRATEGIC OBJECTIVES

A. Creation of a community development model

29. Community empowerment through participatory mechanisms is identified by the AIA as a cornerstone of its development framework. Support to this process is justifiable on the grounds that taking communities as partners in development greatly expands the scope of interventions, their appropriateness and effectiveness, as well as the skills of the rural poor in addressing their own problems. It is also possible over time for marginalized groups of the poor, or women to gain access to community centered planning and project management. Community development, as a complex of participation, capacity building, community resource mobilization, decision-making and management of resources and programs is considerably more than community consultation and consensus reckoning through Shuras–which is only the initial entry point for the process. The record of community capacity building and participation is highly variable among NGOs, with some practicing a clear, long-range plan of community empowerment and others using basic consultations to smooth the way for otherwise NGO-managed programs.

30. There is no commonly shared model of community development, empowerment, or participation in Afghanistan. Empowerment is more than simply ensuring that communities are informed; it means they become deeply and fundamentally involved with community needs assessment, program planning, implementation and management. There is no single, commonly accepted model of what community development is or how to bring it about. In parts of the world with high levels of participation and planning within communities, the model is country or even region specific and develops over years with experience and experimentation. Participatory mechanisms have to grow, and they rarely do so without facilitation.

B. Community Development Skills for Communities

31. Just as government agencies and NGOs need to develop the skills to work with communities, there are skills community members can develop to make their participation in development more effective and meaningful. These include basic conflict resolution, communication, and formal meeting capabilities, as well as basic numeracy and accounting, project management, participatory planning and monitoring–all of which are needed in the context of ever more complex and larger scale village and community work. In some parts of the world, project committees actually undertake to act as contractors in arranging for local construction. Provision of enhanced capabilities to village leaders links community decision

making with government resources, providing a common platform for discussion and mutual expectations, and improved accountability.

C. Transition mechanism

32. Community empowerment is a practical and effective tool for governments to support. It is also a complex, and sometimes-extended process that has to begin with first steps that produce results for both villages and government. Until community member demonstrate the skills and abilities to be fully accountable for their use of community, government or donor resources, the proportion of government or NGO direct management of resources will remain relatively high. Communities and their Community Based Organizations (CBOs) must grow into a regime of ever increasing partnership and division of responsibility. The evolution and growth of CBOs and apex organizations requires guidance and assistance by an agency or agencies willing and able to encourage growth and independence. How that will be done in the Afghan context remains for definition by national organizations, but models exist which could inform the process. See the Annex at the end of this section for a brief discussion of models across the border in Pakistan.

D. Links to government and donor resources

33. Communities and MRRD share a lack of recent familiarity with managing financial and material resources. There exists no mechanism for ensuring transparency and accountability in their use, or for monitoring the ultimate result and effectiveness of resource flows. An interim measure will be management of funds through AACA's financial management arms. MRRD abilities will improve over time and ultimately its accounting and audit offices will demonstrate the ability to undertake financial management of community development program resources.

E. MRRD Requirements

1. Project Finance and Procurement

34. The flow of funds to support selected community projects and the procurement of materials requires control, monitoring and audit. The existing system is untested and relatively unknown in dealing with substantial resource flows provided to decentralized operations.

2. Database development, project planning and monitoring

35. MRRD has virtually no computer capability, planning tools or ability to monitor the process of community proposal development, processing, approval, implementation and final review.

3. Personnel

36. The central Ministry in Kabul appears to have a number of qualified engineers, surveyors and accountants, who would be a first source for staffing core ministry working groups and provincial offices. Field offices that now lie empty must be staffed with appropriately trained people, and Kabul-based administrators must learn to give timely response to requests from the field. Identification and recruitment of efficient and willing professionals is key to a rural development program.

4. Provincial Field presence and clear mandate

37. Most provincial offices of MRRD, as well as other ministries are empty or destroyed. They need to be re-established under a new regime of responsiveness to participatory village decision-making. The larger policy context within which this would be achieved; including the relationship of line, ministries to local government and the decentralization process require definition. A new MRRD structure might focus on coordination, planning and monitoring through establishment of effective information systems, regular community consultation, and a comprehensive, regional approach to district and provincial development.

5. Management capability

38. MRRD capabilities in survey, design, approval, contracting, conflict resolution and participatory decision-making will have to be brought in line with the scale and nature of the new program. This will require a shift in operating procedures and in definition of the appropriate roles of communities and government. Especially important is the ability of MRRD to develop databases at the provincial and central levels and ensure equitable and efficient disposition of community requests from initiation through to final completion, including detailed project tracking and monitoring.

6. Link to community mobilization

39. Mobilization of communities is a complex and time-consuming task that is more appropriate to NGO or other non-government agencies. Nonetheless, provincial offices must be capable of linking with community activities through surveys and understanding of district and village needs, dialogue with community groups including but not limited to Shuras, and a transparent and accountable process for addressing community requests, problems and issues. Community organizations will also require assistance with technical designs that can be provided by MRRD, or with some engineering supervision by private contractors.

V. NEEDS ASSESSMENT

A. Initial activities over 1 to 2 years

40. Investment activities, institutional development and capacity development in the short term is the entry point for medium term development programs. Immediate, fast disbursing activities are themselves part of a testing, and iterative process of finding effective longer term program elements. Ideally, projects with a shorter time horizon will blend harmoniously into programs of ever increasing size and scope.

B. Investments at the village level

41. A development fund,[6] made available through the Ministry of Rehabilitation and Rural Development will support small infrastructure and other projects identified by communities, such as agroforestry, horticulture nurseries, small roads and bridges and other community structures that will affect production. In order to directly and rapidly address production, the rehabilitation of traditionally constructed and maintained irrigation systems through a grant mechanism will be the focus of initial disbursements for quick impact on livelihoods. Wider scope of community

[6] The development fund is a resource for expenditure and need not be a block of money awaiting disbursement; it would be just as effective as a line item in a budget simply authorizing an overall level of expenditure and attached to specific selection criteria for projects.

development activities would apply in the medium term, however the focus on irrigation rehabilitation also orients communities and MRRD to the importance of water conservation and the importance of considering water and water use in a larger context of management of local watersheds and regional river basins. As discussed elsewhere in this report, irrigation is but one component of an overall water strategy that might include forestry and agro-forestry.

42. Irrigation water is a primary need for agriculture in Afghanistan; over 80% of production comes from irrigated land. With the exception of a few, large schemes, farmers living in rural villages maintain the systems. These include kerez, above ground channels from rivers, streams and springs, small dams for seasonal water entrapment, and stream, hill and torrent entrapments including terraces. Local technicians maintain the structures; farmers are responsible for maintaining village canal structures that reach their farms.

43. In recent years, damage to major intakes and structures and kerezes has affected agricultural production. The decline in productivity varies from place to place, but the degradation of the systems appears significant in areas where there was fighting, or severe repression by the Taliban, as in the Central Region. The cause of the destruction might be flooding, lack of maintenance in areas of heavy fighting like the Shomali plains, or intentional destruction and vandalism by opposing sides. The capital investment required to bring these structures back into operation is beyond the capability of villagers, yet the nature of the construction is within the capability of local skilled workers and engineers. Materials and labor, together with basic engineering skills for construction and supervision can rapidly rectify many of the existing problems.

44. Rehabilitation of irrigation structures and small dams will generate income through local employment. Money generated by paid labor will allow community members to purchase food, and improved seeds and fertilizer to plant on the land that now has significantly higher potential due to improved irrigation.

45. A focus on irrigation water over the next year will provide a unified theme to MRRD initial efforts in community development, and should make use of minimal complex engineering assistance. Provision of water is vital to rehabilitation of agriculture, and has an ancillary benefit in that irrigation structures also bring water for human and livestock use, an important consideration where groundwater is alkaline or not available. Logistical and materials help, design and construction supervision, and contracting with private construction firms will be within the expected technical capability of MRRD cells and provincial offices, which will require assistance with capacity building, transportation and office equipment. MRRD will not undertake construction directly, but through agreements with communities and commercial, private sector contractors.

46. Small-scale schemes will range in cost from $10,000 to $60,000, judging from current project costs estimates of small irrigation channel rehabilitation to construction of water impoundments. An average fund investment of $15,000 per project is considered reasonable, since many of the problems addressed do not require major capital expenditure. Table 3 below, illustrates the relationship between preparing survey teams, conducting surveys, identifying projects and committing funds. A commitment of some $6.9 million is feasible in the next year, assuming rapid start-up and effective collaboration with MRRD, and capacity building, vehicles and office equipment assistance.

Table 3: Initial Small projects selection and funds commitment

Assumption 1: Estimated average cost per scheme is $15,000[71]

Assumption 2: Survey teams do 2 districts per Month and select 4 small projects per district for implementation

	July	Aug	Sept	Oct	Nov	Winter Break	March	April	May	June
Number of community survey teams	2	4	6	8	8		8	10	12	
Number of districts surveyed @ 2 per team per month	4	8	12	16	16		16	20	24	
Number of projects for immediate implementation selected @ 4 per district		16	32	48	64	64	0	64	80	96
Cumulative numbers of projects Implementation of project		16	48	96	160	224	224	288	368	464
Funds committed for disbursement X $1,000		$240	$480	$720	$960	$960	$0	$960	$1,200	$1,440
Total funds committed July 2002-June 2003 ($'000)										$6,960

C. Selection Criteria

47. Criteria for implementation under a short-term program include:

(i) **Technical complexity:** projects requiring complicated or extended engineering design and assessment are not appropriate for short, rapid implementation. Projects should be accomplished within a total period of 3 months, largely with locally available technical input and community labor.

(ii) **Cost ceiling**: The development fund cannot be used effectively for major, costly construction, e.g. the rehabilitation of major, state operated irrigation schemes. Evidence of significant involvement by CBOs in planning and implementation, and measures of costs relative to the number of beneficiaries, as well as timeliness of completion should be paramount in determining what schemes will be implemented.

(iii) **Beneficiaries:** Significant numbers of the community should benefit from irrigation rehabilitation. Distribution of benefits exclusively to a few powerful individuals is to be avoided, thus surveyors must concern themselves with the numbers of people, and the likely distribution of benefits within the command area of proposed irrigation improvement.

(iv) **Community commitment:** Communities should provide evidence of willingness to complete the project, and agree to maintain it. At a minimum, local Shuras will provide this agreement, appointing responsible parties to ensure effective implementation and guarantee equitable opportunity for community members to be employed under the project. The potential for conflict over wages, or control of construction resources requires strong commitment. Clearly, where community Shuras or other groups have been captured by special interests, projects under the fund are not viable.

[7] The World Bank team assessing the potential for support for community development in early 2002 independently arrived at a similar figure for its second phase program in support of community empowerment.

(v) **Village consultations and surveys:** Community participation and empowerment often require extended periods of mutual preparation and learning between communities and agencies providing resources for development. In the short run, the ideals of community involvement cannot be realized. All parties should recognize that initial projects are but the beginning of a process. But, there are minimal expectations for the surveys and the process within communities even under the constraints of large scale need and rapid disbursement. The community's members must be widely informed. Discussion within the community and with MRRD/Government/NGO surveyors should be as free as feasible, meaning discussion should not be disruptive and the cause of conflict, but must nevertheless meet critical and immediate needs for large numbers of the community.

(vi) **Women and the poor:** Ways of involving women and the poorer members of the community in project selection and implementation should be explored from the earliest involvement with the community. Initially, this may require significant cultural sensitivity, but the inclusiveness of the participatory process should be on the agenda from the beginning.

(vii) **Defined contract mechanism:** The flow of funds, accountability, and responsibilities for accounting should be clearly understood by all parties.

D. Management of fund

48. Funds management will be placed under an appropriate Afghan government agency, such as Afghan Assistance Coordinating Authority (AACA).

E. District priority survey and selection

49. Needs assessments will be conducted at the district level under the direction of provincially based staff. As district government and community groups establish or re-establish themselves, district Shuras or other consultative bodies will assist in selecting projects for priority implementation and phasing. District Shuras have been an effective tool for the UNDP-sponsored Northern Areas program. Databases of district requirements will be built up by survey teams; the accumulation of survey results is an important step toward district development profiles and planning. Survey teams with members from provincial offices, or contracted from NGOs working in the area will operate in districts. Specific districts will be selected in concert with currently planned World Food Programme food security assessments that are targeted toward areas of greatest need.

50. Government line departments' presence in districts, especially the poorest ones, ranges from absent to episodic. At a time when the central government is reconstituting itself, and provincial offices are in many cases a hope for the future, it is pointless to define roles for non-existent district offices. It is clear that districts will be an important part of governance for the future, and that they constitute a vital unit of planning and coordination in the rural areas. Until provincial offices are established and the future of decentralization in Afghanistan becomes clear, districts remain important units for data collection and planning, but their role in implementation is unclear.

F. Provincial offices

51. The process of selection will require teams of surveyors employed under MRRD direction, working within Provinces. These teams may be made up of government employees,

contracted NGOs or a mix of the 2 depending on resources within the province. MRRD employees initially working with the survey teams will form the core of provincial offices as they are established, and will hand over their survey responsibilities to regular teams as time goes on. It is important, however that teams from government agencies establish their credibility and gain experience by undertaking surveys in close consultation with communities. Survey teams will identify an average of four projects per district for immediate project assistance. Small project activities will be within the technical capabilities of communities, MRRD and local NGOs/contractors. With the need to establish provincial offices, MRRD central office staff will lend support through extended assignment. Some may transfer to provincial offices as these are set up. Central Ministry staff will collaborate closely with the surveys, project selection and technical design of small project schemes. The interaction between provincial offices and the center will be invaluable in helping define the best activities and operating procedures for each, and the requirements each will have to make on the other.

G. National support for community development

52. MRRD is currently very weak. Its support to immediate field programs will be confined to managing donor funds providing available technical capabilities on an inevitably ad hoc basis, and establishing provincial offices. Ministry leadership will be invaluable in seeking coordination and collaboration with the MAAH and MIWR in creating field survey capabilities.

H. Capacity Building

53. Capacity building for communities, and for MRRD planning and implementation groups at national and provincial level.

54. Building capacity for MRRD to undertake its roles and responsibilities in a reformed institutional framework is part of the medium term development. In the short term, and for immediate implementation, each team of surveyors/provincial field officers will require some orientation, and training. A combination of MRRD staff and assistance from NGOs and UN agencies working in community programs can provide the required orientation as well as longer term involvement in creation of an Afghan-specific approach to community development.

Table 4: Community Development Framework

Key Issues	Strategic Objectives/Indicators	Needs Assessment		Policy Agenda
		Short-term Program (1-2 Years)	Medium Development Framework 2-5 Years)	
Degraded community infrastructure and essential services	Self-reliant village and district communities	Community empowerment and community based public works program	A community development model which empower communities to manage local investment and natural resource management decisions	Empower communities to undertake ownership and management policy formulation
Rehabilitation of water delivery infrastructure for drinking and irrigation	All villages to have a reliable source of water	Start-up of a community based program including criteria for identification of villages and surveys of required works	A formal small –scale irrigation program managed by empowered communities and using a combination of village labour and NGO expertise to implement	Defining the precise role of empowered community representatives (shuras) in project design and implementation
Strengthening community skills in the planning and implementation of projects	Communities capable of full participation in local natural resource management decisions	Community training programs in project design, planning and implementation	Internalised MRRD training programs for enhancing community skills	In-service training programs
Redefining line ministry (MRRD) role	A clear statement of the role and functions of reformed MRRD	Include MRDD in the broader institutional assessment of sector line ministries	Implement approved recommendations of the institutional assessment	Define the public sector role in empowered community development programs
Damaged physical infrastructure of MRRD	An appropriate working environment	Repair physical infrastructure of MRRD in accordance with reforms	Repaired and reformed national and provincial offices	
Weak institutional capacity	A strong MRRD capable of supporting, and monitoring community based programs	Undertake initial training programs in needs assessment, databases, project planning and project finance	Formalise and internalise training programs for MRRD staff	Human resources development policies
Redefining role of provincial level office of MRDD	A clear understanding of the role of MRRD staff in the reformed ministry in relation to participatory planning	Short –term reorientation training	A clear mandate based on the detailed institutional assessment	
Inadequate village level data to apply selection criteria	Village level databases	Sample village level assessments eg. Build on WFP work	Establishment of an annual village survey based on a fixed sample including each district	Sector information base; future of AIMS

VI. MEDIUM TERM DEVELOPMENT FRAMEWORK

A. Development Framework

55. The community development issues, strategies, short and medium term needs discussed in the previous sections, are integrated into a summary development framework, which is outlined in Table 4.

B. Investment Program

1. Community Development Program

56. The development fund (or program budgetary line item) initially focused on irrigation systems rehabilitation would move on rapidly to providing support for other community-selected activities related to agriculture and natural resource production. Project selection criteria will emphasize community participation. Over a period of time and the experience gained and lessons learned from supporting community programs, an Afghan-specific participatory, community development method will develop. This will shift responsibility for service provision increasingly onto communities with government acting as a policy guide, facilitator and technical support agency but communities actually undertaking survey and project development responsibility.

57. The selection criteria for projects in the medium term would be similar to those described above for the more immediate program, but the involvement of communities in all aspects of survey, project management and planning will increasingly become criteria for support to them in selection of projects. How this will be carried out should be determined through dialogue and experimentation; there is at this point no single entity with a mandate to encourage and facilitate such community development approaches. In other parts of the world where community development models are more settled and their implementation methods clear, support criteria focus increasingly on viable and sustainable approaches that de-emphasize grant aid, and increasingly encourage communities and their members to consider costs and benefits and making use of local resources from the communities. An end point of such an approach would be a transition to totally loan-based assistance to communities, with a high level of financial and project management skill within the communities. It is unlikely that the transition would take place in 3 years; 5 to 8 years would be a more realistic projection. Clearly, the methods of assisting communities should encourage them to move toward a seamless transition to self-determination of needs and reliance on resources and repayments from the community.

58. Financial management system established for full accountability, transfers of funds to programs and projects

C. Institutional Development

1. Village participatory mechanisms

59. Initial collaboration between government, NGOs and communities tends to emphasize the flow of material, cash and technology from the outside agencies to the communities. It tends to begin by operating through well-understood local institutions such as the Shuras, placing them increasingly in a new, developmental role. These committees are requisite for broad acceptance and adoption of community-based programs, but over time they are likely to evolve increasingly toward more specialized forms of representative and elected development bodies.

This process is not so much a replacement of traditional Shuras as a predictable move toward more specialized, focused and skilled groups charged with economic advancement of an area. It is also quite possible that individual CBOs will link together in multi-village committees, or even district level bodies that form a kind of elected council. The nature of this process should be defined by the people involved in it, without prescriptions, but the likelihood of growth and change in the nature and function of the groups over time should be anticipated within any program to support community development. The rules of engagement between government and communities will alter, and the nature of the support may evolve from direct grant support to more educational or institution building support, need for credit institutions, or even policies developed to support rural empowerment.

60. Provincial offices for district surveys, consultation with Shuras and participatory appraisal.

61. Provincial offices with enhanced responsibility in a decentralized system may come about soon. There are certain key activities they should undertake.

(i) Surveys of districts should continue based on a participatory appraisal process that makes community members and surveyors partners in determining community needs.
(ii) Provincial offices are in the best position to prioritize the needs of district wide surveys, through consultations with communities and knowledge of the areas. They will be able to coordinate various types of assistance, and guide NGOs and government agencies toward communities most in need of specific types of assistance.
(iii) The provincial office should also have a role in project finance, at least to the extent of putting together budgets for each of the districts, ensuring some kind of balance in investment, and monitoring the flow of funds and completion of projects.
(iv) Provincial offices will also have a role to play in contracting engineering services directly, filtering proposals from the private sector and NGOs to undertake work and ensuring that only known and qualified firms and individuals receive contracts. District level consultative groups made up of all communities, or a provincial group made up of district representatives should be invited to monitor project selection and performance.
(v) A major, critical responsibility of the provincial office will be ensuring that the project proposal database is up to date and that action on requests is clearly recorded. Nothing will cause dissension faster than programs of survey and proposal development not followed up by demonstrated action.

D. National Programs

62. National dialogue and discussion over Afghan village empowerment and institutional means of assisting the process

63. The central offices of MRRD have few resources, and many of the current staff does not have appropriate skills for support to a large-scale community development program. The Ministry will develop its abilities to support community-driven development. This requires

creation of message content and delivery mechanisms, planning for phasing and support to community based programs, and acquisition of improved accounting and logistics capabilities.

64. Creation of a model for Afghan participatory development, which would include ways of mobilizing communities on a large scale and assisting them to become independent managers of their own needs and resources, is a national task. As service delivery at the village level is not a strong suit of governments anywhere, support for village organization should be independent of direct government intervention. Beginning with existing programs, and some of the more progressive Shuras, the process of creating an appropriate approach would move toward increasingly participatory programs in the medium term, based on Afghan and international best practices. In the short term, during the current emergency, projects for immediate implementation will concentrate most on income generation. This necessary activity requires payment to community members for work on matters of immediate community interest. Movement towards increased community resource mobilization, and planning, project management and monitoring is an important measure of progress toward sustainability. The objective is to build toward creating participation with government and NGOs in achieving sustainability of programming, planning, and implementation. Thus, a major indicator of success over the next 3 years is resource mobilization by communities, which should be closely monitored.

65. Establishment of a community development dialogue would build upon existing work by NGOs and coordinating groups.[1] Institutional support to the process could follow a number of patterns. One possibility is establishment of an Afghanistan Community Development Institute to host the dialogue, encourage different approaches, ensure involvement of community members in the discussion, and provide assistance directly or indirectly to communities in gaining the skills and experience needed to realize Chairman Karzai's call for increased community empowerment. A significant challenge is to create a model that can be rapidly built throughout the country, without heavy investment in community research and training. The literature on community development is replete with detailed discussion of intensive efforts to involve small communities in development planning. The scale of the problem in Afghanistan requires a different model that can be disseminated widely and rapidly while maintaining the best features of participation.

[1] Candidate NGOs for providing this kind of assistance include Solidarite, FOCUS, and Habitat. Others are Agency for Rehabilitation and Energy Conservation in Afghanistan Reconstruction (AREA), CARE International, Coordination of Humanitarian Assistance (CHA), Danish Committee for Aid to Afghanistan (DACAAR), Erfan Rehabilitation Association for Afghanistan (ERAA), International Assistance Mission (IAM), International Rescue Committee (IRC), Mercy Corps International (MCI), Coordination and Organization for Development and Emergency Services (MSHA), Norwegian Church Aid (NCA), Norwegian Project Office/Rural Rehabilitation Association for Afghanistan (NPO/RRAA), Ockenden International (OI), Panshir Reconstruction Bureau, Peace Winds Japan (PWJ), and Reconstruction Authority for Afghanistan (RAFA). A number of provincially based Afghan NGOs also operate through various forms of community involvement and consultation. UN agencies including UNDP, UNICEF, FAO, WFP have also provided critical support to communities and can contribute to lessons learned. In addition, international and Afghan.

VII. ROLE OF THE MINISTRY OF REHABILITATION AND RURAL DEVELOPMENT

66. MRRD at the national level will play an important role in village and community development, but in a different way than in the past. Rather than perform as a vertically integrated, rural construction and development agency, MRRD will restructure and reform to provide more of a critical support role to the process of community development. Its critical tasks will include:

(i) Lead government agency in dialogue with communities and with NGOs and the private sector over ways to assist community empowerment.
(ii) Planning agency for government and international donor support to rural communities, with responsibility for forward planning and budgeting.
(iii) Responsibility for creation and maintenance of timely databases on rural project activities, training needs, funding flows. These databases will serve as the source for regular reports and monitoring of progress. It is difficult to overemphasize the importance of clear and updated data for what will rapidly become thousands of projects affecting millions of people in Afghanistan. An electronic database with regular functions for querying slow or no action, and summarizing progress is vital for government to maintain its commitment and credibility for a truly nation-wide and significant program. The information generated should be widely available and will serve as a source for estimating the level of development investment and how it is most effectively used.
(iv) MRRD will be responsible, directly or indirectly for communities' skills training. It might do this through regular assessments of requirements in districts for managing community programs, and responsibility for contracting or arranging for specific training.
(v) MRRD will maintain technical skills to assist provincial offices and communities in designing and assessing projects, as well as auditing performance under community grants. Most engineering work will be outsourced to the private sector, leaving MRRD with responsibility for supervising and monitoring performance.

A. Capacity Building

1. Community capacity building in basic community management skills

67. The process whereby communities become increasingly responsible for identifying, planning and implementing development activities requires practical training for CBO leaders in management and administration skills. An ancillary result of the training is to prepare community members for dialogue with government and NGO administrators over specific program requirements and available resources, thus avoiding the confusion and sometimes conflict brought about by the process of local identification of needs and provision of resources through national programs. Useful capabilities for community leaders and members include:

(i) Participatory rural appraisal (PRA), and planning, including basic mapping, prioritizing, and assessment skills for project development. PRA is a popular tool with development agencies and NGOs, but it does not require initiation by them once community members learn the basic requirements and skills. In fact, a good deal of basic survey work can be accomplished by community members, for example in providing detailed information on numbers of beneficiaries in a

watershed area, women and children among the village population, agricultural potential of the area as indicated by past histories of production, etc.

(ii) Illiteracy is common in Afghan communities. Basic literacy and numeracy skills are invaluable in enhancing the degree of communication between villages and with assistance agencies, and in increasing the levels of mutual confidence. Basic accounting is a key requirement for sustainability within Community Based Organizations.

(iii) Organizational, meeting management and conflict resolution skills.

(iv) Project management, reporting and monitoring.

68. Training may be provided in many ways, through NGOs or other agencies or through experience working with survey teams. Over time, it is crucial that some commonality of approach and standardization of skills training for communities be instituted. How to bring that about in the medium term would best be addressed through dialogue and establishment of an Afghan Community Development Institute, working with Afghan institutions and private sector individuals, as well as NGOs, and UN agencies currently operating in this field.

B. Ministry of Rehabilitation and Rural Development

69. MRRD has a large number of staff, including compliments of engineers, surveyors, and accountants. Some of these will become members of the implementation cells at the national and provincial levels; other professionals and technicians will be recruited from the private sector. Many Afghan professional people have experience working with NGOs and the UN in community-centered programs, and that background will be invaluable. The capacities that should be strengthened within MRRD include:

(i) **Database management.** The rapid expansion of proposed projects requires immediate establishment of a projects database for archiving requests, tracking decisions regarding proposed projects, and the rate and level of implementation at any given time. Regular reporting and monitoring of implementation will be a requirement of both MRRD and the multilateral banks. Creation of the database within a ministry with only a very low level of computer skills (2 computers used for word processing) requires:

  (a) Basic computer skills

  (b) Database construction and management, including ways of communicating with provincial offices and including timely updates to the data archives.

(ii) **Monitoring.** Support to community organizations, their growth and development, implementation of planning and construction programs all require careful monitoring for effective management. Currently, MRRD tracking capabilities are basic, but should be upgraded to include regular processes of expenditure, construction, and project quality. Existing post project audit skills can be upgraded for useful monitoring, but they should also be expanded to include information on benefit incidence, and overall socio-economic impact.

(iii) **Technical upgrades in appropriate skills.** PRA, and other rapid survey skills, as well as the structure and format for common and comparable survey results will have to be taught. Initial environmental examinations should also be within the skill capabilities of MRRD staff involved with small projects.

(iv) **Planning.** Planning for village specific development and for comprehensive, coordinated district economic growth requires skills of economic analysis, rates of return, and budgeting that are not the strong suit of MRRD at this point.

Decentralized decision making within provincial or someday even district offices requires a good knowledge of economic relationships and linkages and integrated planning. Regular in-service training in these fields is vital.

(v) **Financial Control and Audit**. MRRD abilities to manage funds and be fully accountable for them will require improved systems and skills development.

VIII. POLICY REQUIREMENTS

70. Two policy issues arise in implementing a community driven development program for Afghanistan. Both derive from the stated commitment of the AIA to empowering communities and ensuring that they have a significant role in development.

A. Decentralized Planning

71. Community empowerment requires decision-making by those most closely involved with local needs. Central government has a major support role in bringing about budgetary and international donor assistance, but is less useful in conducting detailed needs assessments, project selection, and the project implementation process required of effective community driven programs. Significant planning and implementation authority, as well as the authority to commit resources, initially at the Provincial level, will ensure that community leaders and government form the effective partnership envisioned by the AIA. This is a significant change in government culture and operations, requiring clear and detailed definition of lines of authority, reporting expectations and monitoring capabilities. A significant element of decentralized ministry operations is their relationship to local government operations under provincial governors.

B. Commitment to institutions and methods of community empowerment

72. A national program of community empowerment is a significant commitment by any government. The nature of the commitment requires clarification in terms of its institutional implications and its effect on the process of governance.

73. In Afghanistan, there are no institutions able to define the needs, the model and the standards for community development. Support and assistance from central government is vital in orienting future community-based programs and in setting the agenda for participation by rural communities in improvement of livelihoods.

74. NGOs, UN agencies and Afghans with recent experience working with communities have a great deal to contribute to creating an Afghan approach to participation. The Community Development Working Group established by NGOs operating collaboratively with communities is a useful precursor to an Afghan organization responsible for support to the empowerment process. The government might establish an independent agency in the form of an Afghan Community Development Institute, with a brief to initiate and moderate a dialogue among interested parties and communities, and seek ways in which to support community education in participation and community management. Government and donor agencies might provide support, but the Institute would work most effectively independent of direct political control.

IX. TECHNICAL ASSISTANCE REQUIREMENTS FOR COMMUNITY DEVELOPMENT

75. There are 3 areas where technical assistance will be required by MRRD and communities in implementing the proposed program. These inputs will not be mutually exclusive to other components of the proposed agriculture and natural resource program.

76. The technical assistance for planning and community development involves 3 aspects: provincial planning and monitoring; dialogue and community participation and database management. Support to MRRD and communities in strengthening a community-driven approach to rural development requires a strong provincial planning capability, supported by the Ministry in Kabul. The capability to plan a large number of relatively small-scale projects with communities also requires discussion within MRRD, NGO and private sector, and to effectively manage and monitor the program will require a database management.

A. Provincial Planning and Program Monitoring.

1. Summary description

77. The consultant will work closely with the Ministry of Rehabilitation and Rural Development in creating provincial offices. This assistance will help define district and provincial planning functions consistent with the community-centered approach, establish clear responsibilities and functions for provincial offices within the program, and define policy, functional and logistical requirements for resolution.

2. Justification

78. MRRD has operated through provincial offices in the past, but in a manner of direct support to project implementation. Under the ADB-supported activities, provincial offices will operate much more as guides, advisors and providers of information, and as managers of technical advice, contracts and finance. These are substantially different activities for MRRD that should be consistent with private sector implementation, and a high level of technical and program oversight and support by government.

3. Terms of Reference

79. The consultant will work as advisor to the First Deputy Minister Technical of the Ministry of Rehabilitation and Rural Development. Products of the consultancy will include a) assessment of provincial office requirements for planning; b) guidelines for provincial office operations including operating procedures for employment and direction to survey teams, collection and analysis of data, communication of requirements and plans to MRRD, c) policy recommendations, and d) personnel, operational recommendations for decentralized operations. Finally, e) the consultant will participate in planning and implementing district surveys.

4. Deliverables

80. The consultant will take a major role in arranging for and coordinating seminars, workshops or other actions in support of government, NGO and private sector dialogue in support of community development and decentralized program planning. In addition, the consultant will assist in establishing survey instruments and methods, linking closely with other survey teams of WFP, FAO, UNICEF or NGOs to maximize effective coverage of selected

geographical areas most in need, and securing of relevant statistical data for creating an effective planning system.

5. Time frame

81. The consultant should start this assignment in concert with the beginning of funds distribution from ADB.

6. Qualifications of the consultant

82.. Skills in participatory planning, participatory rural appraisal, decentralization, and institutional development. The consultant will have experience with policy and decentralized program development in South or Central Asia.

7. Logistical arrangements

83.. Good transportation facilities to facilitate visits to provincial and district centers.

B. Dialogue and Community Participation

1. Summary description

84. The consultant will work with MRRD, NGOs and local, provincial or national bodies supporting creation of an Afghan approach to community participation. The assistance will provide Afghans with valuable lessons from other parts of the world, especially nearby countries and with recommendations on realistic and effective means to strengthen participatory mechanisms.

2. Justification

85. NGOs that have been working in community programs and UN agencies have no common approach to empowerment and participation. The process of dialogue over what is appropriate and can be supported in Afghanistan requires facilitation and a broader range of experience and example from the rest of the world.

3. Terms of Reference

86. The consultant will work closely with the Provincial Planning and Program Monitoring consultant to propose methods and procedures for improving community participation, with special reference to equity and benefit incidence, as well as effective community resource mobilization. This assistance will be integrated with recommendations for decentralized program planning and implementation for MRRD.

4. Deliverables

87. The consultant will be a focal point for workshops and seminars, initially working through and with the Community Development Working Group made up of interested NGOs, to address specific requirements for large scale, programmatic support to community development in Afghanistan. Recommendations in written form, including a policy agenda, recommended methods and requirements will be provided to MRRD, UN agencies and NGOs, and presented in public meetings in provincial centers, to community leaders. The consultant will recommend

locations outside of Afghanistan for study tours to benefit MRRD, private sector and representative community members, and may accompany these tours.

5. Time frame

88. This assistance will be intermittent, made up of 3-4 visits in the first year of program implementation, each comprising 4-6 weeks in country.

6. Qualifications of the consultant

89. Work with village level community development programs at a senior level, with knowledge of obstacles to community organization and the means of providing support for enhancing community responsibility, not dependency. The consultant might belong to an organization involved with the design and support of community programs.

7. Logistical arrangements

90. Good transportation facilities to facilitate visits to provincial and district centers.

C. Database Management

1. Summary description

91. Assistance to MRRD in designing and setting up electronic databases for small project registry, tracking and monitoring.

2. Justification

92. A functioning database is critical to the success of support to the small infrastructure; its absence would seriously impair the ability of the government and the ADB to establish credibility with communities in rural provinces, and guarantee delivery of services.

3. Terms of Reference

93. The consultant will define hardware and software requirements, and design electronic database entry formats, robust enough to handle the process of data accumulation in the provinces and the need for reporting at the provincial and national levels. A valuable part of this assistance will be working closely with MRRD staff to ensure that data input procedures, archiving requirements, and reporting formats are developed and functioning.

4. Deliverables

94. A functioning small infrastructure database, with querying functions and defined reporting formats; this will include documentation for database management in detailed form.

5. Time frame

95. Four months, with the initial 2 in defining requirements and formats, and the last 2 spent working closely with Ministry staff.

6. Qualifications of the consultant

96. Background in database management, and information systems development, as well as demonstrable ability as a trainer in database design and operation.

7. Logistical arrangements

97. Computer hardware and appropriate software for MRRD offices.

Annex 1

EXPERIENCE FROM PAKISTAN[1]

1. A community development model for Afghanistan will evolve over time, and through the determination and choices by Afghans about what suits them. As that process goes on, it is useful to look at other programs in other countries to gain some insight into what works and what does not. In this light, there are some very useful lessons to be learned from across the border in Pakistan.

2. The community level service delivery model originally pioneered by the Aga Khan Rural Support Program (AKRSP) in northern Pakistan and currently expanding in various forms into other parts of Pakistan and Tajikistan would be instructive to consider for adaptation to the Afghan environment. The professional and village training capacity that exists in Pakistan would serve Afghanistan well as a demonstration area and as a prime destination for study tours.

3. The AKRSP model of NGO effort could contribute usefully as one model for the creation of a community-driven development approach for rural Afghanistan. There are other models in other countries that would equally contribute to the formulation by Afghans of a truly acceptable national approach to empowerment of rural village people. Serious mobilization of local resources by communities is a valuable complement to strategically aimed assistance by governments and donors.

4. In Pakistan, there are several models that would be instructive for Afghan decision makers to review with an eye toward establishing community-based approaches in Afghanistan. AKRSP, the Sarhad (Northwest) Rural Support Program (SRSP) and the National Rural Support Program (NRSP) are similar, but with some differences of approach and function. SRSP has a partnership with the Government line agencies as well as with the Planning and Development Department of the North West Frontier Province and acts in close concert with government agencies. This is different from AKRSP where all technical and financial inputs come from AKRSP itself, predicated on village mobilization of local resources. In the SRSP model, government agencies have a major role to play in providing technical support but leave the NGO to manage social mobilization. NRSP is different in that as a national NGO, its primary focus is on Human Resource Development and credit. It helps establish and supports provincial and district NGOs and CBOs (Community Based Organizations), which actually undertake community programs.

5. AKRSP and SRSC have grant elements in their assistance to communities, while NRSP has a harder, but perhaps more sustainable approach in seeking to mobilize communities to respond to their own needs. Notwithstanding these few differences, the AKRSP, SRSC, NRSP approaches have the singular advantage of creating a real difference in the rural areas within a relatively short span of a 5-8 years, and they enhance effective community-level absorptive capacity of development assistance by emphasizing local level planning and commitment. While the sustainability of all these approaches can be questioned, that may not be a useful approach. More importantly, they are effective in mobilizing community resources and empowering people to organize and address poverty and development at the level where their direct action is meaningful. Undoubtedly, village organizations and the ways in which they

[1] Section based in part on personal communication with Mr. Tariq Durrani, board member of AKRSP, Dr. Rashid Bajwa, Chief Executive Officer, NRSP and Dr. Najmi Kanji, Aga Khan Development Network Programme Coordinator for Afghanistan.

receive assistance will evolve over time, as the rural areas develop economically, and become more closely integrated with the nation.

6. The potential for using the models in Pakistan to provide educational tours, conferences, and training for a national community empowerment program in Afghanistan is worth review. Through FOCUS, the Aga Khan Development Network has initiated programs in Afghanistan, as well as a program in Tajikistan.

7. Models from other countries will be instructive. Their value is to provide input for creation of a specifically Afghan program, with Afghans in charge and adapting the model and other international best practices to the Afghan situation.

AFGHANISTAN

NATURAL RESOURCES AND AGRICULTURE SECTOR

APPENDIX 5

AGRICULTURE (CROPS)

I. BACKGROUND

1. Since the Soviet Invasion of December, 1979 and throughout the subsequent turmoil up to the present day, the agriculture sector in Afghanistan has suffered damage and dislocation. Traditionally, the sector has provided a way of life and a livelihood for 85% of the country's population, produced enough foodgrains so that the country was basically self-sufficient and produced an appreciable surplus of high value horticulture crops such that horticulture exports accounted for 40% of total foreign exchange earnings in the late 1970's. In all, about 3.5 million ha of land was cultivated in the pre-1979 period of which 2.43 million ha was irrigated. The extent of land currently under irrigation is uncertain. 1993 satellite data[1] indicate that at that time the amount of land cultivated had not changed significantly, despite known damage to irrigation systems, while more recent data[2] indicate a decline in cultivated irrigated area to about 1.5 to 1.7 million ha. The area planted to rainfed crops fluctuates considerably from year to year; depending on climatic conditions, but in a good year, may be as much as 1.4 million ha. In a drought year this area can be reduced to less than 300,000 ha.

2. The principal crop grown is wheat, both winter and summer, and its production is highly dependent on irrigation. The FAO 1997 Afghanistan Agriculture Survey estimated that both prior to 1979 and at the time of the survey 80% of wheat production came from irrigated areas. In recent years, due to drought, this percentage has significantly increased so that in 2001 only 5% of wheat production was rainfed.[3] Other minor cereal crops include rice, maize, barley and cotton, the total area of which in 1976 amounted to 1.1 million ha. Similar figures were reported in 1996 but by 2001 their production had also dropped significantly to a total of about 300,000 ha, most likely also because of the prolonged 3-year drought between 1999 and 2002. Fruits and vegetables are important crops, more because of their value than the area they cover. In 1978, 140,00 ha of the irrigated area was planted to orchard crops and 90,000 ha were planted to vegetables. By 1996 the area under orchard cultivation had dropped to 70,000 ha while the area under vegetables remained the same. Figures for subsequent years are not available.[4]

3. A review of the literature on the agriculture sector in Afghanistan indicates the rural population has been resilient during the long period of conflict. The 1997 FAO survey indicates that by 1996 the rural areas were well on their way to recovering from the damage done to their land, irrigation systems and crops by nearly 20 years of war. Unfortunately, a further 5 years of civil war and drought has caused further damage to the physical and social infrastructure. During field visits, areas where the infrastructure remained more or less intact were observed to still be producing good crops of fruit and grain. Even in some of the most devastated areas of the Shamali Plain recently returned villagers were seen starting to repair damaged irrigation systems and replanting horticulture nurseries. With a period of peace, favorable climatic conditions, technical and financial assistance, it will be possible to reestablish the agriculture sector as a sustainable, productive base for Afghanistan's economy.

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1 Afghanistan Agriculture Survey, Food and Agriculture Organization of the United Nations, Rome, 1997

2 Special Alert No. 315, FAO/WFP Crop and Food Supply Assessment Mission to Afghanistan, June, 2001

3 *ibid*

4 In all likelihood the irrigated horticulture area has suffered even further destruction. Visual inspections of areas close to Kabul, such as the Shamali Plain indicate widespread damage to fruit growing areas and their irrigation systems. This damage was inflicted by the Taliban in the post-1997 period. Reports from other areas indicate similar further damage in the period since the FAO survey.

II. CEREAL PRODUCTION: ISSUES AND NEEDS

A. Pre-1979 Situation

4. Prior to 1979 cereal crops were grown on about 4.4 million ha. By far the major crop was irrigated and rainfed wheat which accounted for 3.4 million ha of the above total. Other major cereal crops included barley (320,000 ha), maize (484,000 ha) and rice (210,000 ha). Barley and maize were grown principally as fodder crops for livestock whereas wheat and rice were grown primarily for human consumption. With an estimated population of 13 million, production from these areas provided Afghanistan with, more or less, the grain supply it needed to feed its people. Yields for all crops were modest but for wheat had been increasing regularly over the preceding two decades. This was directly linked to increasingly widespread use of a package of modern seed and inputs. Improved seed from CIMMYT had been initially brought into the country in the 1960s and its adoption by farmers was very rapid. A concurrent increase in chemical fertilizer use occurred[5] and figures indicate that the consumption of urea increased from 3,000 tons in 1967/68 to 54,300 tons in 1976/77. Similarly the use of DAP[6] increased from 6,600 tons to 27,000 tons over the same period. This represents both a very rapid growth and rather high levels of fertilizer use. Reports indicate that 79% of farmers used urea or DAP or both. As a result of these technological changes yields of up to 3 tons of wheat per ha were achieved in irrigated areas as opposed to traditional irrigated yields of between 0.7 and 1.4 tons per ha.

5. In general, aside from the increasing use of fertilizers and improved seed, particularly for wheat, the production technology for cereal crops ranged from the primitive to the modern. In most of the country production was undertaken on relatively small plots using animal power for land preparation, with much of the weed and pest control and harvesting being done by hand. At the other extreme, large extensive farms, especially in the north of the country where there are large rainfed areas, were prepared by mechanized ploughing with equipment often provided on lease by the Ministry of Agriculture. Mechanical harvesting was also common in these areas.

B. Current Situation

6. The FAO/WFP figures through to 2001 show a drop in the area of cereal crops from 2.8 million tons in 1998 to 2.1 million ha in 2001. The most pronounced drop during this period is in rainfed wheat and secondary cereal crops which both show declines in area of about 300,000 ha respectively. The reduction in the irrigated wheat area during this period is relatively minor (about 78,000 ha), indicating that any major destruction of irrigation facilities had taken place before this period.

7. In terms of levels of agriculture technology, these appear to have continued to advance even during the period of conflict. Figures in the 1997 FAO Afghanistan Agricultural Survey indicate that by 1987 the combined fertilizer use in the country had increased to 157,000 tons, and while no later figures are available, the Survey indicates that estimates made by NGOs indicated a use of fertilizer and improved seed by 77% of farmers in the country. Fertilizers and improved seed were used on almost all crops, but primarily on irrigated wheat and rice. The impact of this continuing increase in the use of modern technological packages is reflected in figures showing yield increases in irrigated wheat to 1.4-3.1 tons per ha (depending on the region) in 1991 from 0.7-1.4 tons per ha in 1966.

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[5] Afghan farmers have traditionally used high levels of natural fertilizers such as animal manure.

[6] di-ammonium phosphate

8. The role of NGOs as well as UN agencies, particularly the FAO, must be recognized in continuing to successfully promote advances in agriculture technology. Several NGOs such as the Swedish Committee on Afghanistan and DACCAAR have had long-term projects throughout the years of conflict and have successfully promoted agriculture intensification programs. Of particular note is the seed multiplication program of FAO, which has resulted in the development of a wide cadre of several thousand contracted private sector seed producers. There is thus already within the country a widespread knowledge of and experience with improved techniques of cereal cultivation. This includes the use of agriculture mechanization, which had also been spreading, at least until the mid-1990s. The 1997 Survey indicates that in 1996 about one third of the country's farmers used tractors for land preparation, again, mainly in the northern areas.

9. Currently there are reports that levels of improved agriculture input use is declining and that improved seeds and fertilizer are not as readily available as they were. In most part of the country seeds and fertilizer are readily available in the market although there may be some shortages of DAP since it must be transported through Pakistan. There is also a problem with quality of some seeds and fertilizer on the market, which is not consistent with the labeling on the packaging. This is occurring due to the lack of a certification system. In addition, there are programs by many donors to provide supplies of these commodities. Under the Future Harvest Consortium involving ICARDA both seeds and fertilizer are being provided (with finance from USAID), with the next procurement of seeds to be made from locally contracted growers rather than imported.

10. While inputs are available, many farmers currently lack the resources to purchase them, especially those farmers who have been displaced by the conflict and are now returning to their homes or have suffered from several years of poor crops as a result of the drought. Unfortunately, without a functioning rural credit system, only those farmers who have access to the rural credit programs of NGOs or to the informal credit sector (family members or money lenders) will be able to purchase the inputs they need in the next cropping season. Cereal production will thus, probably continue to be well below its potential levels until a degree of prosperity returns to the rural areas.

11. A large percentage of cereal crop production (80 to 85%) is dependent on the supply of irrigation water. Without major repairs to the country's irrigation infrastructure overall production of cereal crops (and in particular wheat) will continue to be significantly less than is needed to feed the country's expanded population.[7] In the medium term, with improved access to inputs and repair and rehabilitation of the irrigation infrastructure, food sufficiency should be achievable.[8]

12. Large areas of agricultural land have been mined, notably those areas along the front lines of continuously changing battles between and among an array of armed forces, and until cleared this will impact at a local level, reducing potential total arable area and agricultural production.

13. This year there is a risk of major cereal crop losses in the north of the country due to locust attacks. As a result of neglecting locust control measures over the past three years, populations of locust are building up to levels, which could prove devastating to large areas of

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[7] Currently estimated at 18 to 20 million as opposed to 13 million in 1979

[8] Ideally it would be possible to show some notional calculations indicating this, but with the discrepancies and uncertainties in figures on the country's population, the area currently irrigated and the area currently planted to various crops it would be meaningless. This statement is thus based on a "guestimate" of the potential production with improved technologies should, say, 80 % of the 1979 level of irrigation coverage be restored.

both rainfed and irrigated crops. Control measures are under way, with urgent action taken with the assistance of USAID and DFID, under the coordination of FAO, and in conjunction with the government of the AIA and the provincial governments. While the current response is to address the immediate problem, it reinforces the critical importance of a plant disease control program.

C. Short Term Needs

14. There is considerable potential for productivity improvements even allowing for the low and variable rainfall regime. ICARDA has promoted drought tolerant varieties and cultural practices for cereals, legumes and forage crops that would significantly increase returns and could double current yields. With extensive and well-designed micro-watershed management and the adoption of micro water harvesting techniques the potential to treble current yields is available.

15.. The potential to improve rainfed cereal yields suggests that rainfed farming could play an important role in agriculture sector recovery. In the longer term the possibility of Afghanistan being able to produce around 1.5 to 2.0 million tonnes of cereals annually, from its rainfed farming areas could transform agricultural development. Food security concerns could be relegated to very specific marginal areas, and high value irrigation water could be used, for the most part, to grow high value cash crops. A further advantage of such a strategy is that it is based on the careful management of micro watersheds, which means that communities are drawn into an integrated approach to resource use combining water, forestry, rangeland and crops. This is the traditional Afghan approach, which has largely broken down in the course of the past 20 years.

16. The bulk of agriculture production comes from irrigated areas, thus, the first and foremost need is the rehabilitation of irrigation systems destroyed or neglected over the past 23 years. These may be simple village level schemes, or, where feasible, larger schemes, which can be rapidly but back into operation or can rapidly, expand existing coverage with relatively minor repairs. The second major short term measure is a mapping and the removal of all mines in populated and agricultural areas.[9] The next would be to provide finance and funding to the population of the rural areas to allow them to purchase the inputs they need to continue production or, in the case of returning refugees and IDPs restart their lives as productive farmers. A fourth and equally important short-term priority is to improve and upgrade transport links (both major and minor) so that fertilizers and seeds can be supplied to the rural areas and produce can be marketed.

D. Medium Term Needs

17. Medium term needs for the cereal crops subsector include measures to bring production back to at least 1979 levels within the next 5 years and to expand the use of improved technologies which could raise production levels even further (if returns to the sector warrant this after food sufficiency has been attained). They also include measures, which will ensure the sustainable and profitable functioning of the subsector beyond the medium term. Upgraded and improved access to water will continue to be the first priority well into and beyond the medium term. Improved market access and linkages will also be important, both for the provision of inputs and the marketing of produce. Also important will be enhanced access to rural credit and

[9] This is obviously the first priority in terms of human welfare but is listed second in view of the localized nature of the mined areas and the overwhelming need to get the irrigation systems functional.

agricultural services, both public and private sector. Access to rural credit will enable a wider use of improved technological packages as well as increased mechanization (where valid) and will allow at least some farmers to move to commercial levels of production rather than semi-subsistence. Improved services will assist and guide farmers in adopting new technologies and dealing with individual production problems (soil fertility, erosion, crop pests) and assist the farming community to deal with catastrophic events (such as locust infestations), which are beyond the capacity of individual farmers to deal with.

E. Medium Term Strategic Framework

18. A medium term strategy for cereal crops would entail building up a physical, financial and policy environment within which cereal crop production could be maximized. The physical environment would entail improved dry land farming techniques, the removal of mines and the improvement of rural transport. In terms of an improved financial environment, the first and only practicable short term measure would be to try to provide finance to the rural population by sponsoring rural works programs which would give them cash in hand to enable them to purchase agricultural inputs, invest in equipment and begin to restart their lives. If this could be done while at the same time improving the physical environment (improved irrigation and rural roads) then so much the better. Within a longer time frame an equally important element of a medium term strategy would be the provision of a functioning rural credit system which would allow farmers without their own sources of working or investment capital to adopt improved practices and expand their production base. Improving the policy environment would entail adopting market-oriented policies, which encourage full and free trade of inputs and outputs within the sector and encourage private entrepreneurship in the provision of services to farmers. Complementary to this would be an enhanced regulatory and supervisory function of the public service to ensure standards and quality. Further enhanced functions of the public sector would entail a role in the proactive promotion of improved agricultural practices, the monitoring of the sector and the mobilization of resources required during emergencies and crises.

F. Policy Implications

19. A conducive policy environment will be required to ensure that the agriculture sector as a whole and the cereal crop subsector in particular (which makes up a major part of it) can function freely under private sector conditions. This means that regulation of input and output markets will be restrained only inasmuch as there is a need to ensure quality products are placed on the market and that these products will be marketed without artificial subsidies or quotas. Public sector involvement in the subsector should be aimed at providing the core functions required by the sector,[10] with the appropriate resources and staffing level to function effectively. In view of the importance of rural credit provision to the adoption of new technologies and the expansion of cereal crop production, appropriate rural finance policies will be required.

G. Suggested Projects and Technical Assistance

20. Specific project or technical assistance interventions outlined under the sections on water resources and irrigation, rural infrastructure, rural finance, agricultural services and land management will all impact primarily and directly on the cereal crop subsector, and for this reason no additional interventions are proposed.

[10] Policy and planning, quality assurance systems, certification and regulation, agricultural research and technology transfer, and disease control.

III. HORTICULTURE AND INDUSTRIAL CROPS

A. The Pre- 1979 Situation

21. Very limited information is available on the horticulture and industrial crop subsector. The 1997 FAO Survey indicates an area of 140,000 ha of orchards, 92,000 ha of vegetables, 112,000 ha of cotton and 5,000 ha of sugarbeet were planted in 1976. There is no breakdown of either the orchard crops or the vegetable crops although it is known that horticulture crops consisted of significant areas of grapes, apricots, apples, almonds, walnuts, mulberries and melons. Raisins, dried apricots and almonds numbered among the country's major exports. Vegetables included large areas of potato, which is a common element in Afghan diets as well as onions, tomatoes and eggplant. Potatoes were grown widely at high altitudes in such areas as Bamiyan and in some areas under rainfed conditions. Horticulture crops were grown almost exclusively in irrigated areas.

22. While horticulture crops covered only a small part of the total agricultural and irrigated area economically they were very important. They were primarily high value cash crops, which at the same time broadened the nutritional base of the population. In the pre-1979 period, horticulture exports provided as much as 40% of the country's foreign exchange earnings.

23. Cotton was the major industrial crop in the pre-1979 scenario, also in this period a small area of sugarbeet was grown. Another crop, which was grown extensively but about which there is little data, was opium poppy. This crop has a long history in the region and was grown both for cash, as a locally consumed narcotic and as a traditional medicine.

B. The Current Situation

24. There is no available information on the current status of horticulture production, according to current information provided; the orchard area had declined from 140,000 ha in 1997 to 70,000 ha. During this period vegetable area had remained more or less constant at 90,000 ha. Sugar beet had declined to only 2,000 ha and, opium poppy was recorded on 74,000 ha, mostly in Helmand and Nangarhar provinces where 54,000 and 15,000 ha were planted respectively.

25. Re-establishing and replacing orchards involves a large capital investment, the availability of proper rootstock and improved motherwood (for grafting), which must be developed, and has lead-time of usually 4 years or more to come into commercial production. Using poor rootstock will increase risk that the plants may be prone to soil borne diseases and insect infestations, while the use of low quality motherwood will result in low quality produce. Moreover, observations during field trips and anecdotal reports indicate that the damage to orchards may have continued after 1997. Severe damage was observed on the Shamali Plain, most of which occurred in the post-1997 period. It is fortunate that at least the grape crop is hardy, and are likely to survive even under current drought conditions. Some of the vineyards observed seemed to have the potential to be brought back into production.

26. The 1997 FAO Survey indicated that while cotton is still grown (in the north) it is no longer processed inside the country. Sugarbeet production seems to have stopped almost entirely, although a large factory in the north is said to be intact. With regard to opium poppy cultivation, production was almost completely eradicated under the Taliban regime enforcement from 2000. It was reportedly resumed with large areas of Helmand and Nangarhar. Previously

these 2 provinces were the major producing areas with small areas grown in a number of other provinces.

C. Short Term Needs

27. The most important short term needs of the horticulture sector include the restoration of irrigation and the identification and removal of minefields. Without these 2 activities it will not be possible to rehabilitate much of the area formerly in horticulture production.

28. In terms of project and technical assistance interventions what is seriously and quickly needed is a small technical assistance to assess the damage to and needs of the horticulture sector; assess past and on-going rehabilitation efforts by FAO, the NGOs[11] and the Government and to determine sources of planting material and modes of financing a rehabilitation program.

D. Medium Term Needs

29. The medium term needs of the horticulture and industrial crops subsector again resemble those of the cereal crop subsector: physical, financial and policy environments which are conducive to private sector initiative in crop production and marketing. Indeed they differ only in degree. A meaningful target for the medium term in terms of the physical environment would be the sustainable operation of all irrigation schemes, which are readily repairable, and the removal of mines from within horticulture areas. Improved physical access to markets is especially important for horticulture crops which tend to be bulky and easily subject to damage during transport, while access to inputs both fertilizer and pesticides is also important to enhance both production and quality. In terms of the financial environment horticulture needs are somewhat different from those of cereal crops. The major investment for perennial horticulture crops (i.e. tree and vine crops) occurs during initial planting when rather large investments are required at one time. Subsequent financing of operational inputs is not such a problem. Cereal crops, on the other hand require continuous annual financing of operational inputs year after year. A rural credit system is thus needed which can provide rather large sums to farmers wishing to enter or rehabilitate tree crop production, and this factor needs to be taken into account when devising a rural finance system. With regard to the policy environment, as with cereal crops, a policy environment will be required which allows the full play of private sector initiative with public sector involvement limited to core activities and functions, research quality control and regulation, disease control, policy planning and monitoring.

30. The horticulture sector will require assistance in devising ways to add value to the products of the subsector. This may entail better packaging and grading, improved storage chains and sourcing high value specialized or off season markets in the rest of the world. A further medium to long-term need would, ultimately, be the need for participants in the sector to begin to act in concert and cooperation with each other in setting produce standards and accessing markets. There would thus, at some period, be room for the establishment of producer organizations and/or cooperatives, to gradually take an increasing role in the post-harvest management of horticultural produce.

31. In terms of specific medium-term investments aimed at the horticulture and industrial crops subsector, in addition to the restoration of irrigation, the removal of mines, the primary

[11] During the mid to late 1990s the FAO in cooperation with NGOs had a major program of nursery establishment using private growers. It is understood that around 150 private nurseries were established throughout the country but that the program was suspended towards the end of the decade.

need is the provision of high quality planting material. This to be combined with the restoration of an adaptive research capacity, commercial nurseries with improved and guaranteed planting material, and development of systems to provide farmers with advice on species, varieties, plant pests and possible post-harvest treatment and handling.

32. Alternative cropping enterprises and livelihood programs will need to be targeted, and integrated in the overall development activities in the area. To drastically reduce the incentives for opium poppy production, will require a national program and strategic interventions that target alternative livelihood activities, and an effective drug law enforcement program.

E. Medium Term Strategic Framework

33. A medium term strategic framework for horticulture and industrial crops will be very similar to that of the medium term framework for cereal crops. The strategy should focus largely on individual farmers as entrepreneurs, and ensure that they are able to function efficiently and effectively, with a minimum of physical, financial and institutional/legislative constraints. A greater focus should be placed on adding value to the high value crops produced within the subsector, and ensuring that the subsector is well-served by access to high quality planting material, sound production and post-harvest advice and effective insect and disease control. Initiatives aimed at expanding the subsectors markets should also be an integral part of the strategy. Moving from the medium to the long term, a strategy for the subsector could also encompass assistance in setting up producer organizations or cooperatives with a post-harvest management and marketing responsibility.

F. Policy Implications

34. Policy support for the horticulture and industrial crops subsector should be based on similar principles as the cereal crops subsector (refer para 19).

G. Suggested Projects and Technical Assistance

1. Short Term

(i) Horticulture Subsector Assessment (Technical Assistance, refer to Appendix 1)

2. Medium Term

(ii) Horticulture Rehabilitation Project Investment Program (or incorporated as a component of community based irrigation rehabilitation program)

IV. AGRICULTURE SECTOR SERVICES: ISSUES AND NEEDS

A. Pre-1979 Situation

35. Prior to 1979 agriculture services were primarily provided by the public sector through the Ministry of Agriculture and Animal Health and its associated public or quasi-public sector companies. These included the Afghan Fertilizer Company and the Improved Seed Company. The Ministry had a staff in the thousands[12] at all levels of the public administration down to the district and involved itself in all aspects of agriculture production from the supply of inputs, to the

[12] About 8,000 former employees are currently eligible to rejoin the Ministry under the Government's current policy.

provision of animal vaccines to the promotion of plant protection campaigns. The approach the Ministry appears to have taken during this period was similar to that in centrally planned economies. While there were some state farms most of the production remained in the hands of individual peasant farmers. Its development role in the 1960s and 1970s, and promotion activities resulted in more or less nationwide use of fertilizers, improved seed, technologies and improved horticulture planting material. The approach taken during that period was valid and similar to other developing countries in the region.

36. Prior to 1979 there was also a functional and extensive agriculture education system in place and operating. The Universities of Kabul, Kandahar, Heart and Mazar-I-Sharif had faculties of agriculture offering degree courses and there was a Higher Institute of Agriculture also at the University of Kabul. At a more technical level there were several agriculture high schools located throughout the country. These institutions turned out competent and well-trained individuals many of whom are currently still working in the sector through NGOs or with international agencies.

B. Current Situation

37. At the present time most agriculture services are provided by NGOs or international agencies such as the FAO and UNHCR, often with bilateral financing. During the years of conflict the United Nations strove to maintain a presence in the country and the FAO was thus in a position to provide a good deal of assistance, often working through NGOs to promote private sector activities such as private seed production contracts and private horticulture nurseries. Indeed some of the NGOs such as the Agha Khan Foundation, DACAAR, the International Mercy Corps and the Swedish Committee for Afghanistan had and still have large field programs aimed at promoting improved agriculture practices. Also, to a considerable extent, the private commercial sector has continued to be active, providing through the market, fertilizer, seeds and pesticides. By contrast, the Ministry is struggling to resume operations. Indeed the assets of the Ministry seem to have suffered during the past 20 years with many of its facilities and buildings completely destroyed. All of its vehicles have been lost, and many of its staff have emigrated or found alternative employment, some with NGOs. At the present time, the main Ministry compound in Kabul still has no water, electricity or telephones. The Forestry Department building has been completely destroyed and there are no vehicles for staff use. A similar situation prevails at the provincial offices, but the degree of damage and dislocation varies between provinces, and currently is difficult to assess. Other valuable assets of the Ministry such as experimental farms and diagnostic laboratories have also been lost or destroyed. Notably, the Faculty of Agriculture at the University of Kabul continues to function, albeit with few facilities, but it appears that the agriculture education institutions in the rest of the country have long ceased to operate. In contrast, the FAO and NGOs have had success with direct farmer training, and methodologies have been developed (such as farmer field schools) to promote and advise on new technologies at the field level. The coverage provided by these organizations is location and region specific, and is limited by financing and capacity constraints.

C. Short Term Needs

38. The AIA National Development Framework clearly states that recovery and reconstruction of the agriculture sector will be accompanied by fundamental changes in policy, institutional arrangements and in administration. The strategy is that public institutions will be restructured to undertake core functions, which will involve a significant departure from the traditional role of the Ministry. Given the current lack of facilities, qualified staff and recurrent

budget funds in MAAH, some assistance will be required to enable it to function to a public institution. While development partners have indicated some support is planned, needs are significant, and it is essential that investment will be supporting likely core functions. Initial assistance could be provided to re-establish capacity to provide essential services on these areas.

39. As part of the review process, assessment and studies are required on agricultural technology transfer (refer to Appendix 7), agricultural education, agricultural extension services and agricultural statistics to determine the most effective and efficient delivery systems. In terms of the institutional change process the initial step will be to establish a planning and implementation group in the Ministry and in selected provinces. These groups will be small in number, and will have a key role in planning and management of programs and projects.

40. A short-term need for planning is to build up a database on the agriculture sector, existing levels of production, existing infrastructure damage and needs on a local basis.

D. Medium Term Needs

41. Implementation of the approved reorganization will establish a public sector institution, which has the capacity to undertake defined core functions and efficiently deliver services. This will require investments in infrastructure, equipment and human resources. As core responsibilities are likely to encompass policy and planning plant disease and pest control certification systems for agricultural inputs and products, animal health and applied agricultural research, this will be the focus of the investment activities.

42. In terms of agricultural education and training, based on an assessment of needs this will involve investment in infrastructure and human resources to re-establish institutions identified as a priority. Partnership agreements with overseas schools, agriculture colleges and universities would facilitate this process.

E. Medium Term Strategic Framework

43. The medium-term strategic framework for agricultural services will focus on supporting the establishment of a reformed and restructured institution with the capacity to undertake core responsibilities, in terms of policy and planning, plant disease and pest control, certification systems for inputs and products, animal health and applied agricultural research. Investments in infrastructure, equipment and human resources will be required to deliver these services. Further assistance may be required to facilitate the development of an effective and efficient private sector for agricultural inputs, services and marketing.

F. Policy Considerations

44. As mentioned earlier sections, a conducive policy environment will be required so the agriculture sector can function freely under private sector conditions. A number of sub-sector studies will be required to determine the most effective systems for agricultural extension service delivery, provision and development of private sector seed distribution systems and as part of the institution review assessments on the requirements for and implementation of key core functions in plant disease and control, and certification systems.

45. Policies will need to be developed so effective systems are established linking government and other agricultural service providers, in particular NGOs and other development and private sector organizations.

G. Suggested Projects and Technical Assistance

1. Short Term

(i) Community Level Agriculture Needs Assessment (refer to Appendix 1)
(ii) Institutional Assessment of the Natural Resource and Agriculture Sector Institutions (refer to Appendix 1)

2. Medium Term

(i) Agriculture Education and Training Project (Loan or Grant Financed)

V. RURAL FINANCE

A. Pre-1979 Situation

46. Prior to 1979 formal rural finance was provided by the Agriculture Development Bank. Established in 1969 under the Ministry of Finance, the Agricultural Development Bank at its peak had 28 provincial offices (there were no district branches) and about 1,300 staff. Traditionally, the Bank provided mainly in-kind loans for farm inputs and machinery, irrigation improvement (including deep tubewells), animal husbandry, beekeeping, orchards, and wheat milling and other agribusiness activities. Loans were appraised by technical staff of the provincial offices, while the Bank's Supply Department was responsible for procuring and delivering equipment and inputs, both as loans and by cash sale, and for providing technical advice and backstopping to farmers. All loans were secured with land or other collateral assets. The Bank at one time offered limited savings facilities, but there was reportedly little demand for these services outside the Kabul region.

47. In view of the nature of the agriculture sector in Afghanistan, which involves widely dispersed smallholder production often in inaccessible areas, bank coverage and farmer access during this period was possibly not extensive. For example, typically, in developing countries in Asia formal credit only reaches about one fifth of the farming population and often the most prosperous farmers rather than the needy ones.

B. Present Situation

48. At present, the Agriculture Bank is essentially insolvent. It has no stocks of inputs or equipment, and is doing no lending. Reportedly, the Bank still has 500 staff, of which 300 are based in Kabul and the remainder are at the 5-6 provincial offices that have managed to remain open during the last decade. Currently the only finance being provided in rural areas is being provided either through moneylenders or by NGOs, several of which have microfinance programs. These NGO programs tend to be in targeted locations and are currently not widespread provincial or regional programs. For the reason, it is likely that most people do not have any access to credit or finance. This would be particularly the case for individuals looking for finance for larger investments, such as the reestablishment of orchards, the purchase of agricultural equipment or the establishment of commercial livestock production.

49. Some steps are currently being taken to assess future rural finance needs. For example, the Agha Khan Foundation in conjunction with IFC will soon be engaged in a study of the feasibility of setting up a microfinance bank in the country. Other development partners have

also indicated interest in rural finance and microfinace. A critical issue will be rural household capacity to access such finance.

C. Short Term Needs

50. Under current circumstances, there are urgent needs for finance in the rural areas. Farmers either recovering from drought or returning to their lands after fleeing conflict, need to finance the reconstruction of irrigation systems, land preparation, seeds, fertilizers, horticulture planting stock, agricultural equipment and new livestock purchases. Unfortunately the time required to reestablish a rural finance service relates more to a medium term perspective than to the short term. For this reason in the short term, households will be dependent on existing systems, and indeed from a strategic point of view, in the short term some of the financial needs of the sector may best be met through rural works programs and projects which will place cash directly in the hands of the rural population who will then be in a position to purchase their input and operational requirements for agriculture production.

D. Medium Term Needs

51. Within the medium term it will be necessary for the country to establish a rural and microfinance system for the rural population. Indeed once production has been reestablished at more or less pre-1979 levels (which should ultimately be possible given the country's land and water resources) further growth will depend to an appreciable extent on the availability of rural credit. Credit will be required to maximize input use, initiate new ventures, initiate agro-processing and value added activities, purchase transport equipment and experiment with new crops and technology packages. The system established will need to be an integral part of the overall financial system for the country and will also need to take into account the range of rural activities for which finance and credit will be required. Some success has been achieved in other countries in the region (Bangladesh, Pakistan and Cambodia) by using the core microfinance activities of NGOs as a basis for the establishment of rural banks, which operate under the guidance, and regulation of a national level apex institution and the country's central bank. Such models and systems will need to be assessed as part of rural finance study.

52. Within this context specific interventions would include (i) advisory technical assistance to review the possible options for a rural financial system, (ii) project preparatory assistance to prepare a structural and policy framework for such a system and (iii) a package of loans and technical assistance to help establish a rural financial system and provide the seed funding for an apex agency.

E. Medium Term Strategic Framework

53. A medium term strategy for the rural finance subsector would be to design a sustainable rural credit system capable of meeting the needs of the rural population. Such a system should cater to all credit and finance needs in the rural areas from minor, small-scale microinvestments to major commercial enterprises. The technical assistance to develop these systems would be followed by loan-based interventions to operationalize the system and to provide the financial and technical expertise needed.

F. Policy Implications

54. The rural finance sector must be an integral component of the overall national finance sector. Its structure and operation must be based on sound financial practices that will involve

the financial sustainability of each individual operating unit, a sound and equitable regulatory framework and adequate capitalization to meet operational requirements. In addition it must be designed with the flexibility to allow for entry of newly qualified organizations and have the capacity to respond to users changing service needs.

G. Suggested Projects and Technical Assistance

1. Short and Medium Term

(i) Rural Finance Options Review (refer to Appendix 1)

(ii) Rural Finance Sector Development Program

VI. MEDIUM TERM DEVELOPMENT FRAMEWORK

55. The key issues, short and medium term needs discussed in previous sections provide the basis for the sub-sector development framework, which is outlined in Table 1. The strategies and interventions to address the short-term needs (institutional, technical, and social policy) are essential to establish the framework and capacity for the larger investments required for the medium term development.

Table 1: Agriculture Matrix

Key Issues	Strategic Objectives/ Indicators	Needs assessment		Policy Agenda
		Short-Term Program (1-2 Years)	Medium Development Framework (2-5 Years)	
Inadequate and outdated dryland farming technology	Maximize rainfed area output	Transfer latest dryland farming methods and mitigate risk of low rainfall	Programs to implement dry-land farming methods	Technology transfer mechanisms
Availability of drought resistant varieties of cereals, legumes and fodder.	Uptake of approved varieties	Multiplication of seed by network of contracted farmers	A private sector led seed production and distribution network	Seed certification and quality control
Fertilizer distribution	Adequate supplies available at world prices	Ensure adequate supplies without undermining private sector activities	Privatise the fertilizer factory and support private sector distribution	Private sector input services delivery policies
Inadequate farm power	Appropriate technology available as needed	Promote farmer organisations and Undertake detailed needs assessment in consultation with farmers recommendations.	Promote machinery hire and machinery coops.	Rural coops and enterprise start-up incentives
Plant protection against selected major pests	Minimize risk of crop losses from major pests	Support MAAH efforts to control pests on an interim basis,	Establish an efficient public sector capacity to control locusts etc.	Scope and funding of public sector plant protection service
Poor on-farm water management	Improve on-farm water management efficiencies by 20%	Rehabilitation of small scale irrigation schemes which include design measures to improve on-farm water management and technology transfer	Irrigation system investments which incorporate improved agreed on–farm water management techniques	Water pricing, cost recovery and technology and irrigation management transfer policies
Badly damaged horticulture industry	A rejuvenated competitive industry	Re-establish nurseries to provide rootstock on a commercial basis	Private sector nurseries established with bank financing	Rural finance and private sector polices
Inadequate market knowledge	Private sector trade association	Marketing studies for horticulture and other potential high value crops	Promote pilot programs for innovative crops especially in poppy growing areas	Trade policies, start-up incentives and poppy substitution
Moribund industrial crops	Competitive private sector industries	Evaluation and if necessary feasibility studies	Approved investment packages with significant private sector partners	Investment policy in agriculture and agro-processing
Inappropriate institutions with large staff number	A reformed MAAH	Institutional review of role and functions of MAAH	Implementation of approved recommendations of institutional review	Public sector /line ministry roles
Capacity building	Well trained MAAH staff	Short–term reorientation programs	Established training and study programs	In-service training policies
Lack of agricultural credit	Commercial agricultural bank (s)	Review rural financial sector development framework for community (non collateral) and asset based lending.	A functioning commercial bank and non bank financial institutions lending to agriculture.	Land ownership and bankruptcy legislation

AFGHANISTAN

NATURAL RESOURCES AND AGRICULTURE SECTOR

APPENDIX 6

LIVESTOCK PRODUCTION AND ANIMAL HEALTH

I. BACKGROUND[1]

1. Livestock are an integral part of the Afghan way of life, providing food (meat and milk), wool, leather and farm power. There is a clear positive correlation between small farm livestock and crop yields, and farm animals may represent a household's only source of cash. Cattle sheep and goats are the main livestock classes, while camels, asses and horses are also important. There are a few yaks and buffalo in localized environments. Poultry were formerly raised in small numbers by almost all rural households.

2. The pre-war national livestock inventory stood at almost five million cattle, 27 million sheep and goats and smaller numbers of the other livestock classes, but estimates of livestock numbers vary widely now. In 1988, after a decade of war, the Agricultural Survey of the Swedish Committee for Afghanistan estimated that 50% of cattle and 70% of small ruminants had been lost, leaving 8.1 million sheep and goats at that time. The most recent estimate of small ruminant numbers puts them at 11.6 million now, of which 4.2 million are believed to be in nomadic flocks. These latter figures were collected during the first years of the drought and it was estimated that drought had also reduced numbers in flocks in the south and west by as much as 60% in some areas. Lower but still unsubstantiated losses in the north and east, were also reported. In November 2000,[2] other estimates of livestock numbers, but without taking into account any drought losses, put the cattle population at almost 3.7 million and the combined population of sheep and goats at 31 million.

3. Crop production provides much of the feed for livestock, but cropping is limited to relatively small pockets of irrigable land occupying less than 10% of total area. Since the conflict, many of these irrigable areas no longer have water. The non-irrigable land is mountainous or is extensive grazing area less than half of which can support livestock during winter. For these reasons livestock raisers now have neither access to animals nor to the inputs for supporting those, which remain. This issue is one of the main short-term challenges for the sector.

II. LIVESTOCK PRODUCTION SYSTEMS

4. There are 2 main livestock production systems. Those of the sedentary villagers where both agriculture and livestock are closely integrated, and the transhumant system in which livestock, mostly small ruminants, move long distances to pasture between summer and winter grazing. The trans-humants hold approximately one third of all sheep and goats. A third, but highly specialized sub-system producing Karakul pelts occurs in the north and is based on about five million Karakul sheep.

A. Poultry Production

5. In the traditional village production system, each household maintained a few birds under conditions of minimal input and output. Many of these flocks have now disappeared, but they were and remain almost exclusively owned and managed by women. The majority of poultry raised are local types having average liveweights of 1.5–2 kg and reportedly producing between 30 and 90 eggs per year. NGO introduced the Fayoumi as a multi purpose bird in

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[1] Information in sections 1 and 2 of this report is drawn in part from Livestock Production Activities of the FAO Program (Olaf Thieme, 2002) and The Role and Size of Livestock Sector in Afghanistan (The World Bank Islamabad, 2000).

[2] UNDP/FAO PEACE Program.

recent years, but its production has been as low as 90 eggs per year. FAO has supplied improved poultry and introduced rearing technology to improve productivity and reports the Golden breed (an introduced three-way cross) as producing between 190 and 200 eggs per year under better village management conditions.

6. There is a considerable demand in the larger cities for poultry products and where there is road access to the cities, these village poultry are readily marketed. As an example, the Yakawlang district of Bamian province is remote, but it supplies considerable numbers of village-produced eggs to the Kabul and Ghazni markets. Provided a marketing system can be established and villagers are able to gain access to poultry foundation stock, there is potential throughout the country for households to benefit from raising chickens in small numbers.

7. Flocks of 50 – 500 birds are raised in backyard facilities in the major cities of Kabul, Jalalabad, Herat, and Kandahar. These are mostly egg producers but some broiler farms have emerged in recent times. In the absence of a large enough chick production facility in Afghanistan, these are based partly on imported day old chicks from Pakistan and from some day old chicks (DOC) produced locally. FAO supported establishment of Poultry Farmer's Associations (PFA) in these centers to supply semi commercial raisers with services, inputs including feed, and production insurance. The PFA in Herat and Kandahar failed for want of good technical support, but he PFA members in Kabul and Jalalabad have some sixteen thousand layers producing about 317,000 eggs between them. These PFA have operated independently for almost two years and the number of semi-commercial poultry raisers producers supporting them is on the rise.

B. Cattle Production

8. Cattle have always been important for cultivation and milk production. Oxen have been the traditional source of traction although tractors were becoming more widely used and were replacing oxen until the recent fighting. Oxen for draft are reported to be in short supply now. Cattle holdings are small with farmers in 1991 reported as owning an average of four head each. Since the drought, farmers producing milk for the FAO project collection scheme are reported to have been reduced to a single animal also. The smallest and poorest farmers commonly try to keep at least one cow to provide for their subsistence needs and farmers generally are more interested in improving milk production from cattle than sheep or goats. In the northern provinces there are no social restrictions on selling fresh milk products, but in the southern and eastern provinces, Pashtun households do not sell fresh dairy products, preferring to use milk and dairy products for improved self-sufficiency.

9. Cattle management differs between regions. In the eastern provinces from Nangarhar in the north to Kandahar in the south, milking cows are usually kept in the house compounds and hand fed. In summer the non-milking animals may be communally grazed in the hills. In the northern provinces and around Herat, communal grazing of all cattle including the cows is common. Cows and bulls mix in the communal herds and opportunity for natural but nondescript mating is high and pregnancies and lactations are as close as possible. Where cows are kept in the homestead and the cost of maintaining a bull is too great, getting cows pregnant as soon as possible after they have calved is difficult. Some owners have bulls and charge a fee for mating, but this practice is not popular. As a result, breeding efficiency among these cows is low and the number of per-cow lifetime lactations are fewer than they should be.

10. Cattle are housed in winter and also during the hottest times of the day in summer. Manure is carefully collected and used as fertilizer or fuel. Cows are milked twice daily or more

frequently and fresh lucerne and clover is stall fed to them during spring and summer during the day, and in the evenings, for cows taken out during the day for grazing. Cereal straw, grass hay, and maize stalks are important sources of winter cattle feeding, particularly in the high altitude areas with long winters. Legume hay may be mixed with wheat straw and livestock raisers here make a considerable effort to collect enough of these fodders for feeding during this time. Milking cows and oxen also receive variable amounts of cotton seed cake, maize or barley grain as concentrate supplements in winter.

C. Small ruminants

1. Semi-sedentary

11. About two thirds of the sheep and goats in Afghanistan are owned by villagers. Sixty percent of livestock raisers owned sheep and goats in 1991 and most owned between 1 and 25 animals. Bigger flocks only occurred then in the northern provinces of Faryab and Jowzan.

12. Sheep and goats are herded together and depend on grazing mostly. Adults and young stock are kept in separate flocks during summer and rams are separated from the ewes until the mating season starts in October–November. Large landowners may employ a shepherd; smaller flocks are usually aggregated under the care of a single owner. Most flocks move up from the lowlands in early summer and return from the highlands in autumn. Important summer grazing areas are in Ghor and Gazni provinces and in pasture areas of Badakhshan province. Most small ruminants in the villages in winter are housed at night and in bad weather. They are given hay, straw and local roughages during this time. The amount of feed given and the length of the feeding period depend on the region and on weather conditions, but animals are given a concentrate supplementation of 200–450 grams per day. Birth rates are between 60 and 80%, with few twins. Mortality for lambs may be as high as 15% through a combination of weather conditions, poor winter nutrition and disease – particularly internal parasites.

13. Milking of sheep and goats starts 2 days after birth and continues for 4 months. Lambs are permitted to suckle twice a day during the milking period. Some milk is consumed fresh but most is made into cheese. Shearing id done once or twice yearly and the greasy wool is used for domestic purpose or sold. Surplus males are castrated young and owners of small flocks slaughter lambs in autumn to prepare dried mutton. Some small-scale lamb fattening is done and could become a more general activity of women.

2. Nomadic sheep and goats

14. There are no detailed data on the effect of the fighting on the influence of the war on the numbers of nomads, changes to their migratory routes and their livestock holdings. In 1996 however, there were an estimated 61,000 kuchi families They still follow the traditional migratory route between Kandahar and Ghazni. Use of grazing land in the Hazara areas has been limited but management systems are likely to be unchanged. Fertility and lambing rates are high – between 80 and 90% and lamb mortality is low. Kuchis in the southeastern areas are reported to use anthelmintics twice in spring and autumn and paravets in the veterinary field units (VFU) report good business selling them.

III. ONGOING AND PIPELINE PROJECTS

15. FAO is implementing the main ongoing project in the sector. It has components supporting animal health delivery, mainly vaccinations and deworming through VFU, market

monitoring for clinical rinderpest, and animal production supporting artificial insemination in dairy cattle, fodder development, demonstration and distribution of poultry for backyard raisers and support for semi-commercial producers. Funding for these and other activities has all but dried up during the last four years, although there is an ongoing vaccination project financed by DFID (USD 147,000) which is due to end shortly, while the Dutch Government is funding additional vaccine distribution through the field programs which end in August. The 250 VFU said to be still operating under this project are mainly providing vaccinations and deworming treatments in 164 districts in four provinces. The vaccines and dewormers are free to livestock raisers but the VFU staff charge a delivery fee. Otherwise the project has funds for little more than its core staff until December 2002. For the remainder of 2002 and into 2003, the program requires substantial amounts of vaccines, anthelmintics and equipment[3] to continue.

16. Possible pipeline projects include (i) Livestock surveillance and trans-boundary disease control (USD 1.48 million) proposed to USAID, (ii) Livestock and health campaigns for the south west and south east of Afghanistan (USD 1.43 million) proposed to the Japanese, (iii) Animal health interventions for uprooted people (2.14 million Euros) currently with the EU, and (iv) a project for Dairy and Poultry Development (1.2 million Euros) with funding sought now from the German trust fund. FAO has also submitted on its own behalf a total of seven short project proposals covering a range of interventions including village poultry, AI in cattle, small scale milk marketing, improved veterinary services and animal disease investigation and diagnosis. None of the latter ATIMS project has been taken up yet, nor have donors committed to any of the other proposals.

IV. INSTITUTIONAL ROLES IN THE LIVESTOCK SUB-SECTOR

A. Role of Government

17. In the prewar period, efforts to improve animal health and production services were a major component of livestock development activity by Government, NGO and bilateral aid agencies. Efforts to improve the livestock sector resulted in the establishment of a veterinary faculty at Kabul University, veterinary clinics in the major urban centers and a network of central and regional veterinary laboratories, mostly with FAO support, and a laboratory for vaccine production. All were government facilities and many were destroyed during the fighting. Over time, trained technical staffs have also been lost and as with other departments in most ministries, the veterinary service as an effective participant supporting the livestock sector exists no longer. Nonetheless, a government structure for the sub-sector remains, in which responsibility for livestock production and health still lies with the Veterinary and Animal Husbandry Directorates of the Ministry of Agriculture and Animal Husbandry (MAAH).

1. Veterinary Directorate

18. The President of the Veterinary Directorate (VD) oversees five technical units comprising laboratories for vaccine production and for vaccine quality control, both in Kabul, a central disease diagnostic laboratory in Kabul, and four dependent regional laboratories, a quarantine office and a Preventative Treatment Department, which includes the central clinic. Including the President's office, the VD manning schedule for these facilities has more than one hundred employees, over seventy of whom are reported to be veterinarians or other technical specialists.

[3] PPR vaccine 200.000 doses, BQ vaccine 250,000 doses, anthrax and ET vaccine – 1 million doses each, Sheep pox and haemorrhaghic septicaemia vaccine – 2 million doses each, Newcastle disease vaccine for poultry 1.5 million doses, and 9 million doses of anthelmintic.

All of the technical facilities retain a substantial staff although they are without resources. VD reports a work force for vaccine production of 37 persons (10 professionals), the vaccine control laboratory-13 staff (including 10 professionals), a central diagnostic laboratory-30 staff (including 22 professionals) and the prevention and treatment department of 30 staff. No figures for the quarantine office were available. The central and regional laboratories each have a complement of 2 persons.

19. ICRC supported VD in operating the vaccine production unit in Kabul until recently. This support has now ended and with its equipment in storage the laboratory was not in operation at the time of the mission. VD has recently acquired an assured electricity supply for the laboratory, DFID has financed repair of minor damage, FAO recently submitted a proposal for Japanese funding which includes provision for study tours for laboratory staff and limited amounts of seed stock and consumables. VD intends with this to commence producing pasteruellosis and anthrax vaccines within two months. Any vaccines the laboratory might produce are only intended for sale and use in field programs implemented by MCI, MADERA, OXFAM, Afghan Aid and the FAO livestock project. Government has no programs of its own to supply. The amount of vaccine the combined FAO and NGO vaccination programs need is decided by the Vaccine Steering Committee comprising representatives[4] of the Veterinary Directorate, FAO and those NGO with current vaccination activities. It is not known however, to what extent output from the laboratory can satisfy these needs.

20. Production of a wider range of bacterial and viral vaccines may be possible with some additional support. New seed stock would permit producing vaccine against blackquarter and enterotoxaemia and it may also be possible to produce viral vaccines[5] with the addition of a freeze drier,[6] autoclave, minor equipment, consumables and appropriate viral strains. Importantly, with technical assistance and the necessary viral seed stock, PPR vaccine production might also be undertaken. This would involve expensive licensing and VD is currently considering this option. None of the vaccine production equipment was on view at the time of the mission and no estimate was possible as to its usefulness or the abilities of its staff. In all probability, the skills of the staff now upgrading.

21. Animal disease diagnosis is done at the central diagnostic laboratory in Kabul and at four regional laboratories in Mazar-i-sharif, Kandahar, Herat and Jalalabad. These are bereft of most equipment and are reduced to conducting faecal samples, simple post mortems and bacteriological examinations of little value. The central laboratory was once an impressive diagnostic facility, but it has transferred to a smaller building and its only useful work in recent years has been the processing of PPR and rinderpest sera with FAO direction and support.

22. VD fields two to three staff in each province that shares office with extension personnel of the provincial agricultural department. The veterinary staff is headed by the Provincial President of Veterinary Services, normally a veterinarian, who reports through the Provincial President for Agriculture to the VD President in Kabul. The provincial structure is replicated in the districts where the majority of posts share office with the extension personnel also. There the line stops. The relationship between veterinary staff in provincial and district offices and with those in the veterinary field units (VFU) is not clear but VD effectively has no useful field staff at either level now and it has no resources.

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4 FAO, MADERA, ICRC, DCA.

5 Fowl pox and three types of Newcastle vaccine for poultry, sheep pox vaccine.

6 Two freeze driers would enable production in packaging of different sizes as well as providing backup in the event that one of the units failed.

2. Animal Husbandry Directorate

23. The President of the Animal Husbandry Directorate (AHD) controls sub-directorates for Artificial Insemination, Silkworm production, Cattle, Sheep and Poultry Production (separate departments), as well as sub-directorates for Dairy Processing, Animal Breeding and Dairy Farms. With the exception of a small bull unit producing fresh semen in Kabul, all of the facilities belonging to these sub-directorates are defunct. AHD has 148 staff in Kabul however, of which at least one hundred are reported to be graduates. The department has no sub-directorate for livestock extension-all extension activity being the preserve of the Extension Department of MAAH, which theoretically uses the AHD technical personnel as needed. Averaging 3-4 staff in each province, there is less than 100 AHD staff at provincial level in Afghanistan. They are also notionally extension staff, but they have neither transportation nor programs.

3. Veterinary and Animal Production Field Work

24. VD has been unable to offer veterinary services in the field for the better part of the last decade. To fill this vacuum, the establishment of Veterinary Field Units (VFU) staffed with project-salaried veterinarians/paravets was begun in 1989 in the east of Afghanistan with UNDP/OPS funding. These VFU and the animal health activities provided from them are now likely to constitute the only field-level support available to all classes of livestock raisers in the country. When the VFU program started under UNDP/OPS, Government permitted FAO to refurbish about 150 VD offices intended for use as VFU bases without rent. About one hundred other buildings were also constructed as VFU at FAO cost, and about half of the veterinarians in the provincial offices transferred to staff the 250 VFU at the same time. A significant proportion of the personnel now occupying VFU at present were formerly civil servants.

25. The VFU complement normally comprised a veterinarian and 2 paravets who were salaried, and 3 Basic Veterinary Workers (BVW) who received technical support but no salaries. A number of VFU have only a single paravet. The OPS VFU was combined with those introduced in a similar program conducted by FAO in the northern provinces in 1994 and the combined activities through these VFU have been continued since as FAO project AFG/93/004. In 1996 the VFU program was being implemented through twelve partners (mainly NGO and a few veterinary committees) in 244 districts throughout the country. In combination, FAO and NGO have established between them about 300 VFU, located in every province and most districts.

26. The FVU were to develop a permanent and self-sustaining field veterinary service that would be independent of support from either government, NGO or the development agencies. Self-sufficiency was to be introduced by progressively reducing salaries and increasing VFU staff dependence on the revenues they obtained by charging for services. On information available to the mission, it is difficult to know how many VFU are able to operate without some degree of outside support. While a number of them are reported to be operating independently still, many are also said to have failed, particularly in remote areas servicing the nomadic sheep and goat raisers, where their client base is limited.

4. NGO Programs

27. Several NGO[7] have provided veterinary services in Afghanistan and to refugees on the Pakistan border over the last several years. Their staff included some veterinarians, but they were mainly NGO-trained paravets or recruited from the VD district level offices. These services have been expanded to several provinces where NGO now provide animal health interventions, mainly vaccinations and deworming but including free minor clinical treatment services. All NGO animal health and production activities are coordinated at monthly meetings of the Veterinary Sub-committee in Peshawar.

28. Of the main NGO working in the sector, DCA has implemented training for basic veterinary workers (BVW) and a 5-month training program for paravets and until 2000 had had trained over 600 and 500 of each respectively. DCA has also implemented a village-based preventative animal heath program with Dutch funding for vaccinating and deworming through VFU in 56 districts of 10 eastern provinces. The vaccines are subsidized and cost recovery varies between 10 and 45% depending on the actual cost of the vaccine. These activities were subsumed into the FAO program in the mid 90s. DCA now has a similar program in north-western provinces directed to training nomadic pastoralists as BVW, providing extension for livestock raisers on animal health, and since 1995 and with EU financing, a program of vaccine delivery to the FAO supported VFU under contract. Eighteen million doses of vaccine were delivered in this program, and similar programs during 1997-8 and again in 2000 have brought the total delivered dosages to 48 million. Vaccine is also distributed through four DCA shop fronts in Jalalabad, Ghazni, Kabul, and Herat moving seven vaccine types besides anthelmintics and other veterinary medications. VFU are their main consumers. Current stocks are estimated to last until end 2002 and a proposal to procure vaccine for 2003 is currently before the EU for funding. MCI supports 34 VFU in the south with motorcycles, vaccines and anthelmintics, and has paid 107 vets and paravets 'incentives'[8] as staff. MCI also provides concentrate feeds to small numbers of key breeding animals in villages to carry them though the drought.

29. DCA/MADERA supported a laboratory producing pasteruellosis and enterotoxaemia vaccine in Jalalabad. This facility has now closed and its transfer to Kabul is under discussion with government. MADERA also provides vaccination and deworming programs through 18 clinics in the eastern and central provinces.

5. FAO

30. Budgetary constraints have severely constrained the FAO (PEACE Project) activities relating to animal health and animal production over the last 4 years. Support for the entire FAO livestock project is limited to core funding by UNDP for its main technical staff. Minor support from bilateral donors permits some field activity, mainly for animal health. The Norwegian Government financed ongoing field activities for the core program and a combination of Netherlands Government funding (mainly) and resources of the Umbrella Veterinary Service (UVS)[9] have supported vaccinations (enterotoxaemia, PPR, anthrax, sheep pox and HS) for 1.6 million small ruminants in 160 districts in Kabul, Mazar, Jalalabad and Kandahar provinces. An estimated one million animals had been vaccinated at the time of the mission. Related activities include market monitoring of animals for signs of clinical rinderpest for which there are funds until August, and limited internal parasite treatments in the north. In the FAO program for AI,

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7 Afghan Aid (local NGO) Mercy Corps International (MCI), Dutch Committee for Afghanistan (DCA), OXFAM, MADERA.

8 Reported at about USD250 per month per vet and USD200 per paravet.

9 UVS is a FAO-established wholesaling organization supplying veterinary inputs mainly to the VFU.

between 1998 and early 2001, 30 technicians in 16 districts of Kabul, Nangahar, Kandahar and Balkh have made almost 26,000 inseminations in cattle.

31. The project has also provided concentrate feeds (18 MT), mineral supplements (200 MT) and molasses blocks (18 MT) through the VFU for on-sale to drought-affected livestock raisers, as well as supporting the backyard and semi-commercial poultry sectors since 1998. This has included introducing 10 improved birds per village households organized into village poultry producers groups of 250 households, to replace flocks lost during the fighting. Some 4,000 households have been provided chickens in Kabul Ningahar, Faizabad and Kandahar to date. The program identifies women's group leaders in each community who initiate vaccinations and train group members to improve poultry rearing conditions. FAO technicians initiate market development to support the groups and encourage them to make the transition to semi-commercial production. The project has also assisted semi-commercial raisers establish Poultry Farmer's Associations (PFA), enabling them to access technical services, inputs including feed, and production insurance. FAO staff developed the constitutional, administrative, technical and development plans for the PFA and followed this with technical training for members to facilitate flock expansion. PFA provide inputs to members for between seven and 10% commission on profit. They also procure animal protein feed components outside Afghanistan for on-sale to members. The established PFA in Kabul, Jalalabad, Kandahar and Herat had 2 technicians assigned to each initially, reducing to one as the PFA strengthened. The high level of technical support is crucial to PFA success. Two PFA have failed but the PFA in Kabul and Jalalabad have thrived. The 130 members of the Kabul PFA represents an eightfold increase over 4 years, while the output of DOC has increased from 80,000 to 240,000 and imported DOC increasing from 10,000 to 110,000 over the same period.

32. To support the production of winter fodder for dairy cattle, FAO has introduced and tested a range of climatically adapted fodder varieties (winter oats, berseem and shaftal) for winter growth and feeding. These provide some winter production, an increased number of cuts and better productivity overall. Successfully introduced fodders for summer feeding include hybrid sorghum and several varieties of lucerne. The project has established demonstration areas and seed multiplication plots for these varieties in 23 districts of nine provinces and developed a seed-return system for producing oat seed under contract. This has potential for further expansion in the irrigated areas where livestock raising is more intensive.

V. SUBSECTOR ISSUES AND POTENTIAL

A. Government support for the sector

33. Both of the sub-directorates concerned with livestock are ineffective. They have few non-personnel resources and their staff is unlikely to be qualified for the positions they should hold. Government is unable to operate the facilities it formerly maintained to support livestock production, while most of these facilities are no longer relevant to the likely new core functions of government. There is also no reliable information about the sector as a whole, and there can be no sound basis for planning development interventions for livestock until this has been addressed.

34. The development of a long-term institutional framework to encourage smallholder and commercial livestock development begins with a definition of the roles and responsibilities, which government and the private sector will assume. Once these have been agreed to, an appropriate structure and manning schedule can be developed and government personnel can

be trained for new tasks. New regulations and legislation also have to be developed to accommodate these new roles.

B. Veterinary Field Units

35. While the VFU constitute the main field-level resource for the delivery of animal health services, the viability of the VFU fee-for-service system has been weakened in recent years. In part this has been due to the drought and the inability of farmers to pay for services they formerly received, but they have also been weakened by the inability of FAO to sustain the earlier levels of funding for VFU-delivered animal health services. Transportation has been allowed to run down, motorcycles are old and largely unserviceable, field equipment has been lost and VFU is no longer as effective as they were. Many of the VFU offices, particularly those constructed of mud rather than of concrete, are also in disrepair. The VFU are less able to generate the trade they need to keep them viable and this, coupled with the effects of the drought which have forced many livestock raisers to curtail their spending,[10] has resulted in the failure of some and threatened the viability of the VFU network overall.

36. Whether or not VFU will survive as private entities over the longer term depends on several factors, the policy environment in which they are permitted to operate in particular, and whether government and NGO can be dissuaded from paying staff salaries and using them to introduce free services. VD wishes to absorb VFU in spite of this however, and have them provide the same free treatments and vaccinations as when the former government field programs were active. To this end the VD President has identified 89 VFU covering all provinces, and is moving to control them directly.

37. The fee-for-service system, which could sustain the VFU, is being further undermined by NGO in 5 provinces who by offering attractive salaries,[11] are encouraging VFU staff to leave their stations to work for the NGO directly, rather than riding out their current financial downturn where they are. To protect the long term viability of the VFU and in recognition of the advantages accruing to independent veterinary field units, this practice should stop, but direction to this effect can come only from the head of the Veterinary Directorate itself. In addition, if VD insists on controlling VFU, then it would be better to take over only some VFU-those which are remote and clearly in need of support. If VD kept the fragile VFU viable,[12] a minimal level of veterinary presence could be sustained as a legitimate public good where there would otherwise be none. At the present time however, a survey of all VFU should be done to determine their status. If justified, those VFU, which with minimal support are most likely to survive, should be strengthened on the short-term with new equipment and mobility until their future can be decided through informed discussion at national level.

C. Livestock disease

38. The probable 3 main health problems affecting livestock are internal and external parasites and infectious diseases. Internal parasites are primarily a seasonal problem of young stock in spring and autumn and significant losses due to the increased parasite numbers may occur at these times. Losses could in large part be prevented by a program of strategic deworming which anticipates the increased numbers of parasites in the environment of grazing animals. In addressing this, the distribution and sale of dewormers through the VFU have been

[10] Livestock raisers without cash in remote areas are only able to pay for services in kind.
[11] The NGO call the payments 'incentives'.
[12] With part salary.

useful and this mechanism should be continued. However, some caution in using dewormers is recommended. Anthelmintic use confers a benefit to livestock raisers by eliminating parasite burdens, and this will almost certainly be so in strategic spring and autumn programs when deworming should be done. Indiscriminate drenching at other times however, may result in more losses than otherwise by removing the parasite:host proximity and lowering resistance to later parasite challenge. Care must be taken therefore, to ensure that dewormings are strategic and mainly restricted to the vulnerable groups-the lambs, young stock and pregnant females. With the continued use of the same anthelmintics over the longer term, there is an increasing possibility of parasite resistance.

39. Semi-commercial and village-poultry are reported to be affected by Newcastle disease epidemics and by infectious bursal disease also. Expanding existing village-based vaccination programs against NDC by making use of women's group leaders on the back of small scale village distributions would be useful interventions for poultry development. Blackleg and enterotoxaemia are reported to be the primary endemic clostridial diseases affecting small ruminants and the vaccination programs instituted by FAO and NGO address these conditions. Anthrax is a zoonosis, which generally affects a few animals at a time but is a significant human health problem. It occurs to an unknown extent in localized areas.

40. External parasites, particularly those, which transmit tick-borne-diseases, have been important in the past. Brucellosis is also likely to cause significant animal production and human health problems in sheep and goat flocks but has not been addressed. Determining brucellosis prevalence as a prelude to introducing measures for controlling the disease over the longer term is a developing priority.

41. Important epidemic viral diseases of sheep and cattle include sheep pox, FMD and PPR. Some FAO-sourced PPR vaccinations are given in the current FAO program. Rinderpest (RP) was important among cattle until as late as 1995. Vaccination against RP has been suspended and with FAO support, the programs of the health authorities have been reduced to a watching role conducted through the VFU and at some of the main livestock markets. If RP is imported with livestock from Pakistan, government must be able to introduce immediate measures for its containment. This capability is not yet established in Afghanistan, although trans-boundary disease control measures have been included in FAO funding proposals recently.

42. The status of endemic diseases in the country is based on past animal health programs and current vaccination practice. With the exception of RP and PPR, which have been recently studied, the actual status of diseases is only presumed. A study into the disease threat for all livestock classes would be useful, if only to put future vaccination practice and health control measures on sounder footing.

D. Extension and farmer awareness

43. The problem of animal diseases is compounded by a lack of understanding on the part of livestock raisers as to the usefulness and purpose of vaccination. Livestock raisers are aware of vaccination by exposure through NGO and FAO programs, but they still fail to vaccinate in the absence of a clear and imminent disease threat. In part this may be due to cost, but there is still a need for better livestock extension so as to encourage livestock raisers to make vaccination and seasonal deworming a regular part of management, and to adopt better principles of livestock feeding and management in general.

E. Animal breeding and Fodder production

44. The number of male breeders for cattle (and sheep) is too small. Mating opportunities are lost and the genetic future of some dairy cattle depends on too few males. Bulls have been lost in the drought and the lack of breeding males and limited artificial insemination services handicap the peri-urban dairy sector. The cost of maintaining a breeding bull is also too high for smallholders with one or two cows, so that not enough bulls are available. While cows are eventually settled, the quality of the bulls used is generally poor. This argues strongly for expanding artificial insemination into irrigated areas where milk is produced and fodder production is possible or where there is supplementary feeding. Providing communities of livestock raisers with feed grinders for preparing homegrown concentrate rations and with chaff cutters for straw and green fodders to be easily mixed would be useful adjuncts to an AI/dairy program.

F. Potential for village poultry

45. Many of the eggs and carcass birds sold in urban markets are from the villages. After providing household nutritional support, all or part of a rural household's offtake can be sold. The FAO poultry program has directed poultry to Village Poultry Producers groups and supplied birds and services through them. Women Group Leaders have acted as foci for poultry vaccination and simple poultry health care to group members. While the distribution of poultry has been well adopted, introduction of WGL has been effective in minimizing health-based poultry losses. Village-based poultry based on improved birds distributed to individual households with vaccination and simple poultry health and management training is core poultry project activities whose replication has considerable potential.

46. There is an expanding demand for poultry products, but semi-commercial operations are unable to develop further because the local supply of chicks is limited and DOC from Pakistan are reported to do poorly. Distributions require suitable chickens to be introduced to environments in which farmers are well sensitized and trained and where arrangements have been made through PFA for supplies of feed and for vaccination. Good technical follow-up is critical. Some PFA failures notwithstanding, there are still locations with potential for development, but establishing semi-commercial poultry in them is predicated by a functioning PFA of the FAO format and a locally produced supply of day old chicks.

VI. STRATEGY AND INSTITUTIONAL FRAMEWORK

47. Investment in the livestock sector is required. An institutional, policy and regulatory environment is needed so the private sector will develop with respect to poultry, red meat and dairy production. Investments need to be made in production and processing facilities, which add value to livestock products for domestic consumption or export. Operations such as poultry abattoirs, abattoirs for cattle and sheep, dairy processing plants, tanneries, wool processors and fattening operations if established, would create a demand for livestock products, which small-holder sector could supply.

48. A matrix covering the comprehensive needs assessment for the livestock sector is outlined in Table 1. The main features of the assessment are described below.

Table 1: Livestock Development Matrix

Issues	Strategic Objectives	Needs assessment		Related policy requirements
		One/two years	Medium term Development Framework	
Lack of reliable sub-sector database, therefore no basis for planning livestock programs	Up to date data base on livestock numbers, distribution, systems, performance and resources use.	Rapid appraisal of all provinces on livestock numbers, feed resources, distribution, husbandry, offtake strategies.	Conduct regular surveys to update livestock database/s.	Policy re collection of livestock statistics. Need to establish central Department of Statistics.
Investment in the dairy industry.	Commercial dairy industry supported by breed development, processing facilities and milk collection services.	Market surveys in most urban areas. Implement expanded private sector AI service delivery, supported with fodder demonstrations.	Investment in processing and marketing supported by availability of formal credit.	Agriculture finance and private sector investment
Livestock raisers with too few resources to recover animal and poultry numbers without assistance	Re-establishment of individual livestock holdings.	Assisted restocking for poultry raisers. Extended animal health services including supply of vaccines and medications through VFU	Credit facilities generally available for restocking new breeding base. Soundly based animal heath field service through VFU or similar.	Policy regarding lending to small holders with little collateral. Policy regarding VFU as suppliers of veterinary services.
Unclear policy with respect to roles of private and public sectors in delivery of services	Roles of government and private sectors clearly defined. Private provision of services	Review of government functions, rewrite and update regulations, ensure regulations have backing of law.	Progressive review of regulations and policy to update in line with evolving sectoral needs.	Policy re private and public responsibilities established promoting private sector and passage of new regulations into law.
Lack of government field service ;status and function of veterinary field units (VFU) unclear.	Clearly defined VFU role as providers of user-pays veterinary services. Promote private sector ownership and delivery of services	Survey VFUs to determine viability and status. Decision by government re 'ownership' of VFU.	Government subsidy for VFUs if necessary. Others to operate without competition from free service providers. Promotion of private sector.	Establish appropriate policy and regulations re private sector deliverers of veterinary services,
Ineffective and inappropriate structure of Animal Production and Veterinary Directorates	Both directorates soundly structured, resourced and administered with regard to new roles supporting the sector	Determine restructuring needs facilities and training requirements	Longer-term capacity building through provision of equipment, training to retained core facilities and department staff.	Institutional roles and functions of MAAH
Rangeland overgrazing	Livestock numbers in balance with seasonal feed availability on rangeland. Destocking mechanisms introduced through development of offtake strategies	Survey of owners, livestock numbers and land area. Assessment of rangeland carrying capacity	Involvement of organisations such as ICARDA in rangeland management and planning. Establish strong rangeland research structure.	Policy with respect to rangeland usage and transfer of communal property to individual user rights. Regulations governing rangeland usage
Investment in commercial poultry production. Lack of supplies of breeding stock.	Soundly based, self financing poultry industry.	Study tours for key technical and management staff, continued organisation and support for poultry farmers associations through projects.	Availability of credit facilities for feedmills, processing plants and large and small holder poultry producers. Supportive regulatory environment.	

Issues	Strategic Objectives	Needs assessment		Related policy requirements
		One/two years	Medium term Development Framework	
Significant weakness in technical skills of private and public sector staff regarding poultry and dairy production.	Useful cadre of trained private technical staff capable of usefully managing and advising in these industries.	Study tours key management and technical personnel to relevant production facilities in region	Supportive regulatory and animal health environment.	Development of appropriate import and export and quarantine regulations
Weak livestock disease prevention capability in face of transboundary disease risk and high endemic disease prevalence.	Sound local disease prevention and control capability on part of government.	Immediate implementation of sentinel services against rinderpest. Identify requirements for long term institutional support for improved animal health capability. Short term project measures supporting diagnostic capability and sentinel functions.	Properly established and functioning epidemiology-driven diagnostic capability supported by working laboratories, livestock movement controls and quarantine services.	Established regulations supporting quarantine, cross-border livestock movement.
Public health and environmental hazards associated with locally produced meat, milk and poultry.	Hygienic and environmentally sound processing and marketing facilities for livestock products.	Identify staff requirements for meat inspection and public health services. Survey existing facilties to determine needs.	Investment in modern processing facilties.	Policy re government/private sector control of slaughter and processing . Regulations governing meat and milk processing and marketing.
Lack of properly trained technical personnel in livestock sub-directorates.	Both directorates soundly structured, trained and resourced for new roles.	Assist with inventory of staff resources and recommend training needs. Recruitment programme for key positions	Overseas and on the job training where necessary	

A. Establishing a livestock sector data-base

49. A survey of the livestock sector in all provinces would provide benchmark data on numbers and management systems upon which future interventions can be planned. If gathered towards the end of the current drought, this data would also indicate the speed of the post-drought/post-war livestock recovery and provide planning information with respect to future periods of hardship. The data would need regular updating over the longer term if it is to remain useful as a planning tool and it would need to be incorporated into a database held at the Bureau (or Department) of Statistics. A livestock sector survey is proposed in Appendix 1 as a short-term project.

B. Defining government structure and functions

50. The development of a long-term institutional framework for the sector has to begin with a definition of the roles and responsibilities likely for the public and private sectors. Once agreed to, development of an appropriate structure and manning schedule for government, can follow. Appropriate regulations and legislation need to be developed to support the new structure and the roles of all players formalized as policy. In its likely new capacity, the role of the public sector may be limited to:

(i) formulating national livestock policies to create an enabling environment for private sector activities,

(ii) developing and updating the regulations which will govern animal production, processing and marketing and on the activities of private veterinary and para-veterinary professions – particularly with respect to the ownership and functions of Veterinary Field Units (VFU),
(iii) controlling epidemic diseases and ensuring the health of the national herds and flocks. Government will do this through the mechanisms of surveillance, compliance monitoring, ensuring standards promulgated by government are met, maintenance of effective quarantine, quality control of drugs and vaccines, disease and drought emergency planning, reporting to international agencies and neighboring countries with respect to disease status and disease control activities, particularly for trans-boundary diseases,
(iv) controlling the importation and export of animals and livestock products, including their certification,
(v) certifying the quality and true-labeling of drugs and vaccines,
(vi) inspecting meat, milk and other livestock products,
(vii) operating an adequate laboratory capability, particularly with respect to epidemic and trans-boundary diseases,
(viii) supervising breeding centers (if any) and quarantine premises,
(ix) regulating veterinarians and para-veterinary professionals,
(x) accrediting and monitoring private suppliers of services and animal health services.

51. The private and public sectors would then probably share responsibility for:
(i) disease diagnosis and reporting,
(ii) compulsory disease testing where government contracts the private sector to perform government functions on its behalf,
(iii) food hygiene and inspection – where this service is contracted to the private sector,
(iv) continuous education and training,
(v) control of notifiable diseases,
(vi) disease emergency response (with some of this activity subcontracted),
(vii) animal management advice and extension (i.e. privately operating VFU personnel might provide animal production advise and information to their clients, as would government extension staff operating from the district offices),

52. While the private sector would retain full responsibility for:
(i) clinical diagnosis and treatment of animals,
(ii) production and distribution of drugs and vaccines,
(iii) animal breeding and artificial insemination including the operation of breeding farms and semen production facilities,
(iv) management of herd health and production programs,
(v) marketing of livestock products,
(vi) the operation of facilities for livestock product processing (dairy processing plants, abattoirs, feed mills).

53. The responsibilities and linkages between the MAAH livestock directorates and relevant sections of the Ministry of Rural Development as well as between the livestock sub directorates and directorates within MAAH also need clarification, particularly with respect to extension and training. The main facilities government should retain for livestock production support are likely to be limited to (i) quarantine and border post facilities, (ii) laboratories for vaccine quality control

and livestock feed analysis and (iii) central and regional diagnostic laboratories with a useful national mandate.

54. Appropriate guidelines for contracting the private sector to perform functions on government's behalf are needed, and agreements need to be reached on the timing and method of divesting facilities no longer appropriate to government's new role. This applies particularly to semen production facilities, cattle and poultry breeding farms, milk processing facilities and facilities for vaccine production government owns. Divestment would permit appropriate restructuring of departments and development of a manning schedule including qualifications and terms of reference for personnel to occupy key positions in the veterinary and animal production sub-directorates. These positions would be identified to match agreed functions and filled in a program of recruitment and training over the medium term.

55. Technical support to assist in the institutional, organization of livestock functions may be required, and an indicative terms of reference for such an input is outlined in Annex 1. Similarly with livestock sector policy development, an indicative terms of reference is outlined in Annex 1.

C. Improved disease prevention capability

56. Reflecting the rundown state of government services at present is the lack of disease prevention capability at national level and the absence of husbandry skills relating to commercial livestock production generally. Establishing working assets for disease control, particularly with respect to trans-boundary diseases, is an immediate priority.[13] The necessary activities and inputs include equipping the central and regional laboratories to perform identified roles in coordination with an effective quarantine system, including a reporting capability to international disease organizations and the veterinary directorates of neighboring countries. Importantly, it would include staff training, which would also encompass longer-term technical training overseas in technical specialties such as epidemiology. Epidemiology and Animal Health Management technical assistance may be required and an indicative terms of reference for such an input is outlined in Annex 1.

D. Institutional support and training

57. Equipping government and private sector personnel with skills relating to commercial production have to be undertaken over the medium term, probably through study tours to bring key personnel up to date with intensive livestock production methods elsewhere. Skills are also needed in the regulatory activities relating to meat inspection and feed and drug quality and control. Given the depletion of skills in the livestock sector generally, this aspect of institutional support is perhaps the most important. Some of these training needs are included in 2 short-term projects covering poultry support and artificial insemination detailed in Annex 1.

E. Formal credit for livestock sector investment

58. Most of livestock herds were substantially de-stocked while private sector investments such as feed mills; commercial poultry and milk processing facilities have also been lost. Investment in the semi-commercial poultry sector is important if intending producers are to be able to access breeding stock, commercial feedstuffs and equipment. Considerable investment is also needed for re-establishing feed mills, processing plants and production facilities. Access

[13] Although as yet unfounded, the FAO proposal currently with USAID addresses this.

to formal credit would facilitate replacement of these facilities over the short to medium term, while sources of micro credit are needed for small holders to build up the to the livestock numbers they once had. For small holders with depleted poultry it will be necessary for NGO and the agencies to continue expanding the program of small-holder poultry distributions over the medium term and continue providing sheep raisers with access to deworming and vaccination. Both activities have been identified as short-term projects and are presented in more detail in Annex 1.

F. Rangeland investigations and research

59. Investigations also need to be conducted into the conditions of nomadic sheep raisers, their affect on pasturage and into possible production strategies which might permit them to destock seasonally as a range stabilization mechanism. This implies a collaborative research effort between government and ILRI/ICARDA in investigating and developing appropriate systems for this sub-sector, supported by an effective system of livestock production extension.

G. Market surveys for livestock products

60. Market surveys conducted over the short term would facilitate investment in processing and identify facilities needed for adding value to livestock products. The surveys would also identify domestic and export marketing opportunities.

Annex 1

TECHNICAL ASSISTANCE NEEDS AND PROPOSED PROJECT PROFILES

I. PROJECT PROPOSALS

A. Poultry Production Project

1. Rationale and scope

1. When household poultry flocks were common, all or part of the products could be sold after household nutritional needs had been met. For many rural families this is no longer possible - poultry production has been severely damaged in the fighting and re-establishing rural poultry has become an imperative. This has been recognized by the international community to the extent that some NGO and FAO in particular, are implementing projects supporting semi-commercial production and re-establishing village poultry. These activities have largely been successful and there is logic in capitalizing on the experiences so far, by expanding both programs to other parts of the country.

2. In the commercial sector, 2 large, intensive government poultry farms and a number of private commercial poultry farms no longer operate. Semi-commercial poultry producers have re-established in part however, but are unable to develop further because the availability of day old chicks (DOC) is limited to inferior birds from Pakistan, which do badly and bring the risk of disease. At the same time, identified farmers producing fertile eggs in Kabul, have no facilities locally for hatching them. Further expansion of semi-commercial poultry production is therefore predicated by the presence of a local industry with an established PFA and a locally produced supply of DOC. The Kabul PFA has been operating independently for 20 months and is expanding its operations now. But it needs support for inputs it is unable to provide from its own resources before it can support these functions and develop further. The inputs needed include an increased incubator capacity, minor transportation, some cold storage facility and funds for market development.

2. Activities and proposed locations

a. Village poultry production

3. Strong Village Poultry Producers groups through which birds, training and services can be supplied are important in re-establishing village poultry. Distribution programs require introduction of suitable chickens to environments in which farmers are well sensitized and trained, where arrangements have been made through PFA for supplies of feed to VPP, and for vaccination. Good technical follow-up is critical.

4. Village poultry production modules would be introduced to seven provinces including Logar, the Shomali plains outside of Kabul, Kakanlang, Bamiyan, Mazar, Kandahar, east Ninghar and Jalazai. Activity would revolve around a module comprising a team of four trainers, training and establishing 10-bird poultry production units with 250 families every 6 months and using a hired car for transportation. One local poultry adviser would be recruited and have responsibility for four units The village development sequence 1–7 (below) would take 4 months. To ensure sustainability, the last step including parts of the social mobilization activity

leading to the establishment of Poultry Farmers Associations (PFA) and inter-group leaders, would take 2 months more.

(i) For any village location, conduct a needs assessment survey to determine potential and interest on the part of the inhabitants of a target village
(ii) Locate the human resources who would be trained in situ as poultry trainers for other poultry producers,
(iii) Train local candidates from those villages where possible, to act as trainers,
(iv) Select the households eligible for poultry support,
(v) Train the women in those households in the theory and practice of poultry raising,
(vi) Buy and introduce inputs (waterers, feeders, chickens etc.),
(vii) Following the distribution of poultry, begin social organization to establish the organized groups of women poultry raisers,
(viii) Follow-up every two weeks.

5. There would be no fixed supply module. The poultry actually supplied to the households and the system whereby they are introduced would depend on target village location. Target areas close to cities would be supplied DOC ex Kabul where pullets are available from Poultry Association members; remote areas might be trained to incubate and produce their own DOC in kerosene incubators; or some DOC might be introduced from Pakistan (subject to the project leader visiting producers in Pakistan to arrange for the supply of quality selected birds).

6. Thirteen teams would be needed overall. Four of the locations proposed already have a poultry adviser working with modules under ongoing development and these advisers would assume responsibility for new modules in those vicinities. Nine new teams and five new poultry advisers would be needed as additional resources. These would establish 26 modules each of 250 households in the first year, increasing by one-third the year following. Costs are mainly associated with support for additional personnel, training, transportation and inputs. A one-month study tour of commercial poultry production facilities in India and Thailand and to relevant village poultry areas in these countries, would be provided to two national staff from MAAH and two from the poultry production unit in FAO office Kabul.

b. Semi-commercial poultry production

7. Semi-commercial production would be supported by providing the Poultry Farmers Association in Kabul with a 40,000 egg capacity incubator to produce egg laying DOC for supply to the developing industry around Kabul, a mini truck for distributing inputs to other producers and the village poultry development program, 3 deep freezers for storing processed broilers before sale, a motorcycle and a lump sum for market development purposes.

3. Project management/implementation arrangements

8. Project management could be undertaken by FAO personnel already engaged in poultry production from the Kabul office. They would liaise with the officer responsible for poultry production, and where possible in field operations, would liaise with the relevant Animal Husbandry officer in the provincial and district offices.

4. Inputs and costs

Cost item	Number	Unit cost	PY1	PY2
Managemeent TA	1	120000	120000	120000
Teams - 4 persons @ USD220/month	13	10560	137280	178464
Adviser @ USD 300/month	5	3600	18000	
Trainer training (4 persons for 3weeks/team)	9	105	945	1228.5
Refreshments (training) @ USD1 per day	9	84	756	982.8
Training transportation	36	50	1800	2340
Training materials (lump sum)	1	200	200	260
Trainer transportation (hire car)	13	6000	78000	101400
Transportation of materials per team per year	13	500	6500	8450
Motorcycle for adviser	5	2500	12500	
Incubator (Kabul PFA)	1	25000	25000	
Minitruck (Kabul PFA)	1	8000	8000	
Deep Freezers (Kabul PFA)	3	1000	3000	
Motorcycle (Kabul PFA)	1	2500	2500	
Market development (LS)	1	5000	5000	
Study tours	4	5000	20000	
Inputs per location of 250 families				
Pullets @USD 1	26	2500	65000	84500
Mash LS of USD 375	26	375	9750	12675
Drinkers and feeders LS USD 500	26	500	13000	16900
Balanced feed LS USD 1000	26	1000	26000	33800
Medicine and vaccine LS USD 250	26	250	6500	8450
Sub total (USD)			559731	569450
Total (USD)				**1129181**

5. Outputs

9. A total of 6500 households would be trained and provided with ten birds per household. These would produce at least 100 eggs annually (at a conservative 27% rate of lay) - more than twice the production of local birds raised similarly. Distributions would reach 8,450 families the year following (130% of year 1 coverage). The incubator supplied to the Kabul PFA would enable the production of approximately 9,000 DOC per week for sale to livestock raises or to the distribution project for new village producers.

6. Time frame

10. Implementation could begin immediately, or be deferred as a mid-term activity and with additional budgetary support, implemented for a longer period than the 2 years proposed.

B. Artificial insemination and fodder production

1. Rationale

11. There is a considerable market for milk and milk products in all urban demand centers, and surplus household milk production can be sold in these markets for cash. Most rural households keep at least 1 cow to provide milk for household consumption and supporting small scale cattle raisers to improve the productive output of their cows would confer substantial benefit to them. There are however, joining difficulties occasioned by the general shortage of male breeding animals, which would be partly offset by the increased mating opportunity the introduction of AI represents.

12. Although MAAH has used artificial insemination using fresh semen in the past to upgrade local cattle, natural mating continues to be the main method of cattle breeding throughout Afghanistan. More recently, FAO has successfully introduced AI programs to 6 provinces using fresh and imported semen and providing AI for a fee. Farmers returning from Pakistan are also aware of the advantages of artificial insemination and this method of obtaining pregnancies, and upgrading the performance of milking animals has a developing demand - almost 27,000 inseminations have been conducted since October 1998. While the demand for AI is quite high, expansion of AI is limited by the availability of liquid nitrogen (LN2) and semen.

13. If crossbred cattle produced through AI are to produce to potential, they must be better fed. Expanding the AI program producing more crossbred cattle with increased nutritional demand can only be done on the back of better feeding. The fodder production initiative implemented under the FAO project should be replicated in those localities where artificial insemination is introduced. AI and fodder production directed to irrigated areas or areas with damaged irrigation schemes, whose rehabilitation is imminent, would be a development focus.

14. The directorate of animal husbandry has several Artificial Insemination stations, which are badly rundown or destroyed. These facilities have doubtful merit and their future should be determined through reasoned debate, although it is the position of the mission that they should be privatized or sold off. The AI programs implemented by and through AI stations such as these are usually inefficient and expensive and such stations find it difficult to breed and maintain bulls of suitable quality. On the other hand, an almost unlimited supply of surplus DFS straws from second or third production-tier bulls (Jersey or Friesian-Holstein) is available from the EU, Canada, Australia and elsewhere where cattle breeding programs are well developed. This semen is available to Afghanistan free or at nominal cost while its quality is superior to any likely to be produced in Afghanistan for the foreseeable future. Semen from Sahiwal crossbred animals may also be available from India, Pakistan and Australia. Imported semen is the logical alternative to producing semen from indifferent bulls badly maintained locally on government farms. Using imported DFS would also obviate the need for government to maintain breeding farms and DFS processing facilities. These arguments notwithstanding, there is also a justified general consensus that AI activities, particularly with respect to semen production and AI delivery are private sector functions.

2. Activities and proposed locations

15. New AI services using DFS would be introduced to additional villages households around Kabul – the Shomali plains and to districts in Kandahar, Paktia, Takhar, and eastern Ninghar. If these areas were unsuited, likely locations would be sought in Logar, Wardak, Parwan and Kapisar and Helmand–or failing any of these locations, wherever it can be

effectively introduced. The services provided by each technician would cover about four villages of up to 500 households per village and an estimated 2,500 dairy cows each. Assuming 300 inseminations per technician in the first year and 400 inseminations in the second, the 42 technicians proposed would provide improved mating services to about thirteen and 17,000 cows per year respectively at the end of 2 years with opportunity for considerable expansion beyond that number.

16. Two AI technicians (AIT) would be assigned per district and an office for the 2 AIT to share would be constructed next to the VFU to provide their district base of operations. The offices would provide convenience and opportunity for VFU staff to address any breeding problems the AIT reported. The office would be probably being one lockable room at which to store equipment and a covered insemination crush. One other additional crush would be strategically located in the district elsewhere. Provision would be made for up to 1 artificial insemination supervisor to be assigned per province, although the actual supervisory needs may well be less than this ratio and this would need to be determined during implementation.

17. Each technician would be provided a kit comprising basic insemination equipment and consumables as provided to technicians supported under FAO. Both technicians and supervisors would be provided motorcycles (48 units). Provision would be made for the technicians to be trained in Islamabad where there are excellent training facilities for AI. Possible language problems may make it necessary to seek alternative training facilities in Iran. Should either option fail, it would be possible to use instructors brought in from either country with the course provided at the Kabul training center through an interpreter. The course would have standard content and last for 6 weeks. If conducted in Afghanistan, the theory would be offered in Kabul and the practical content of the course in Jalalabad.

18. Deep frozen semen (DFS) straws would be sought from Europe, Canada or elsewhere. At 2.5 straws per conception, 31,500 straws would be needed in the first year and up to 42,000 the year following.

19. A year-round reliable supply of liquid nitrogen throughout the year has not been possible, and particularly in winter this is one of the main constraints to using DFS. A year-round supply of LN2 to serve the insemination areas (both those already established by FAO as well as those proposed under this project), would be established. LN2 plants are both expensive and unreliable and would not be used. The fertilizer factor in Mazar-i-sharif produces LN2 (output and cost unknown at the time of the mission) and it could be transported from there to a central point in Kabul for onward distribution to the AI centers. A 5-10,000 litre bulk LN2 tower (final size determined by actual LN2 demand and supply rate from Mazar) would be established in Kabul under the control of the AI Sub-directorate and supplies provided to each provincial insemination center. The project would finance the tower, a medium sized truck and tanker for delivery between Mazar-I-sharif and Kabul and to the secondary nitrogen depots at the provincial centers. Two, fifty-litre LN2 containers for storage and filling would be established at the provincial centers (12 containers) and the technicians would have one 25 litre semen canister between 2 at their district offices (21 units), and a single 2-litre field container each (42 units). Allowing for natural losses, spillage and for each of the technicians 25-litre semen canisters to be refilled each month, up to eight thousand litres of nitrogen are likely to be needed annually. Provision would be made for the main storage unit to be filled twice-once to enable all of the field units to be fully charged as well as funding a second for emergency re-supply. Technicians would pay for the LN2 they use and the funds collected would finance re-supply of the main tank. A lump sum is provided for a milk collection center to be established at

each village. The above details indicative. Final details of the distribution program and facilities needed would have to be worked out at implementation.

20. A 1-month study tour to the Operation Flood (the Anand Dairy Colony) in India would be provided for 2 staff persons responsible for Artificial Insemination in the Directorate of Animal Husbandry of MA, and the staff supervising the project.

21. A fodder development component would comprising one demonstration plot in each AI village would be introduced under the control of the SPP for fodder development. Costs would include material and input cost, one additional field assistant recruited per province.

3. Project management/implementation arrangements

22. Under the overall supervision of the STA for animal production, the project would be implemented under the person now responsible for animal production. Throughout implementation he would establish a regular program of consultation and field visits with the senior officer responsible for artificial insemination within the Animal Husbandry Sub-directorate of MAAH. The entry point for the introduction of AI to each village would be the shura. Introduction of the AI program would be proposed to the shura of target communities initially and agreement from the Shura sought before any work began. Technicians would obtain their supplies of nitrogen and straws from the provinces as needed.

4. Inputs and costs

23. Indicative costs and indicative phasing for a 2-year project are given as follows.

Cost item	Number	Unit cost	PY1	PY2
Management TA	1	120,000	120000	120000
Technicians salary (Full PY1, half PY2)	42	1200	50400	25200
Technician training (six weeks Islamabad/Iran)	42	2000	84000	
Study tour (India-Operation flood)	4	4000		16000
Office construction incl crush	21	3000	63000	
Additional AI crush	21	60	1260	
Motorcycles	48	2500	120000	
AI Kit	42	160	6720	
DFS straws	31,500	0.5	15750	21000
AI consumables (sheathes, soap, gloves etc.)	42	100	4200	4200
Portable LN2 Container (2 litre)	42	100	4200	
25 Litre Semen container	21	400	8400	
500 litre LN2 container (one per province)	12	3000	36000	
Bulk LN2 container - in Kabul 5-10,000 litre cap.	1	10000	10000	
LN2 startup capital	1	10000	10000	10000
LN2 transport truck	1	25000	25000	
LN2 transport container	1	4000	4000	
Fodder development inputs (one plot per 2 villages)	168	6000	504000	504000
Fodder development field assistant	6	3000	18000	18000
Milk collection center development costs	168	2000	336000	
Subtotal (USD)			1420930	718400
Total (USD)				**2139330**

5. Outputs

24. Overall benefits to the project accrue to better utilization of the livestock resource. These include more lactations per cow lifetime because of the improved mating opportunity AI represents in local villages where there are few breeding bulls, and higher milk production per lactation because of the improved potential of village cows resulting from crossbreeding. More technicians will be employed, additional milk improves household nutrition and eventually, milk surpluses will find their way into the milk collection systems.

6. Time frame

25. It is recognized that some of the activities proposed particularly with respect to fodder development and demonstrations, may extend beyond the indicated 2-year horizon. Project activities and costs may have to be rephrased across five years rather than the 2 years indicated. The purpose of this project proposal is to demonstrate the likely costs and inputs a project associated with AI and fodder development.

7. Risks

26. Greatest risk accrues to fodder production. While the FAO evidence suggests that considerable interest in producing additional fodder has built up since the FAO animal production program began, if farmers neither produce more fodder nor begin feeding more concentrates than previously, the advantages associated with crossbred milk producing cattle, which also include the potential for fattening younger stock for slaughter, may not be realized. There is a risk associated with the unknown supply of LN2 from Mazar, but alternative sources of LN2 are likely to be available in Pakistan. Given the scope of work (particularly with respect to fodder demonstration) the 2-year implementation time frame may be optimistic. But the project may be scaled down to suit the quip time frame of 2 years, or it may with slight phasing adjustment, be implemented over a longer period.

C. Livestock Head Count /Survey

1. Rationale and Scope

27. Livestock numbers in Afghanistan are unknown, nor is there useful data on the production of sheep and goats on the rangelands, or the influence of the war on the nomads and their livestock. It is unclear also how the war and the drought have affected livestock in the other production systems. With no data, it is impossible for feed resources for livestock to be matched with the number of livestock using them, nor is it possible to properly plan animal health and disease control interventions without such figures. Obtaining a benchmark for livestock numbers and the systems, which support them at this early stage in the planning process for redeveloping the livestock sector, is essential. The FAO database from which data on livestock numbers was provided in 1995 is still in existence but the data is too narrow in scope to be merely updated, while it is clear that a more comprehensive survey is needed. This position is supported by ICARDA livestock experts with whom the mission liaised and held discussions on the issue. It is proposed that a national, rapid rural appraisal of the livestock sector be conducted and financed as a short-term project.

2. Activities and proposed locations

28. The survey would be nation wide and in addition to other data, would initiate a head count for the main livestock classes by province and district. It would have to be done in at least 2 parts, one for the sedentary raisers and one for the migratory *kutchies.* The survey and the sampling technique would be professionally designed to ensure statistical validity, for which purpose an expert would be recruited who would be solely responsible for its design, the database and questionnaire, and for inputting and collating the data when at hand. A second consultant would be recruited for eight months, probably in 2 to 3 visits, to train the enumerators and to supervise and coordinate the collection program. The survey would be bound by the seasons in that the high altitude locations would be impossible to survey in winter. Depending on timing of start-up, it might then be necessary to conduct the 6 months of survey work over twelve months or slightly longer, perhaps by surveying the high altitude areas before the snows and the low country in winter. To some extent this will also depend on when funding begins, how long it takes to mobilize TA, design the survey, conduct training and procure inputs. It might also be prudent to conduct a test sampling on one province, to ensure the sampling procedure is sound and to refine the procedure before starting with the rest of the country. These considerations, and there are likely to be others, make the actual survey period somewhat open-ended.

29. Two planning activities would be commissioned at project outset to determine the resources available for the work and to identify implementing partners. The first would be to obtain information with respect to all VFU (by the end of June this might already have been completed under an FAO TA) so as to establish their capability and willingness to perform the work, the second to identify NGO already engaged in field activities who may be suitable and willing survey participants. Following the design of the survey and questionnaire and designing the database, the project leader/survey expert, together with the management TA would convene a series of workshop/s[14] at which the program of work would be outlined. The survey would rely heavily on staff of the VFU to conduct the interviews. They would be called to Kabul and trained by the TA experts and contracted for the work at the same time. To obtain some

[14] The number of people likely to be involved in the fieldwork may make it necessary to conduct several workshops and training programs for training the sampling personnel in sampling technique.

idea of the time needed, an indicative village sampling of 10% would make the 300 VFU each responsible for 10 or 11 villages. Three households per village and a day per village to sample them, suggests a sampling period per enumerator of about two weeks. With a 50% margin for error all of the data might be collected within a month of each enumerator starting.

3. Project management/implementation arrangements including TA

30. In consultation with staff of the Animal Husbandry sub-directorate, the project would be implemented by consultants who would provide technical support and manage the implementation TA. Local knowledge and field experience would be utilized to the extent possible, meaning that staff of the approximately 300 VFU at district level, would be used. NGO with a history of work in their localized areas of operation would also be included under contract where possible.

4. Inputs and costs

31. VFU may be unable to participate without transportation. They and any NGO selected would conduct the sampling under contract. A consultant would be recruited for 4 months for survey design, the collation of data and a managing consultant would 6 months to conduct the training and manage the program overall. Indicative cost items and overall project cost are given below.

Cost item	Number	Unit cost	Total
Design and implementation consultants	10	20,000	200000
Workshops and training	6	5000	30000
Computer and printer	2	3599	7198
Vehicle	2	40000	80000
Motorcycles (field supervisors)	6	2500	15000
Operating costs (LS)	1	5000	5000
VFU contracts (each VFU 1 month @ USD15 per day	300	450	135000
NGO contracts (LS)	2	20000	40000
Contingencies (kutchie survey)	1	51000	51000
Total (USD)			**563198**

5. Outputs

32. The survey would produce nation-wide data on livestock numbers and data with respect to age and sex categories and depending on final design, would permit other categories of information to be captured with respect to offtake and offtake strategies, production constraints and resources. The final data categories would be determined by the TA designer in consultation with animal production experts. The data would be sorted and printed for use by livestock planners of government departments, NGO and international agencies.

6. Time frame

33. The survey should be conducted as soon as possible and could be completed within 6 months. It is unlikely however; that all areas of the country could be sampled in winter and this would need to be taken into account in arriving at a start date. There is the possibility that the sedentary livestock raisers will need to be surveyed in 2 parts, one for the upland country and the other for the lowlands, while a separate survey of *kutchie* sheepherders might be done

during or at the end of the main survey. It should be expected that 12 months might be needed for the 3 elements of the survey to be completed overall.

7. Risks

34. There are no identifiable risks.

D. Vaccination and Deworming Project

1. Rationale and scope

35. The challenge of internal parasites to new lambs and lactating females is life threatening both with the onset of the spring rains and the quick growth of pasture grasses which follows, and again during winter when feed stress is severe. Strategic autumn and spring deworming greatly improves the survival of sheep and goats on the rangeland, but most livestock raisers have no access to anthelmintics. Bacterial and viral diseases are also endemic, but vaccines against them are in short supply and livestock raisers are unable to readily obtain them. By making essential animal health inputs available to livestock raisers while the drought continues, the project may save and preserve nucleus herds and flocks, thereby protecting the livelihood base of many rural Afghans.

2. Activities and proposed locations

36. The project would be an extension of animal health activities already conducted by FAO through the VFU. It would target vulnerable farmers in eight provinces of northern Afghanistan. Up to 70% of these farmers are livestock keepers but many of whom have lost up to half their animals. Livestock raisers in 13 drought affected provinces in the South east would also be targeted, as well as the nomadic sheep raisers whose existence is almost entirely livestock dependent. The project would provide a range of bacterial and viral vaccines as well as anthelmintics. These would be provided to livestock raisers through and by the VFU staff teams. The project would not pay VFU staff, rather vaccines and anthelmintics would be provided free, but the livestock owners would pay a small delivery charge to the VFU operatives.

3. Project management/implementation arrangements including TA

37. FAO could implement the project through the VFU under existing management arrangements and in close consultation with the Veterinary Services Directorate of MAAH at central and provincial/district levels. NGO may be contracted to undertake the interventions in their areas of operation.

4. Inputs and costs

38. Many VFU may be unable to participate in field animal health activities without transportation. Given this probable need and the function VFU are likely to play as field operatives in respect of animal health generally in future, all VFU would be issued motorcycles to replace the units they now have, most of which are unserviceable. A total of 250 units would be provided for at $625,000 (these would not be procured if financed under another project or if as a result of an impending survey of VFU, the VFU prove not to be viable entities). In the latter case, some of the allocation for motorcycles would be used to provide VFU with transportation. Total cost of vaccines against PPR and infectious bacterial diseases and deworming agents would amount to approximately USD225,000, with vaccines costing USD154,000 of this, and anthelmintics USD71,000.

5. Outputs

39. Improved livestock survivability in the targeted provinces and through improved mobility and employment during the vaccination and deworming campaigns, the project would also result in a strengthened VFU animal health delivery system.

6. Time frame

40. It may be too late to conduct the program for the spring of 2002, but if implementation begins during the summer of 2002, the vaccinations and deworming would be completed in autumn the same year.

7. Risks

41. Use of Anthelmintics confers a benefit to livestock raisers by eliminating parasite burdens. This will almost certainly be so in strategic spring and autumn deworming programs and it is at these times of the year that deworming should be done. Indiscriminate drenching at other times may result in more losses than otherwise by removing the parasite: host proximity and lowering resistance to later parasite challenge. Care must be taken to ensure deworming is done strategically and that it only involves the vulnerable groups - the lambs, young stock and pregnant females. There is also the possibility of a build-up in parasite anthelmintic resistance with the continued use of the same anthelmintics over the longer term.

II. SHORT TERM TECHNICAL ASSISTANCE

A. Terms of Reference for Institutional Support TA for MAAH

42. TA is needed to assist with the rationalization of MAAH livestock production and animal health functions. An institutions specialist with ten years of experience working with livestock and animal health directorates in developing countries would be appointed. The consultant would be familiar with the principles of good governance as well as with the systems of government, which has appropriate structures and functions and where private and public sector participation are the norm.

43. Duration: 2 months, based in Kabul.

44. General functions: The consultant would be generally required to provide policy advice to MAAH with regard to the delivery of livestock services, including an outline of public and private sector service responsibilities. He would be required to suggest a carefully reorganized ministry structure and functions, and suggest how the devolution of public sector animal health and animal production responsibilities might be arrived at.

45. Specifically he would:

(i) conduct an inventory of assets held by the Directorates of Animal Production and Veterinary Services and identify those assets and facilities which government should retain over the medium to long term, and those to be divested or otherwise taken over by the private sector,
(ii) indicate a time table for divestment,
(iii) evaluate the facilities to be kept and determine the level of material assistance needed to make them operational,

(iv) evaluate the departmental structure and manning schedule at central, provincial and district levels of both Directorates and establish the staffing requirements for each in line with agreed functions,
(v) develop a workable organogram of relevant departments,
(vi) identify training needs, duration and possible locations,
(vii) clarify inter-directorate and inter-ministry relationships and the responsibilities of each as these pertain to the livestock sector,
(viii) describe and provide TOR for technical assistance which may be needed subsequently so as to make key positions operational until appropriately trained national personnel are available to fill them and,
(ix) conduct a seminar with key MAAH personnel to discuss findings and recommendations.

B. Terms of Reference for Livestock Sector Policy Development TA for MAAH

46. TA is needed to establish the policy and regulatory environment for livestock production in Afghanistan. Its objective is to propose legislation and based on a review of current regulations pertinent to the sector, update present legislation by drafting new laws for approval by legislators. The TA output will comprise a complete set of regulations, partly based on those of countries whose veterinary and animal health services are well developed, and partly on those of neighboring countries.

47. Duty station: Kabul with travel to countries in the region.

48. Duration: 8 months in 3 visits.

49. The consultant would be a senior veterinarian with at least 10 years experience working with livestock and animal health directorates in developing countries. He would be familiar with the conduct of animal health field programs and be familiar with the principles of good governance and the appropriate structures and functions of government in countries where private and public sector participation is the norm.

50. He will work in close consultation with the Deputy Minister of MAAH, the Presidents of the Veterinary and Animal Production Departments, representatives of the private sector and other relevant groups including NGO, the private sector importers and distributors of livestock, feeds and veterinary medical inputs. Where possible he will also work with officials administering the regulations in neighboring countries, so as to establish the most appropriate regulatory structure for Afghanistan.

51. Specifically the TA will:

(i) review all aspects of existing legislation in Afghanistan and neighboring countries,
(ii) establish regional standardisation in veterinary and animal production legislation where possible, including control of livestock movement and quarantine, the responsibilities of central and provincial staff in maintaining disease control facilities, disease declaration, policing of borders and monitoring stock movements,
(iii) formalise the role of public and private sectors in disease monitoring and control,
(iv) promulgate regulations controlling the registration and quality control of vaccines and specify the technical reference authority for vaccines,
(v) promulgate regulations covering meat inspection and food hygiene,
(vi) develop a system of veterinary pharmaceutical control including establishment of approved drug and vaccine schedules, the importation of vaccines, semen and other breeding materials and veterinary medical inputs, by NGO, private traders and others,
(vii) establish regulations to govern compulsory vaccinations, animal treatments and slaughter and destruction of livestock including arrangements for compensation,
(viii) identify the structure of a veterinary registration body with provision for standardising and regulating conduct of paraveterinary professionals (basic veterinary workers and paraveterinarians),
(ix) formalise the role of private veterinarians and others in controlling officially notifiable diseases and the role of para-veterinary staff in providing animal health

services, particularly the services offered from VFU under the supervision of central (Epidemiology Unit), district or sub-district MAAH staff,

(x) propose ways to adapt and upgrade existing legislation to fit the principle of limiting the activities of government to those which are exclusively for the public good,

(xi) define the role of government agencies in all aspects of livestock regulation, including the role of central, provincial and district authorities of MAAH in establishing and maintaining border posts (and any necessary controls), quarantine and quarantine facilities and market watching posts relating to the supervision of cross-border and internal livestock movements. This would include legislation ensuring the role and powers of the Veterinary Directorate, its quarantine staff and its central and regional animal health laboratories in pro-actively investigating and implementing controls on the development of trans-border livestock disease,

(xii) recommend existing or new institutions to be responsible for maintaining and updating the regulations as necessary,

52. The TA output will include:

(i) the structure of a regulatory system capable of efficiently administering the proposed regulations, including an administrative hierarchy and its responsibilities, relationships and functions,

(ii) a complete set of regulations in Dari and English covering the above, defining the respective roles of the private and public sectors. The translation into Dari will be made with the assistance of a national legal professional to assist with incorporating these regulations into a suitable form for legislation.

C. Terms of Reference for an Epidemiologist / Animal Health Management Specialist TA

53. The consultant will be a senior veterinarian with several years as Chief Veterinary Officer in a Ministry of Agriculture having a well-established, operational animal health service. He will be familiar with the managerial and operational requirements of epidemiological investigation units at central level and be capable of planning achievable and relevant epidemiological programs using province and district-based field teams supported by central and regional diagnostic facilities.

54. Duty station: Kabul with field travel to regional capitals and regional laboratories.

55. Duration: 3 months

56. The purpose of the TA is to identify, detail, cost and phase a project outline, which if implemented, would provide for the establishment of an epidemiology-based disease diagnosis and control unit within the MAAF Veterinary Directorate. The project would be sufficiently detailed with respect to the resources needed for this purpose, and it would be of medium term duration - 5 to 7 years. Importantly the project would make provision for enough implementation TA to set up the systems and begin the work program in Afghanistan. During the initial implementation period and under the direction of the implementation TA, national staff would be identified and trained. They would return from training to positions within the Epidemiological Unit and related facilities towards the end of the project.

57. Specifically the consultant epidemiologist will:

(i) ascertain requirements for establishing an Epidemiological Unit (EPU) within the Veterinary Directorate. He will identify key positions and responsibilities and based on available staff, detail the training requirements necessary,

(ii) rationalize the functions of the veterinary laboratories at central and regional levels and evaluate the human and material resources presently at these. Arising from this, he will draw up a list of personnel requirements, training, material and equipment required for these facilities to perform the tasks identified, providing as much detail as possible on course objectives, location, duration and cost for the staff training program,

(iii) specify, phase and cost in as much detail as possible, all transportation needs, buildings, laboratory hardware, consumables and operating costs for conducting the work during the project period,

(iv) identify the requirements of a national disease information data management system,

(v) prioritize the information needs for input into the system and recommend on specifications (including costs) for establishing a computer network between the proposed EPU and the laboratories, including if relevant, data processing software and mechanisms and protocols for data collection and submission,

(vi) examine ways VFU staff can be trained, supported and used in participatory or observational epidemiology,

(vii) identify the requirements for establishing a nationally based, routine data collection system, including the requirements and estimated costs for collecting and processing data and the conduct of one-off surveys as necessary,

(viii) identify and prepare comprehensive TOR including the timing and number of man-months required for implementation Technical Assistance. The TOR may be designed around the following tasks:

(1) building capacity within the EPU and establishing a sound epidemiological basis for the present and future national animal health programs,

(2) drawing up a co-ordination and reporting system linking the President of VD, the EPU director, regional laboratories, provincial and district authorities, to involve them in the planning process and to facilitate their co-operation and participation in a fully operational EU system,

(3) developing goals for the EPU and transferring them into annual work plans for all levels and units,

(4) finalizing and planning the roles of all of the supporting units and agencies for each activity within an epidemiology program and establishing guidelines for the participation of supporting units,

(5) assisting EPU staff develop the epidemiological work on the basis of long, medium and short-term goals and ensuring these goals have defined and realistically scheduled outputs,

(6) planning and implementing OTJ training for EPU staff, and conducting at the EPU and in the provinces, a regular program of epidemiological training and data collection and submission for district and provincial staff (including VFU personnel) and the staff of the diagnostic laboratories,

(7) identifying the initial case studies for EPU staff to begin work on in respect of (say) brucellosis, PPR, FMD so as to develop EPU staff skills in the disease planning process,

58. The output of the TA will be a fully detailed and costed, 5 to 7 year project proposal, which if financed, would facilitate the re-establishment of an epidemiology-based animal health capability in MAAH.

AFGHANISTAN

NATURAL RESOURCES AND AGRICULTURE SECTOR

APPENDIX 7

AGRICULTURE RESEARCH AND TECHNOLOGY TRANSFER

I. BACKGROUND TO AGRICULTURAL RESEARCH SYSTEM

1. Afghanistan is, by large, an agricultural country. In spite of mountainous difficult terrain and adverse climatic conditions and limited arable land, the country was self-sufficient in food in pre-war years, and a significant exporter of high quality fruit, silk, cotton, and other agricultural products. Horticulture and the livestock sub-sector were accounting to about 80% of the total export earnings. However, due to 20 year of military conflict, and a debilitating 3-year drought, the agricultural economy has been collapsed. Infrastructure was destroyed, and the agricultural production base was eroded. Afghanistan has now one of the lowest per capita food availability in the world, malnutrition is widespread, and almost one third of the population has migrated and/ or displaced, and become dependent on humanitarian assistance. Family life has been destroyed in some communities. Many women widowed or lost the males of their households, increasing as such feminization of agriculture. A situation to be considered by research and development endeavors.

2. The agricultural research and technology transfer system (ARATTS) has in the pre-war past effectively contributed to enhancing agricultural productivity, generating the surplus for export, and improving the welfare of the nation. Its development role in the 1960s and 1970s, and promotion activities resulted in the adoption of improved seed, fertilizer and improved technologies. The system, established some 50 years ago, integrated research and extension in one organizational structure to promote new technologies for improving crop and livestock production. At a later date this structure, was separated into 2 departments, which are discussed below.

3. The Department of Agricultural Research is composed of 11 sub-department; the Soils, Irrigation, Agronomy, Horticulture, Industrial Crops, Seed Improvement, Plant Protection, Agricultural Machinery, Animal Husbandry, Poultry, and Planning and Statistics. In the pre-war past, the department carried out its mission through 24 research stations (7 main, and 17 sub-main), covering the geographic and agroclimatic variability of the country. The total area of the stations was about 1750 ha. Except of a few relatively large stations (200-500 ha), all other stations have areas around 5 ha to 80 ha (Appendix 1). Some stations were working on improving crops, horticulture, and livestock, while others had focused on either one or more of these. Before the degradation of the system, the research stations had 1020 staff member at which 40% were located in the 7 main stations. The technical research staff accounted for 25% of the total staffing, and most were B.Sc. graduates with some having a Master's degree. The remainder were support staff.

4. The Department of Agricultural Extension has 8 units; Program Planning, Evaluation, Communication and Information, Field Crops (cereals, legumes, and forages), Oil and Industrial Crops, Horticulture (fruit and vegetables), Certified Seeds, and Rural Women Development. The department implemented extension activities, using extension methods and tools for transferring improved technologies promoted by the research system. Such activities were: demonstrations and field days; exhibitions; assistance to solve technical irrigation problems, improving nurseries, facilitating linkage between the Seed Company, Agricultural Bank, and rural communities, training farmers, and collecting agricultural data. Extension activities were carried out at the provincial and district levels through 400 extension units distributed all over the country. Each of these units had a head and a number of specific subject-matter specialists and extension workers (each in charge of the villages within an area of 1-2 km^2). Each unit had enough office space and facilities, agricultural equipments and audiovisuals, vehicle, motorcycle, and a bicycle for every extension worker. A provincial office that includes a director,

3-4 specialists, and a few administrative staff managed the units in each province. During the 20-year period of conflict this capacity has been lost.

5. ARATTS had effectively contributed to agricultural development. Improved technologies (germplasms, and cultural practices) developed, adapted for different geographical and agroclimatic zones, and disseminated to farming and herding communities. More than 22 improved varieties of wheat were released, adopted by 60–70% of farmers, and with improved cultural practices have increased farmer' yield by about 50–100% over the local's. Many improved varieties were released for corn, cotton, pulses, and other crops. Horticulture had received due attention, with over 25 for different species of vegetables were released, 45 for grapes, 7 for apples, and many others. Improved breeds of cattle were introduced, and crossbred with local strains. Improved strains of poultry were also introduced and disseminated. Genetic improvement programs by selection were carried out for bettering yield and product quality of local sheep and goats, as well as feeding improvement. Vaccines for animal health were locally produced, and extensive veterinary health programs were implemented.

6. Due to the 20-year prolonged conflict, the capacity of ARATTS has drastically declined. Many experienced technical staff has fled the country or taken other jobs. Some research station land has been confiscated by military forces or by influential people and used for other purposes. Equipment has been destroyed, stolen, damaged or obsolete. Currently, only 5 of the 24 stations are relatively well staffed, but very poorly equipped. Some 10 stations are not active at all, and the rest are only partially operational. Only 184 of the 400 extension units are now trying to resume providing some extension services (with no or poor facilities) for about 9760 villages out of over 30,000 villages. Returnee staff members of ARATTS are increasing, but due to lack of communication, the administration in Kabul does not know the exact situation in many provinces.

7. The potential exists to establish and operate an efficient ARATTS. However, all research stations and extension units of are in a bad need for buildings rehabilitation, provision of office and field facilities and operational equipment. Institutional and policy innovation and intensive training to upgrade staff capacity and to enhance the knowledge, awareness, and experience of farmers and herders are also urgently needed. And, acknowledging its crucial role for recovering the agricultural sector, the Ministry of Agriculture and Animal Husbandry (MOA) has given a first priority for rehabilitating the research and technology transfer system.

II. ARATTS OBJECTIVES AND PRINCIPLES

8. The ultimate goal is to revitalize ARATTS to resume its important role for promoting and disseminating improved technologies that effectively and efficiently enhance sustainable resource management, improve agricultural production, the socioeconomic conditions of rural communities.

9. ARATTS priorities would be closely related to each of the major agricultural development areas.

10. **Agricultural productivity:** The immediate problem to be tackled by the rehabilitated ARATTS is crop and livestock productivity, levels which have drastically declined due to use of poor yielding and degenerated crop varieties and poor quality seeds, low-input farming, degraded pastures and lack of proper feed resources, and diseases. A great potential for substantially increasing agricultural productivity is already available using technologies (germplasm and cultural practices) developed by the CGIAR system of 16 international

agricultural research centers. ICARDA and ILRI in particular have developed improved technologies suitable for dry lands and livestock husbandry. These technologies could immediately be tested and adapted by the national research system.

11. **Irrigated agricultural production:** Productivity of irrigated agriculture (cereal, legumes, forages, industrial crops, fruit tree, vegetables, etc.) has declined drastically. The average national yield of irrigated wheat in the last few years, for an example, was estimated at about 1.3 t/ha. A national average yield of 3.0 to 3.5 t/ha can be achieved, and many countries in West Asia and North Africa region have already surpassed this record. The average yield (1995-2000) of CIMMYT bread wheat lines tested by the national research system under variable agroclimatic conditions was 4.6 to 5.7 t/ha.

12. **Rainfed agriculture production:** The rainfed areas, have been neglected for many years by ARATTS; thus it would need particular attention and interest. The arable rainfed area is estimated at about 4.0 million hectare. The average yield of rainfed wheat, for an example, is about 0.5–0.7 ton/ha. There is a great improvement potential of the rainfed agriculture in Afghanistan. ICARDA has promoted improved dry-tolerant varieties and cultural practices for cereal, legume, and forage crops that could double or even treble current yields. With proper micro watershed management, and implementing micro water harvesting techniques, much larger yield increases are achievable.

13. **Livestock production:** Most of past livestock research and technology transfer has focused on breeding improvement (introducing and crossbreeding with exotic strains), and on health care. In addition to breeding, ARATTS would emphasis nutrition and feeding improvement as integrated in irrigated systems, rainfed systems, and the 7-10% of nomadic herding.

14. **Poppy cultivation:** Opium poppy is another serious problem in Afghanistan, which by late 1990s had become the largest producer country in the world. Before the strict and effective banning enforced by the Taliban in July 2000, poppy cultivation was progressively increasing. The area increased from 56,820 ha in 1996 to 82,170 ha in 2000, and production from about 2,100 ton to over 3,650 ton of opium. Helmand province accounted for 52% of the total poppy area, followed by Nangarhar (24%), Oruzgan (5%), Qandahar (4%), Balkh and Badakhshan (3%, each). Much smaller areas are cultivated in many other provinces. The ARATTS will be to investigate, develop, and disseminate alternative farming options to replace poppy cultivation that are technically viable, economically feasible, and socially acceptable;

15. **Integrated natural resource management:** This area was also previously neglected by the research and technology transfer system. Promoting technologies suitable for resource management sustainability (soil, water, natural pastures) under different agroclimatic and socioeconomic environments would be a major objective of the restructured ARATTS.

16. **Agro-processing:** This research and development area was also previously neglected by research activities. Agro-processing of agricultural products and byproducts can increase farm income, and provide employment opportunities for landless farmers and women.

17. **A particular concern is to employ institutional and policy innovations within ARATTS to achieve:**

(i) Upgrading staff technical and administrative capacity, and farmers training;
(ii) Integrating research and technology transfer activities in development programs;

(iii) Development of demand-driven, community-based research and technology transfer programs that recognize the need of rural poor, especially the disabled, children, and rural women;
(iv) Adoption of innovative methodological approaches, such as the farming systems approach to research and development, the integrated natural resource research sites, the integrated watershed management, incorporating socioeconomic aspects with technical and biophysical research programs; and
(v) Integrating research with extension in one administrative structure.

III. PROGRAMS AND IMPLEMENTATION REQUIREMENTS

18. Afghanistan has been included in the geographical mandate of ICARDA, and an effective collaboration program was operating and has been recently reactivated. ICARDA, an international center of excellence, would technically support the implementation of the rehabilitation programs. The facilities and expertise of sister international centers (IPGRI, CIMMYT, ICRISAT, ILRI, IRRI, and ISNAR) would also be enabled as might be needed.

19. A fundamental requirement and preparatory step will be a review to assess the needs, policy, functions and institutional structure to establish and operate an efficient ARATTS that will respond to farmers identified priorities and to future farming needs. This assessment to be undertaken as part of the larger MAAH institutional review. The volume from the ARATTS review will impact on infrastructure equipment and human resource requirements.

20. Major activities of the rehabilitation program are:

21. **Rehabilitation of Agricultural Gene Bank:** The destroyed Gene Bank was maintaining a wealth of indigenous and exotic germplasm. With technical support of ICARDA and sister international centers, the Gene Bank will be reconstructed, equipped, and a multitude of germplasms would be conserved in-situ and ex-situ.

22. **Rehabilitation of ARATTS buildings:** Based on ARATTS review findings essential buildings will be repaired at relatively low cost, and will be furnished and provided by office and lab equipment.

23. **Rehabilitation of ARATTS irrigation systems:** This item includes establishing and/ or maintaining some wells, and provision of pumps and field irrigation facilities. The above review will need to assess the extent to which such facilities should remain part of ARATTS in view of its new focus on "on-farm participatory research" methods.

24. **Provision of ARATTS machinery and equipment:** This item includes sets of agricultural machinery for plot research and field demonstrations, transportation facilities (vehicles, trucks, motorcycles, and bicycles), and office and lab equipments. Based on review findings and planned work programs, these items should be identified and technically specified by subject-matter specialists for each major activity of ARATTS work and be shown to be consistent with its reformed role.

25. **Provision of agricultural inputs:** This items includes all material inputs used in research and extension activities, such a seed, seedlings, fertilizer, herbicides and pesticides, etc.

26. Human resource development: Based on identified requirements to meet ARATTS needs extensive formal and informal training would be provided to upgrade the capacity and skills of staff. Short and long training courses will be conducted overseas; in-country and in-house, and on-the-job training will be emphasized. Degree training will be availed to gifted staff members to gain higher academic degrees (MS and PhD). Interaction with the international scientific expertise will be encouraged through study tours, participation in scientific meetings, visiting scientists, and sabbatical leaves. Proper training courses, tailored according to actual needs, will also be provided to improve awareness and skills of farmers and herders, including rural women. Local and international institutes would implement the human resource development programs (HRDP). ICARDA, in particular, would have the major role in identifying training needs, build up and implement HRDP.

27. **Sustainable rehabilitation:** The ARATTS review and recommendations for reform and reorganization, must include a criteria and assessment on financial and technical sustainability of the proposed systems to be established.

28. **Balanced rehabilitation:** A thorough assessment is required to ensure the appropriate balance is maintained between physical and human resource investments to achieve ARATTS objectives.

IV. INSTITUTIONAL AND POLICY INNOVATIONS

29. During the 20 years that the Afghan system was relatively isolated from international best practice, drastic conceptual changes and innovative approaches to research and technology transfer have been promoted. Innovative institutional and policy changes should be employed to cope with conceptual and methodological changes. Policy innovations should be reflected in:

30. **Adoption of new methodological approaches:** ARATTS should not be involved in basic research; rather it should focus on adaptive research and technology transfer directly related to agricultural development using on-farm participatory methods. Internationally, a wealth of new technologies developed for dryland areas are available. ARATTS major role would be to test, adapt, and disseminate whatever technologies prove suitable to local conditions. Community's demand-driven participatory approaches to research and development should be employed. Such approaches are the farming systems approach to agricultural research and development, and the integrated watershed planning approach to natural resource management.

31. **Research for development:** Institutional and policy innovations should be reflected in enhanced contribution of research and technology transfer to agricultural development. Human capacity should be strengthened to contribute to institutional innovation in agricultural research and technology transfer for development. This requires new management training methodologies, mobilizing the media for agricultural innovation, distance training and face-to-face programs, and leadership and creativity for change.

32. **Targeting new research and development areas:** Emphasis should be directed to important research and technology transfer areas that previously were either neglected, or not given due attention by ARATTS. Such areas were natural resource management (conservation and use of soil, water, and vegetative cover), biotechnology and information technology, socio-economics, monitoring and evaluation, and adoption and impact research. ARATTS agenda should consider gender mainstreaming, rural women needs and their role in resource

management. A particular focus should be given to research for developing the vast rainfed areas in the northern and northeast provinces, where a great improvement potential exists.

33. **Cost-effective services:** Institutional and policy innovations should support timely and cost-effective services to strengthen agricultural research and technology transfer for the poor, especially the disabled, children, and rural women.

34. **Management of new technologies:** ARATTS policies and institutional arrangements should be encouraged to ensure appropriate use of new technologies for increasing food security and alleviating poverty. Considerations in this respect are benefits and risks of modern technologies, managing intellectual property, managing information, and strategic planning through decision support methods.

35. **Stakeholders partnership:** To enhance the influence of stakeholders on the research and extension agenda, and to improve the subsequent response of research. This would need partnerships and networks, negotiation and conflict resolution, effective governance bodies and management practices, and decentralized and well coordinated research and extension activities. Farmers and the emerging private sector, including NGOs, will be important partners in generating new relevant knowledge responding to social needs.

36. **Building capacity to respond to cross-sector demands:** To strengthen the capacity of ARATTS to respond to new cross-sector demands. Due considerations should be given to eco-regional management projects, agriculture-environment interaction, and agriculture- health interactions.

37. **One organizational structure:** As most of research work would be applied research and considerable part of activities would be implemented on farmers field, it would be vital to integrate the research and extension systems in one organizational structure. This integration would not only be reflected by reducing the ARATTS infrastructure to the minimum possible, but it would facilitate more cost effective, and more technically efficient management and operation of the system.

V. MEDIUM TERM DEVELOPMENT FRAMEWORK

38. Based on the issues and needs discussed in the above sections, strategies, short term and medium term interventions have been identified to achieve all ARATTS development. These issues, needs and strategies are summarized in the development framework in Table 1.

Table 1: Agriculture Research Matrix

Key Issues	Strategic Objective Indicators	Needs assessment		Policy Agenda
		Short-Term Program (1-2 Years)	Medium Development Framework (2-5 Years)	
The scope of the future agriculture research and technology transfer (ARATTS) network	A relevant fully supportive ARATTS network Using on-farm participatory research	Undertake study of the scope of research and extension	An agreed scope of public sector responsibility for agriculture research based on study recommendations	Prepare a policy document outlining the options for funding and managing an ARATTS network
Damaged and looted facilities	Restored research facilities in line with reformed role	Interim measures to allow core work program to continue	Restoration of facilities in line with agreed reforms and scope of work	As above
Potential loss of genetic base	A gene bank in Kabul		Implement recommendations of research study	Conservation of genetic resources
Inappropriate extension service	Effective research and extension service delivery systems meeting community needs	Study to determine cost effective and efficient delivery options.	As above	The role of extension in community based planning and programming of investment

VI. EXPECTED OUTPUTS

39. The principal outcomes of the reformed and restructured ARATTS would be:

(i) Physical infrastructure of ARATTS to undertake its new role would be rehabilitated. The Gene Bank reconstructed and facilitated. As prioritized with in the new structure, research stations and local units to undertake the new ARATTS functions, would be properly equipped;
(ii) The capacity and skills of ARATTS staff to undertake the new ARATTS functions would be upgraded. This to involve state of the art of agricultural sciences and practices; and, rural and pastoral communities, include women, and training for adopting improved technologies;
(iii) A network of adaptive on-farm research will be established, and innovative methodological approaches developed and employed in participation of rural communities, local and international research and development centers, and other stakeholders;
(iv) Improved technological packages promoted for sustainable resource management, improved agricultural production, and environmental conservation;
(v) Systems will be established for monitoring and evaluation of project impacts on the resource base, the environment, and socioeconomic conditions of rural communities;
(vi) Systems operated for information and knowledge management sharing, using high technological methods and facilities; and
(vii) Institutional and policy innovations employed.

40. A functioning ARATTS with the capacity to undertake the roles and functions as agreed by government after the ARATTS review will benefit rural communities, the environment, and the national economy. Although most of impact will be in the medium-term, there will be some short-term benefits. Expected impacts are as follows:

41. Agricultural biodiversity**:** The wide topographic and agroclimatic variability of Afghanistan has allowed a wide range of plant biodiversity to survive. With technical assistance of ICARDA and sister international centers biodiversity will be enhanced through conserving domesticated and wild germplasms by the Gene Bank, improved farming systems and cultural practices, and bettered natural resource management.

42. **Agricultural productivity improvement:** It is expected that immediate yield improvement (of about 30-40%) would take place on 20% of crop area due to seed and fertilizer distribution programs. In the medium term, yield increases of 60-70% on 40-50% of crop area are anticipated, and doubling yields on 70-80% of crop area in the longer term. Improvement of vegetables productivity will follow the same trend, but fruit improvement would take longer time. No immediate impact of ARATTS is expected on livestock productivity. Productivity improvement of 20-30% for about 20% of the flocks to be achieved in the medium term, and of 40-50% for about 30-40% of the flocks in the longer term.

43. **Replacement of poppy cultivation:** Alternative crops to poppy cultivation and intensive cropping systems to compensate for poppy income adopted by 30-40% of poppy area in the medium term, and by 60-70% in the longer term. In the short-term external interventions involving mechanisms such as farmer payment systems for non-production may be required, while alternatives that are acceptable to farmers are identified.

44. **Improving water-use efficiency:** Improved resource management, cultural practices, and cropping systems would improve water-use efficiency, facilitating cultivation of more arable area, enable more intensive cropping, and result in yield increases. Some cultural practices (better irrigation, fertilizer application, tillage) would have immediate impact, but the resource management impact will be in the medium and longer time. Quantified impact assessment will be essential.

45. **Sustainable natural resource management and environmental improvement:** This will be longer-term impact, and will require long-term monitoring and evaluation programs.

46. **Agriculture recovery and socioeconomic conditions of rural communities:** ARATTS would contribute, with other infrastructure development, to agriculture recovery. Immediate impact will be increased agricultural production, with improvement in socioeconomic conditions achievable in the first year. However, the impact will be greatly enhanced over time with adoption of the improved technologies.

47. **National welfare:** Improving agricultural productivity will not only be reflected by food self-sufficiency, but also by improved diets for all people, and by enhanced agricultural exports that could account for the bulk of the country's total exports.

48. **Institutional and policy impact:** Research and technology transfer policies must respond to societal needs. To achieve a community based and participatory process so the ARATTS is responding to priority farmer needs, will involve: stakeholders participating in discussions on research and technology transfer agendas; ARATTS adopted biotechnology and information and communication technology increasing food security and alleviating poverty; resolution of any conflicts between agricultural and environmental interests; collaboration with regional and international research and technology transfer systems strengthened; and linkages between research and nutrition at household level incorporated when planning programs.

VII. STAKEHOLDERS AND LINKAGES

49. ARATTS would establish partnerships with a multitude of stakeholders, particularly with the local farming and herding communities, other departments of MOA, other key government, Ministries (MRRD, MIWR), agricultural faculties of universities, private sector support and service agencies involved in the agricultural sector, traders, processors and consumers, NGOs, the international funding agencies (especially ADB, WB, and IsDB), FAO and other UN development programs, and the CGIAR system. Of the latter, the previous partnership with ICARDA would particularly be resumed and strengthened, as Afghanistan is within its regional mandate for improving agricultural production and natural resource management in the dry areas. ICARDA would also facilitate enhancing linkages with other centers of the CGIAR system as IPGRI, CIMMYT, ICRISAT, ILRI, IRRI, and ISNAR. Linkage with local and international NGOs involved in agriculture and natural resources would also be strengthened.

Annex 1

Past and Current Situation of Agricultural Research Stations in Afghanistan

No.	Name, Location/ Province	Area (ha)	Staff Past	Staff Now	Remarks
1	Darul Aman in Kabul*	30	40	45	Active, research on C, L, V, F
2	Badam Bagh in Kabul	80	110	50	40% operating, fruit tree research
3	Qargha in Kabul, fruit	14	25	13	60% operating (fruit production)
4	Qargha in Kabul, vegetables	5	16	10	Partial operating (Veg. research)
5	Tarnak in Kandahar*	500	110	25	20% operating (F, V, C, L, I)
6	Kokaran in Kandahar(1)	48	35	0	Not active (F, C, I, V)
7	Spenghar in Kunduz*	40	45	NA	Active (C, I, V)
8	Chardarah in Kunduz	34	24	NA	40% operating
9	Ortabolaqi in Kunduz	80	100	0	Not active
10	Dehdadi in Balkh*	10	20	NA	16% operating (C, I, F, V)
11	Khas Bazar, Balkh-Mazar(2)	80	65	0	Not active (seed production, research)
12	Urdo Khan in Heart*	216	65	40	30% (research & seed) C, I, V)
13	Falahat in Heart	50	20	0	Not active
14	Ghoore in Ghoorat	40	35	0	Not active (C, Pistachio)
15	Mullah Gholam in Bamyan	4	15	0	Not active (winter wheat, V)
16	Lab-e-Darya in Bamyan3	5	28	0	Not active, used by the army
17	Bolan in Helmand	50	42	42	60% operating (C, I, V, F)
18	Rohani Baba in Paktia	40	35	35	Active, C,V.F
19	Sheshan Bagh in Nangahar*	14	35	35	Active (C, V, citrus)
20	Farm Jadeed in Nangahar	9	16	16	Active (Veg. seed production)
21	Pozishan in Baghlan*	102	85	0	Not active, was No. 1 station
22	Baysaqal in Baghlan	200	20	0	Not active , totally for rainfed resea.
23	Taloqan in Takhar	27	16	NA	30%, rainfed and irrg. (C, V, F)
24	Lal in Bodakhshan	20	15	0	Not active rainfed and irrg. (C, F)

C = cereal (mainly wheat, some corn, sorghum, and rice in warm locations)
F = fruit trees (grapes, stone-seed, and others; and pomegranates and citrus in warm locations
L = legume, mainly chickpea
V = all kinds of vegetables
I = industrial crops, including cotton and oil crops

(*) Main stations, non-asterisked are sub-stations
(1) Taken by influential people
(2) Taken by Taleban for housing, will be replaced by a new location called Takhtapool station
(3) Taken by the army

AFGHANISTAN

NATURAL RESOURCES AND AGRICULTURE SECTOR

APPENDIX 8

INSTITUTIONAL DEVELOPMENT

I. INTRODUCTION

1. Phase II of the needs assessment, led by the Asian Development Bank, builds on the findings of the February 2002 mission. The Purpose of the mission is two-fold: (i) to identify and prepare quick impacts interventions, and (ii) to assist the government in developing a medium term development framework. In addition to identifying sectoral interventions, the Mission will also undertake a preliminary institutional review of the Ministries of Agriculture and Animal Husbandry (MAAH), Irrigation and Water Resources (MIWR) and Rehabilitation and Rural Development (MRRD) to assist the Government in a strategic approach in establishing an appropriate institutional and policy environment has been undertaken.

2. The institutional and organizational assessment identifies areas in need of change to enhance the efficiency and effectiveness of government service in the natural resources and agricultural sectors. The institutional analysis, therefore, examines the existing responsibilities within the Ministries of Agriculture and Animal Husbandry (MAAH), Irrigation and Water Resources (MIWR), and Rehabilitation and Rural Development, MRRD) and between national and local government units. The analysis further identifies institutional and human resource constraints and issues, and assesses options for efficient service delivery including alternative service delivery mechanisms.

3. The Afghan Interim Authority (AIA) identified the following key priority areas for the reconstruction of Afghanistan:[1]

(i) Enhancement of administrative capacity, with emphasis on the payment of salaries and the establishment of the government administration;
(ii) Education, especially for girls;
(iii) Health and sanitation;
(iv) Infrastructure, in particular roads, electricity and telecommunications;
(v) Reconstruction of the economic system, in particular, the currency system;
(vi) Agriculture and rural development, including food security, water management and revitalizing the irrigation system.

4. While the institutional assessment addresses capacity development needs of the agriculture and natural resources sector nationally, particular attention will be directed to the institutional and human resource capacity needs of geographic areas prioritized by the government on the basis of vulnerability. These are as follows:

(i) Shamali Plains
(ii) Darisuf Yaw-aw-Lang
(iii) Central Bamyan
(iv) Khawajaghorl-Lazarbagh
(v) Takhar-Badakshan
(vi) Mazar-a-Sharif Region
(vii) Herat – Ghur
(viii) Khandahar
(ix) Paktia – Patika
(x) Eastern Nangahar
(xi) Jaloyzy

[1] Co-Chairs' summary of conclusions: The international conference on reconstruction assistance to Afghanistan, Government of Japan, 22 January 2002

5. The following principles defined by the Interim Government guide the Institutional and Organization Development (capacity building) analysis. Recommendations for interventions shall be guided by the following principles:

(i) Respond to the priority demands as identified by the Afghan people;
(ii) Build capacity in areas where there are opportunities for quick impact;
(iii) Emphasize equity among different ethnic groups and gender equity;
(iv) Strengthen and expand where applicable the more effective, existing service delivery systems;
(v) Strengthen private sector areas with greatest potential to lead economic growth;
(vi) Promote a streamlined central administration with core responsibilities
(vii) Support short-term capacity building initiatives leading to longer-term sustainability.

II. BACKGROUND

6. The current population of Afghanistan is estimated at about 20 million, with 85% of its population involved in agricultural activities in the rural areas. Approximately 1.5 million people are nomadic pastoralists. One-third of the country's population, approximately 6 million people, fled the country in 1978 because of the war.[2] Twenty-three years of conflict have decimated the institutional and human resource capacities of the government. The physical infrastructure of the government at the central level is significantly damaged and is mostly non-existent at local levels. Substantial human resource capacities have been lost or substantially weakened. For these reasons, restoring the government represents an enormous challenge. The opportunity exists, however, to rebuild lean and efficient institutions based on principles of good governance.

7. Moving government away from a centrally planned administration system to a market oriented society involves a change in thinking about the role of government. Change agents within the government assisted by international experts will be required to lead the change process towards a streamlined administration that creates an enabling environment for private sector growth. A restructured government will need to focus on core functions to include: creation of an enabling policy environment and supporting legislation; strategic planning; financial management; control mechanisms including development of standards and regulations; contracting processes and monitoring systems to oversee services contracted to the private sector and NGOs, and research and training.

8. Previous assessments of government sectors emphasize the need for a transitional strategy that supports the building of community institutions. Lessons learned from NGOs' best practices demonstrate that community driven projects can be successful if participatory practices are used. Developing and strengthening community-based organizations will be built into short and medium term strategies.

9. The needs of particular groups in the population will be a factor in reconstruction. In particular, the needs of women who represent a large portion of the agricultural work force and who are responsible for most menial tasks will be a key factor in the rehabilitation of the agriculture and natural resources sector. Capacity development, and the participation of women strategies in the development of strategies to improve their role, and the employment of

[2] Afghanistan Recovery and Reconstruction Preliminary Needs Assessment of the Agriculture and Water Sub-Sectors, Annex 1, December 7, 2001.

professionals in the Ministries of Agriculture and Animal Husbandry, Rehabilitation and Rural Development and Irrigation and Water Resources are important considerations. The Draft National Development Framework[3] emphasizes the need for all programs to address gender issues as a major factor in development rather than addressing gender as an afterthought.

10. Enhanced opportunities for women are necessary to improve cooperation and dialogue between men and women. Furthermore, increased equity and participation of women in decision-making and control over their lives are salient issues in ensuring appropriate community driven development. In order to ensure adequate participation of women in the rehabilitation of the natural resources and agricultural sectors, an assessment of issues related to women in agriculture and remote communities will need to be undertaken. This process will be the first step in the short term, with activities emphasizing the active participation and inclusion of women incorporated into every program.

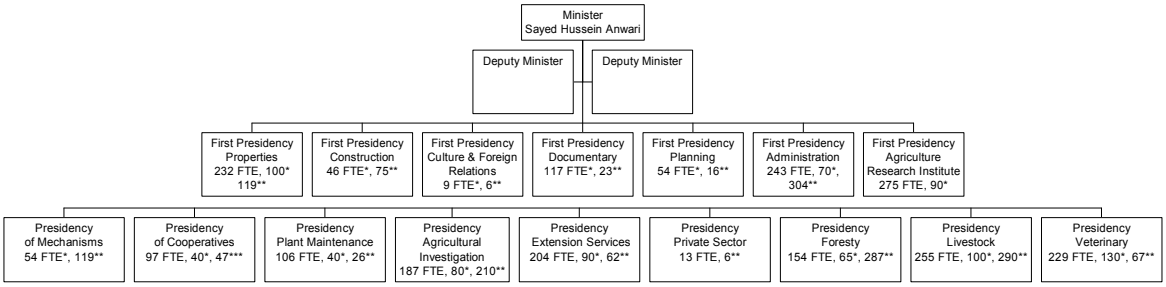
11. Additionally, the issues and needs of *kuchis* as a special population need to be addressed. Although they represent a small portion of the population, they are the main users of the semi-arid rangelands and own a high percentage of the animal population.[4]

III. STRUCTURE AND RESPONSIBILITIES OF THE SECTOR MINISTRIES

A. Ministry of Agriculture and Animal Husbandry:

12. The Ministry of Agriculture expressed an urgent need to restore its institutional infrastructure and rebuild its human resource capacities in order to regain its leadership in the agricultural sector. The Ministry indicates that the current situation, with NGOs attempting to provide all services, detracts from the Ministry's ability to restore the confidence of communities in government's capacity to address their needs. For this reason, the Ministry believes that external assistance in the form of salaries, vehicles and equipment should be provided in the immediate future to enable it to carry out basic functions and prevent further erosion of confidence in the government. In the short term, however, even with the infusion of these resources, the Ministry does not have the human resource capacity to replace NGO service providers. The Ministry's organizational chart is set out below:

Organizational Chart of Ministry
Of Agriculture and Animal Husbandry (MAAH)
(2001)



Legend: FTE = Full Time Equivalent, * = Professional Staff, ** 1 Year Provisional
The nine operational "Presidency" departments report directly to the Minister

13. The organizational chart describes 2 deputy ministers, 7 First Presidencies at the administrative level, and 9 Presidencies at the operational level directly responsible to the

[3] Draft National Development Framework, April 2002

[4] Ulfat-un-Nabi Khan and Muzaffar Iqbal, 1999, The Role and Size of the Livestock Sector in Afghanistan, UNDP, World Bank Afghanistan Sector Studies, Islamabad, 1999. Section. 5.2, p.27

Minister. The Deputy Ministers act in the place of the Minister in his absence. The third layer of the Ministry includes nine departments also directly under the Minister; however, the President of Administration has the overall responsibilities, (hiring and terminating) of staff under the first 3 levels of this layer. The 7 first presidencies have a total of 259 professional staff.

1. Operational Departments of the Ministry of Agriculture and Animal Husbandry

14. There are 9 operational departments under the Ministry of Agriculture, as follows:

(i) Presidency of Mechanisms Department has 16 general directors and is responsible for modernization of agriculture, e.g. ploughing and wells.
(ii) Presidency of Cooperatives Department has 16 Directors and is responsible for distribution of fertilizers and animal medicines to farmers;
(iii) Presidency of Plant Maintenance Department has 11 directors and is responsible for elimination of plant diseases and insects endangering crops;
(iv) Presidency of Agricultural Investigation Department has 31 directors and is responsible for investigating improved seeds;
(v) Presidency of Extension Services Department has 27 directors, and is responsible for delivering information and technical assistance to farmers on new and improved agricultural methods and contemporary technologies;
(vi) Presidency of Private Sector Department has 3 directors and is responsible for improving income generation opportunities (e.g. poultry, honey bees);
(vii) Presidency of Forests and Pastures and Grazing Lands Department has 25 directors and is responsible for maintenance and preservation of forests and protection of pastures from farming;
(viii) Presidency of Livestock and Animal Husbandry Department has 63 directors and is responsible for improved animal husbandry;
(ix) Presidency of Veterinarian Services Department has 26 directors and is responsible for control of animal production: elimination of livestock diseases, control and application of vaccines.

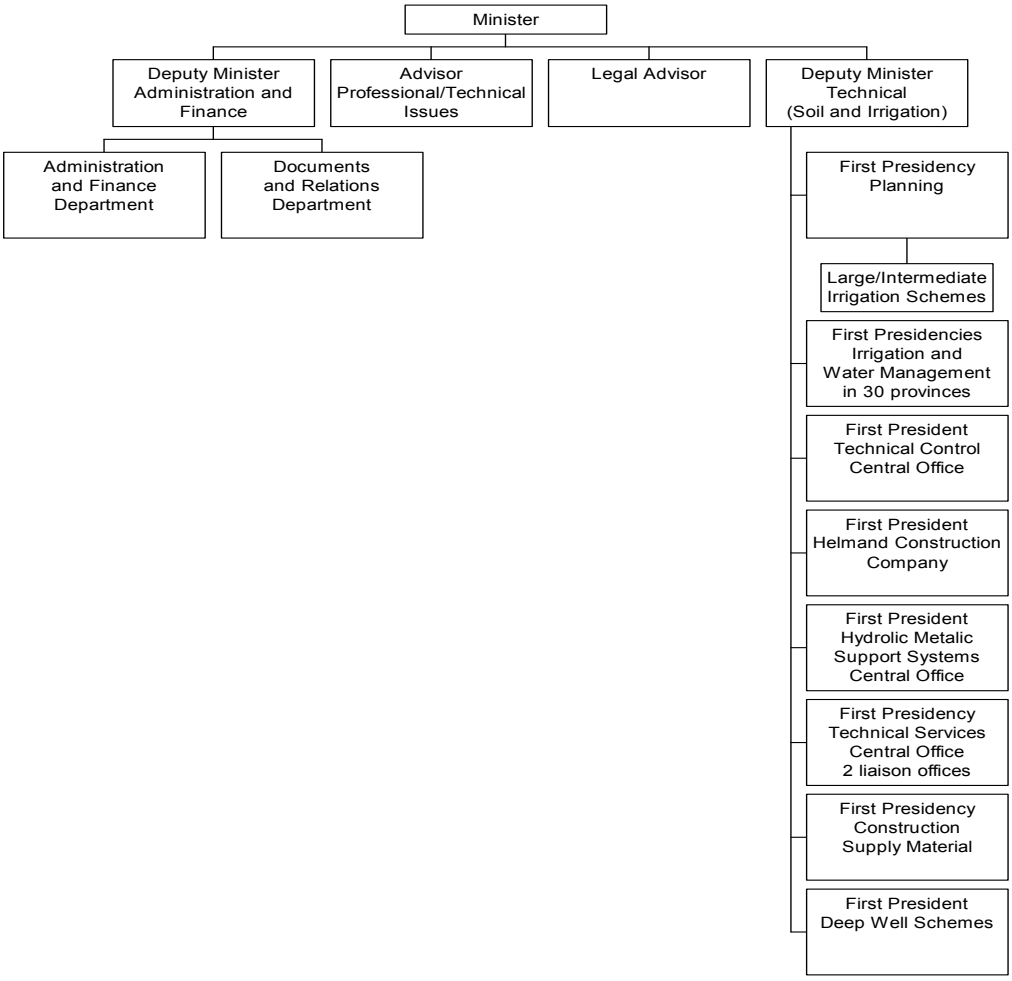
15. It is evident from the above brief description, that the current organization of the MAAH is based upon a range of functions that are unlikely to continue. The new Government is keen to allow the private sector to undertake many of the functions mentioned. Moreover, many of the staff positions are not actually filled because people have not returned. On paper, the MAAH remains a large bureaucracy, which under no circumstances should be recreated. Its role should be reviewed, and the organization restructured based on the review recommendation and staff positions allocated accordingly.

B. Ministry of Irrigation and Water Resources:

16. The Ministry of Irrigation and Water Resources is responsible for the development of medium and large-scale water schemes. These include but are not limited to digging deep wells for drinking water, construction and control of hydraulic structures, power systems, diversion dams, *nahars,*[5] and canals. The Ministry also has oversight responsibility for the Helmand Construction Company, an autonomous State Owned Enterprise (SOE).

17. The organizational chart describes two deputy ministers, a legal adviser and a Technical Affairs Advisor reporting directly to the Minister. Under the Deputy of Administration and Finance, there are two first presidency departments, the First Presidency of Administration and the First Presidency of Documents and Relations. Under the Deputy of Technical Operations (Soil and Irrigation) there are nine First Presidency departments, headed by a First President and assisted by a Deputy Director. Descriptions of the departments follow the Ministry's organogram.

Organizational Structure of the Ministry of Irrigation and Water Resources



[5] "Nahars", refers to traditional canals already excavated by communities, whereas "canals" refers to formal canals planned and built by the Ministry.

(i) Presidency of Irrigation and Water Management Departments are defined in 30 provinces. There are two categories of these departments. First category departments (the highest level in the hierarchy determined by the activity in the area and the complexity of projects) are established for 12 provinces, with positions allocated for a department head and forty-five staff including 5 engineers. Five departments in the first category (Mazar Sharif, Herat, Khandahar, Kabul, Nangahar and Paktia) are almost completely staffed. Twenty departments in the second category are each allocated a director with 25 permanent staff and 3 to 6 engineers depending on the location.

(ii) Presidency, Technical Control Department, a central office function, has 45 permanent staff and 25 engineers. The department is responsible for evaluation, supervision and control of irrigation and construction (e.g. hydraulic structures, diversion dams, wells, canals).

(iii) Presidency, Metallic Elements Production Department, responsible for building support fences, irrigation gates, pipes and hydraulic support systems, has 154 staff and 50 engineers. Although the department lacks vehicles for transportation, it attempts to serve remote areas by taxis and buses.

(iv) Presidency, Technical Services Department is a central office function with 2 liaison offices in Mazar Sharif and Herat. The department is responsible for receiving material and equipment and transporting these resources to the provinces. There are 58 permanent staff in the central office, 58 permanent staff in the liaison offices and 10 engineers. Additional mechanical engineers, with technical expertise are needed to develop and monitor specifications.

(v) Presidency, Construction Material Supply Department, a central office function, receives construction material, equipment and tools from donors and distributes these resources to the provinces. The Ministry has retained a warehouse of these supplies. The department has 92 permanent staff including 52 professional/technical staff.

(vi) Presidency, Deep Well Drilling Department, has 45 permanent staff and 10 engineers in the central office, and five zone locations, Herat, Khandahar, Paktia, Mazar Sharif, and Nangahar, serving the provinces. There are 63 permanent staff located throughout the zones including 25 engineers.

(vii) Presidency, Helmand Construction Cooperative, an autonomous state owned enterprise (SOE) under the Ministry, operates as a profit making enterprise in 12 provinces linked to government projects in these areas (Kabul, Helmand, Khandahar, Herat, Nimroz, Faryab, Mazar Sharif, Jawzjan,Takhar, Baghlan, Nangarhar). The Cooperative has 325 permanent staff including 65 engineers in the central office, and 371 permanent staff including 45 engineers in the provinces.

(viii) Presidency, Planning Department has 70 full time staff and 17 professional staff. The Planning Department is responsible for large and intermediate irrigation schemes. There are 4 irrigation projects under the Planning Department as follows:

1. Sardeh Irrigation and Dam Scheme In Ghozi Provence has 16 departments with 360 permanent staff including 25 professional/technical staff;
2. Helmand Valley Authority in Helmand Provence has 16 departments with 425 staff and 25 professional/technical staff;
3. Parwan Power and Irrigation Project has 16 departments with 143 permanent staff including 15 professional/technical staff;

4. Shkary Irrigation Canal in Nimroze Provence has 16 departments with 69 staff including 5 professional technical staff.

18. The ministry traditionally was heavily involved in construction activities and actual project implementation. In line with the new government vision the MIWR will need to reform and restructure to undertake core functions focusing on irrigation project programming and monitoring of sector performance. The organizational size and structure are likely to be markedly reduced.

C. Ministry of Rehabilitation and Rural Development:

19. The organogram in the Ministry's office reflects direct lines of authority from the Minister and Deputy Ministers to all first level department heads, but it is not clear that this reflects actual reporting practices. The Minister is assisted by 2 staff offices: a Deputy Adviser and a Secretariat Office. Directly under the Minister are 2 deputy ministers, a Deputy Minister of Finance and Administration and a Deputy Minister of Technical Operations. Reporting to the Ministers and Deputy Ministers are First Rank Presidencies as follows: Finance and Accounting, Administration, Planning, Design and Engineering, Construction and Environmental Hygiene and Water Supply.

20. Functional Descriptions of First Rank Presidencies (MRRD) are set as follows:

(i) **First Rank Presidency of Drinking Water Supply and Sanitation** Department managed by one President and a Deputy President has a total of 71 staff and is responsible for water supply schemes. It has the following professional/technical staff:
   1. 6 Engineers, Construction of Water Supply Schemes Department
   2. 6 Engineers, Wells Machinery Department
   3. 4 Engineers, Hand Pump Department
   4. Technical Staff, Sanitation Department
   5. 2 Engineers, Hydraulic Department
   6. 4 Professionals, Administration Office Department

(ii) **First Rank Presidency of Relations and Documents**, headed by a Director, is responsible for collecting and distributing mail. It has a total of 37 staff and the following professional staff: Secretariat Document Office (11 professional staff).

(iii) Foreign Relations Office (8 professional staff) responsible for contacting foreign offices

(iv) **First Rank Presidency, Planning Department** headed by 1 President and 1 Deputy President has a total of 38 staff and the following offices and professional staff:

(v) **Planning and Evaluation Department**, has 4 planners and the following sections;
   1. Unification and Design Layout, 3 analysts responsible for economic analysis of projects;
   2. Statistics, 5 statisticians;
   3. Foreign Aid Office, 3 professionals responsible for managing foreign assistance funds and proposals;
   4. Development Budget Department, 4 budget planners;
   5. Provincial Relations Department, 2 professionals responsible for mediation of rural problems, and

6. Social and Economic Survey, 4 professionals including 1 economist, 1 engineer, and 1 agriculturalist responsible for working with communities in identifying priorities

(vi) **First Rank Presidency, Construction Department**, headed by 1 President and 1 Deputy has 61 total staff, is responsible for construction and rehabilitation of karezes,[6] construction of small dams and small-scale water schemes, building siphons and cleaning canals. Prior to the years of conflict, the Construction Department had an inter-ministerial team of irrigation people working in close cooperation. MRRD is working with the Ministry of Planning to develop a renewed agreement of cooperation among ministries. Construction has the following departments and professional staff:

1. Management of Construction Projects section has 17 engineers, mostly civil engineers, in different fields. Engineers from different areas are assembled in teams when projects require diverse expertise. Examples of projects include building water turbine systems for electricity power in villages. Under this department, is a newly established Delivering and Arrangement Department responsible for collecting reports from project sites and forwarding them to the Planning Department;
2. Management of Construction Equipment section responsible for inventory and control of equipment has 6 logistics professionals.

(vii) **First Rank Presidency, Engineer and Design Department**, headed by a President, has a total of 49 staff and the following professional staff*:*

1. Administration Department has 1 General Director, and 3 professional administrative staff;
2. Mapping and Drawing Department has 1 General Director and 4 professionals;
3. Estimation Department has 1 General Director and 5 professionals;
4. Survey and Technical Department has 1 General Director and 9 professionals;
5. Design Department has 1 General Director, 4 engineers for design of roads, 3 engineers for irrigation, 4 engineers for water supply schemes and 1 technical profession for power supply.

(viii) **First Rank Presidency, Technical Control Department** works in close collaboration with the Construction Department and is responsible for specifications and monitoring of projects works. This unit has a total of 20 staff and four engineers serving its 3 departments:

1. Evaluation Department;
2. Monitoring of Construction Department, and
3. Monitoring of Finances Department

(ix) **First Rank Presidency, Social Services Department**, headed by a President has a total of 38 staff and the following services and professional staff:

1. Administration Department, 4 professional staff;
2. Agricultural Department, responsible for developing agricultural cooperatives, works closely with the Ministry of Agriculture in distribution of quality seeds, fertilizer and pesticides and animal husbandry planning, using extension services, 5 professionals;

[6] Karezes – usually unlined tunnels bringing water to villages by free flow from underground aquifiers, dug by local craftsmen.

3. Handicraft Department responsible for handicraft planning, 4 professionals
4. Women's Welfare Department, 4 professionals;
5. Education and Literacy Department, 4 professionals

(x) **First Presidency, Training Department**, headed by a President has 12 staff. Prior to the conflict, the department had a full training operation, providing 5-day training programs, 2 or 2 days in class lectures and the remaining days in the field applying lessons learned. They maintained a core staff of trainers, drawing on relevant expertise from the ministries. The head of the training department has been on a study tour to training institutions in Nepal, Bangladesh and India. He has indicated the need for further study tours for training department staff to observe training programs addressing modern rural development practices. Additionally, the department's professional staff require upgrading in their fields of expertise as follows:

1. Department of Publication, 3 professionals;
2. Department for Training Programs – 5 professionals;
3. Audio-Visuals Department, 2 professionals, and
4. Administration Department, 2 professionals

D. Structural Issues at the Central Level

21. The national organizational structure comprised large, overstaffed bureaucracies with multiple layers of coordination processes, and duplication of activities within and between ministries. Although there is general support within the ministries for the restructuring and rehabilitation of the agricultural and water resource sectors, there is little understanding of the implications of restructuring or of the role of modern government. While expressing support for restructuring the ministries, senior staff continues to see government as a large establishment functioning as it did prior to the beginning of the conflict.

22. Large numbers of educated staff fled the country during the crisis and the remaining staff has limited capacities due to lack of training and exposure to modern technology and practices. There is a lack of current and credible data across all sectors, and no computerized management information system exists in the country. Additionally, the ministries lack even the most basic equipment and supplies. The needs are considerable, but the opportunity exists for creating a streamlined government according to the AIA vision of a modern public sector performing a set of core functions, with most activities left to communities and the private sector assisted by NGOs.

IV. LOCAL GOVERNMENT STRUCTURES AND FUNCTIONS

23. The infrastructure throughout the country has been substantially lost through the years of conflict. Additionally, extensive looting of equipment and facilities has occurred. in recent months in Mazar, Khandahar, Pulekhumri, Jalabad and in Kabul.[7] In a few areas of the country where UNICEF has assisted in rehabilitation, reports indicate that there is some infrastructure, equipment and human resource capacities but it is very limited.

24. In early April 2002, directors of 22 provinces attended a weeklong seminar in Kabul. They reported that work at local government level is currently minimal due to lack of salaries, materials and equipment. Some extension staff are working part time with farmers on a voluntary basis. Additional information indicates that 91 extension units out of 200 units in districts have been destroyed.

25. The functions of the Ministry of Agriculture at the local level were discussed with the offices of the First Presidency of Cooperatives Department, the Agricultural Institute and the Presidency of Extension Services. The General Directorate of Cooperatives under the Ministry of Agriculture reports that it lacks current information regarding the status of operations in provinces throughout the country. Previously, the ministry had cooperatives in every province. As soon as the department has transportation capacities, the Directorate of Cooperatives plans to survey all villages with the intent of restoring multi-purpose cooperatives in every village throughout the country.

26. The Director of Cooperatives described the structure and functions of its department at local government level as it functioned prior to the Taliban as follows:

(i) Province Level-headed by a General Director who is responsible for the administration of micro-credit, accounting, marketing, registration and establishment of cooperatives.

(ii) District Levelheaded by a director, are staffed with three to ten Cooperative Extension Agents depending on the level of activity and size of the district. District Offices have four sections:

1. Training and Education
2. Credit
3. Marketing
4. Accounting (accounting is initiated at the village level through the Cooperative Extension Agents who prepare balance sheets and forward them through the districts and provinces to the central level. The central office then sends auditors to the villages to audit the accounts.

[7] Ibid, Afghanistan Recovery and Reconstruction Preliminary Needs Assessment of the Agriculture and Water Sub-Sectors, Annex III, December 7, 2001

27. District Extension Agents, under the Ministry of Agriculture, worked with groups of farmers at village level on improving crop production, marketing strategies, credit processes, and how to form cooperatives. After cooperatives are formed, the extension agent collects and manages the cooperative entrance fees and submits the cooperative registration document to the districts. The districts record the registration and forward it to the provinces for formal registration of the cooperative. The cooperatives registration is then forwarded to central office where a manual filing system of every registered cooperative is maintained on file.

28. Duplication and overlapping steps appear to make a simple process unnecessarily complex. Overlapping functions in the development of cooperatives exists between the Ministry of Agriculture and Animal Husbandry and the Ministry of Rehabilitation and Rural Development with both ministries helping farmers form cooperatives. The Ministry of Rural Development however does not have the authority to register cooperatives. Documents of Farmers' Cooperatives formed through the facilitation of the Ministry of Rural Development are forwarded to the Ministry of Agricultural Extension Agents for registration.

29. The Agriculture Research Institute, under the Ministry of Agriculture, has 24 stations in provinces and some sub stations. Fifteen percent are still operational:

(i) Urdu Khan Research Station in Herat Province
(ii) Shaesham-Behn Station (25 FTE) in Nangahar Province
(iii) Turnak Station and Kocaran Stations in Khandahar
(iv) Spen-Ghar in Kunduz Province
(v) Two stations in Mazar Sharif, Daddady Station (25 FTE) Balkh Province, cereal, industrial plants and fruit trees
(vi) Kabul, (85) FTE in four stations working on (i) industrial plants; (ii) fruit trees; (iii) seeds; (iv) varieties of grape
(vii) Lal Station, Badakshan Province (15 FTE), seed production
(viii) Buvlan Station (50 FTE) Helmand Province, wheat, cotton, corn
(ix) Ghoorat Station, Ghoor – not active
(x) Boy Sayal Station, Baghran Province (active but need basic tools and insecticide)
(xi) Takhar Station, Takhar Province (20 FTE), fruit trees, cereal crops
(xii) Rohang Baba Station, Paktia Province (35 FTE) wheat, vegetables
(xiii) Molla Ghalan Station, Banyan Province (10FTE) cereal crops
(xiv) Seven Zone Stations have sub stations: Khandahar and Herat each have two sub-stations; Kunduz, Baglan, Nangahar, Pakia and Balkh have one sub-station. Most active stations are in Herat, Mozar Sharif, Kunduz, Nangahar, Kabul and Helmand.

30. The Presidency of Extension Services has a Directorate of Extension Services in each province that acts as the bridge between central ministry and the farmers. However, as previously indicated, very little work is being done in the provinces, and any extension service that is being provided, is being provided on a voluntary basis by extension workers.

A. Summary of Issues at Local Government Level:

31. Current and reliable data on the institutional and human resource capacities at local government level are lacking. There is little information on status of operations, and what is documented varies from department to department and in some cases is contradictory. The

central ministries have had minimal contact with local governments in recent years, particularly in distant and remote areas due to lack of transportation and telecommunications.

32. While all of the country suffers from food insecurity, the highest areas of food insecurity are in parts of Faryab, Badghis, Ghor, Sar-i-pul, Jawzjan, Balkh, Samangan, Zabul, and Badakshan provinces. UNICEF has assisted in restoring infrastructure, equipment and human resources in some of the high food insecurity areas including Herat, Khandahar, Mazar Sharif in Samanyan, Jalabad in Nangarhar, and Badakshan. A survey conducted in 2000 identified government buildings in Konar, Khandahar, and Ourband in Ghor, Grazni, Nangahar, and Herat, however the Ministry of Rural Development does not have current data on the condition of buildings or equipment after the latest conflict. It is known that extensive looting of equipment and facilities has occurred in recent months in Mazar, Khandahar, Pulekhumri, Jalabad and in Kabul.[8] The MRRD is now collecting current information on what is available in these areas.

V. OTHER INTERESTED DONOR PARTNERS

33. Both FAO and USAID indicate an interest in supporting institutional and organizational development assessments of government ministries.

(i) FAO supports Institutional Development and capacity building projects identified under its "Issues/Agenda, 18/2/02;" as follows:

"Institutional Needs Assessment – assess existing capacity and organization, define role of government and its partners at different levels and required capacities and identify skill gaps, and prepare capacity building proposal"

(ii) The United States Agency for International Development (USAID) indicates an interest in supporting institutional and organizational capacity building projects in its "15/2/02 Minutes of meeting with AIA" as follows.

1. "Establish small technical support units within relevant Ministries to build capacity to oversee agriculture rehabilitation"
2. "Establish within the relevant Ministry of Ministries a capacity to identify, assess, and prioritize areas for rehabilitation or irrigation and other critical agriculture infrastructure"

VI. NATIONAL AND INTERNATIONAL NGOS

34. Throughout the years of conflict, non-government organizations (NGOs) gained significant respect of the international community through their contributions to the humanitarian needs of the country. According to a recent Joint Mission Discussion Paper,[9] there are 280 local Afghan NGOs and 120 international NGOs active in Afghanistan as of March 2002. This paper further estimates that 50 of the NGOs target agriculture. According to the report:

> "83 NGOs supported activities in Kabul in 1999, 58 NGOs were active in Nangarhar province, 42 in Kandahar, and 33 in Paktia. At the other end of the scale, only 9 NGOs undertook activities in Takhar, Parwan, and Oruzgan

[8] Ibid, Afghanistan Recovery and Reconstruction Preliminary Needs Assessment of the Agriculture and Water Sub-Sectors, Annex III, December 7, 2001

[9] Joint Donor Mission Discussion Paper, Community Development Program, [written following the 2001 Tokyo conference.

provinces while both Faryab and Badghis saw only 8 NGOs. Only a few NGOs supported activities in Badghis, Ghor, Samangan, Jawzjan, and Nimroz provinces."

35. The Draft National Development Framework applauds the work of NGOs operating directly with communities on small and medium sized projects. Currently, NGOs are delivering all major services across all sectors. It is anticipated that the use of these agencies as essential service providers will continue at least for the short term. An NGO coordination agency, Agency Coordination Body for Afghanistan Relief (ACBAR) was established in 1989 to facilitate coordination among NGOs and provide a forum for discussions among the agencies.

36. ACBAR is staffed with one director and a program officer. In earlier years, ACBAR had a complete database of all NGO activities, however due to lack of adequate financial support and management issues, the data base has not been maintained and is now out of date. With new funding commitments from international donors, and anticipated support from the European Union and the Dutch Government, ACBAR is planning to open regional offices in Jalabad, Mazar, Khandahar and Herat. ACBAR recognizes the need for improved communications and relationships between the NGO community and the government, and to convey the NGOs' support for the new government, and to improve communications and relationships with the line agencies. The Afghanistan Implementation Group, under the Ministry of Finance, plans to establish a standing committee comprised of representatives of the World Bank, Asian Development Bank, the U.N., Afghanistan Coordinating Authority, Afghanistan Interim Authority and NGOs to strengthen coordination mechanisms. Although the Terms of Reference are of the Standing Committee are not yet clear, this forum is expected to enhance communications and cooperation among all key stakeholders.

37. The mission held meetings with NGOs, in particular with those NGOs who had a long involvement in Afghanistan. This list is not inclusive, it does not intend to infer that the agencies discussed below are the primary NGOs, and it is likely there are other key NGOs that are not included. The NGOs described their services, and articulated their coordinating mechanisms with local government units and community based organizations, as follows:

- Agence d'Aide a la Cooperation Technique Et au Development (ACTED) has targeted IDPs and Returnees, providing emergency large-scale food distribution, for the short term, and large-scale urban reconstruction of roads using either food or cash as remuneration for work. ACTED also provides a broad range of services including: (i) setting up farming equipment cooperatives; (ii) selling trees to communities at minimum prices, and (iii) a large seed redistribution project with farmers who return second generation seeds as payment.
- ACTED has established management teams in four areas with emphasis on community empowerment in: (i) Shamany and Kabul [returnees]; (ii) Baghlan Province [IDPs, responding to conflict and draught issues and response to earthquake victims] (iii) Taghar and Badakhahan [returnees] and (iv) Fary A.B, [IDPs, draught issues]. The agency has are 600 permanent staff at local levels, a local management team, an expatriate economist, and an expatriate agroeconomist responsible for monitoring accounts. ACTED plans to establish a communication department to strengthen its coordination with government.
- Agency for Rehabilitation and Energy Conservation in Afghanistan (AREA) formally established in 1999 is a continuation of GTZ's domestic energy saving project established in 1989. AREA is working in (i) integrated community

development, establishing and mobilizing communities in rural areas; (ii) micro-credit for women headed families; and (iii) small scale micro enterprises for the rehabilitation of public buildings and agro-processing projects through community based organizations.

- AREA is working in four regions: Kabul, Mazar, Heart and Ningarhar and 23 districts directly serving 2,200 poor farmers and more than 2,678 micro-credit beneficiaries, 32% women. The agency is providing fertilizer, pesticides, wheat seeds and extension workers to rural areas. The agency also set up 17 demonstration nurseries and small research initiatives to test different compost material, and biochemical fertilizers to reduce dependency on chemical fertilizers. Services and materials are provided on a credit basis.
- AREA has 50 full-time staff, including a doctoral level agronomist who trains the agency's 32 extension workers and 6 civil engineers who work with the Farm Cooperatives. The agency has also provided basic management and accounting training to the community-based organizations in the four areas.
- Coordination of Humanitarian Assistance (CHA), a local NGO, established in 1987 works in 9 field offices in Kabul, Khandahar, Faraj, Shendand, Herat, Ghore, Mazar and Faryab. Their activities include training in farm mechanization, wheat seed distribution and fertilizer, fruit nursery establishment, vegetable and kitchen garden demonstrations, poultry and milking goats distribution, and water pump distribution.
- CHA's agricultural service in its Kabul office is staffed with a doctoral level agriculturalist. Its field offices have a Project Manager of Agriculture, agricultural specialists, vet doctors or basic vet workers and extension workers. Extension workers have Bachelors of Science degrees, however the agency indicates its extensionists need training in technical areas such as new methods of disease and pest control, and in current extension methodologies.
- Solidarities, France, with 20 years service in Afghanistan, is working in four provinces; Warduk; Bamyan, Samangan and Balkh, distributing what seeds. Prior to starting a program, the agency contacts local authorities to prevent overlapping with other NGO interventions. Once a program is implemented, Solidarities invites the local authorities to observe the results.
- From experience, Solidarities believes that distribution of inputs is insufficient if it is not followed up with on-going seasonal training of farmers for sustainability. The agency has a strong commitment to working with the community and directly with farmers. Its approach is to train farmers to produce seed, to share seeds with other farmers, and to help them network with providers to institutionalize the process. Additionally, the agency is trying to build up field offices so that the community can eventually manage them.
- Solidarities sees the following needs for the agricultural sector: (i) methods to improve water management so that the water reaches the fields in time; (ii) the need to test a variety of seeds which are draught resistant; (iii) assist the districts to understand the importance of crop diversification; (iv) factories to preserve fruits and produce jams, and (v) improved management of production, linking the producer through middle men to the consumer. The agency believes there is an urgent need for the producers to understand their market.
- OXFAM began its work in Afghanistan in the Central Highlands in 1991, working on draught recovery projects in five districts in Bamyan Province, and districts in Uruzgan and Ghore. It expanded its work to one district in Badakshan in 1998, with seed multiplication, kitchen gardens, demonstration farming, supplying fruit

and non-fruit tree saplings, and pest control projects. In the central region, OXFAM is training paraprofessional veterinarian workers on vaccination targeting breeding stock. In Zabul Province, it has distributed seed to 3,000 farmers and is working on rebuilding kareze systems.

- OXFAM believes that a national forum with the government, U.N. line agencies, and selected NGOs to assist the government in refining policies and standards would enhance coordination and improve working relationships among key stakeholders. At the regional centers, monthly meetings for each sector could provide input to central government and disseminate information to the districts and villages.
- DACAAR (The Danish Committee for Aid to Afghan Refugees) emphasizes community based activities and integrated agriculture under its three management offices in districts. The agency has established village organizations through Community Based Offices in: Alinigar in Laghman Province (1 CBO with 4 sub-offices); Khaya Omarry in Gazni Province with 5 CBOS, and Jagy in Paktia Province with CBOs providing wheat seed distribution, potable water systems and extension services.
- DACAAR believes there is a great need to empower communities so that they are able to independently sustain activities after four or five years of assistance. For example, in the construction of karezes, DACAAR's approach has been to solicit priorities in participatory community meetings, and then hire local engineers to complete the work. Due to lowering water tables, however, DACAAR recognizes the need for improved water management with lowering ground water tables and is now assisting communities in building deep wells rather than construction of new and deeper karezes.
- Fifteen site engineers, 2 senior foremen engineers and drivers travel to the various villages. One mobile team services three provinces. Site engineers work with shuras in organizing participatory discussions with communities regarding site selections for the construction of new wells. In addition to construction of wells, training is provided to communities on sanitary collection, storage and use of water to prevent contamination of their water supply. Additionally, DACAAR has provided training to 140 mechanics in 21 provinces on maintenance of well hand pumps.
- Swedish Committee for Afghanistan (SCA), founded in 1980 to aid Afghanistan during its struggle for national independence, supports education, health and agriculture. SCA also provides institution building and supports community participation processes in their education and health programs. Under its health program, the agency provides safe water to communities through a shallow wells program.
- SCA's agricultural component consists of a basic seed program, working in 18 districts in 18 provinces in the North and Northeastern parts of the country. The agency has three regional offices, one each in Kabul, Grozni and Poleklaumri and seven sub-offices. The regional offices supporting SCA's agricultural and water projects are fully equipped with computers, e-mail through satellite telephones, radios, office equipment and supplies. The agency is replacing its vehicles that were stolen after September 2001.
- Each of the 18 districts is staffed with a full time extensionist, and a temporary extensionist who works with the program for eight months of the year. Most of the extensionists are graduates of Kabul University Faculty of Agriculture. Basic staff housing is provided in each of the 18 districts. Extensionists provide

technical assistance to individual farmers in the villages. SCA provides capacity building workshops on management and technical issues twice a year for their field staff. The agency's April 21–25, 2002 workshop agenda included discussion of experiences from Autumn, 2001 seed distribution campaign, seed collection, processing and distribution and management topics.

- The agency's project, known as "basic seeds," begins with SCA's producing cereal seeds (mostly wheat and small quantities of maize and corn), on their multiple farms under controlled and supervised conditions. After the basic seeds are produced on the farms, the seeds are sold to farmers who, in turn sell second-generation seeds back to SCA at higher than market prices. SCA subsidizes the farming sector in this manner and further, by selling second-generation seeds to farmers at a low price, absorbing the loss. SCA plans to produce and distribute seeds in 2002 in the following 16 areas of the country: Faryab, Jawzan, Balkh, Samangan, Kunduz, Takhar, Baghlan, Badakshan, Laghman, Nangarhar, Kabul, Logar, Wardak, Ghazni, Paktia and Paktika.
- SCA's well construction projects between 1992 and 2000 were carried out as follows: 51–85 wells in parts of Faryab, Jawzjan, Samangan, Takhar, Badakhshan, Laghman, Kapisa, Parwan, Nangahar, Wardak, Ghazni, Paktia, and Paktika; 86 – 190 wells in parts of Balkh, Kunduz, Takhar, Laghman, Kabul, Nangahar, Logar, Wardak, Paktia Paktika, and Ghazni.

A. Summary of NGO Service Providers:

38. There is a broad consensus among key stakeholders on the important role and contributions of the NGO community during the long years of conflict. It is further recognized that in the short term NGOs will continue to be major service providers as government rebuilds its capacity. It is also anticipated that NGOs as well as the private sector will continue to implement services over the medium and long term. However, the government will assume a stronger role with clearly defined responsibilities for the core functions of policy, planning, regulating and monitoring services contracted out to NGOs and the private sector.

39. A comprehensive institutional assessment will include an examination of the blurred roles among government, NGOs and the private sector as well as their comparative advantages. For example, in some cases NGOs are acting as the contractor rather than the provider of services, thereby increasing overhead costs. These functions could be returned to communities as capacity is built. There is a significant need for NGOs in Afghanistan, however as a legitimate government is restored, roles and responsibilities among the government, NGOs and community-based organizations need to be clearly delineated and collaboration among the stakeholders strengthened.

VII. THE MINISTRY OF WOMEN'S AFFAIRS (MWA)

40. Although the Terms of Reference of the current project do not specify the need for an institutional assessment of the Ministry of Women's Affairs, an overview of the Ministry's issues and capacities are important to the institutional and organizational development of the natural resource and agricultural sector, as women are the primary laborers in the sector. Additionally, the draft National Development Framework stresses the need to incorporate gender issues in development assistance rather than to address gender as an afterthought. The newly formed ministry has been operational for only two months. It is headed by a Minister and staffed at the top level with two deputies and an adviser. The Ministry has 545 staff and 15 departments. The

Ministry's priorities are to campaign for women's political and social rights and to establish income generation projects for women. Under the Bonn agreement, it was determined that women would represent 16% of the Loya Jorga.

41. MWA plans to initiate several income generation projects targeting widows and women in rural areas to reduce urban migration. Projects in the planning stage are tailoring, embroidery and other handicrafts that will require market studies before full implementation. Other income generation projects include dairy, poultry and food processing projects.

42. Future institutional capacity building activities recommended under this project will need to include MWA senior staff in core function capacity building activities, including training in policy, planning, finance, research, monitoring and evaluation.

VIII. SUMMARY OF FINDINGS

43. The AIA, and the new government describes their vision for the role of the state as building central government's core competencies consistent with modern public administration practices, with community development as the major engine for development. Chairman Karzai supported this vision during the Tokyo conference, by stating that government's intent was "to implement a local empowerment program that would allow communities to manage their own resources… through block grants…distributed to villages and districts, and allocated to projects through inclusive and participatory processes and on the basis of simple criteria".[10] The draft National Development Plan[11] also emphasizes that the role of central government is to regulate and promote the "entrepreneurial energies of our people", rather than acting as the "producer and manager of the economy". Guided by these principles, the Institutional Development Needs Assessment for the natural resources and agricultural sectors sets out its findings.

44. While institutional and organization development recommendations set out a short to medium term development framework defining institutional reform and capacity building to improve government efficiency, performance and service delivery in natural resource and agricultural sector, it will be necessary in the short term to continue to rely on alternative service delivery mechanisms. Currently, NGOs are delivering all major services and it is expected that these agencies will continue working in areas of their expertise over the long term. A synthesis of findings across all sectors include:

(i) Lack of understanding at policy level through line levels on the role and functions of a modern government
(ii) Lack of a clear vision and strategy for the agriculture and natural resources sector;
(iii) Overlapping functions of the three ministries in the agriculture and natural resources sector; large overstaffed, hierarchical bureaucracies;
(iv) An inflated and hierarchical bureaucratic structure at all levels in all three ministries with duplicate and redundant functions;
(v) Lack of a Management Information System, lack of current data across all sectors, including lack of current data on infrastructure, human resources, equipment; animal populations; crops; water systems.

[10] Chairman Karzai's speech, "A Vision for Afghanistan" Tokyo, 2001
[11] Draft National Development Plan, April, 2002

(vi) Insufficient highly qualified staff due to emigration; deterioration of professional capacities of remaining staff across all sectors due to lack of professional development over the last 23 years;
(vii) Discrepancies between what is defined and what exists
(viii) Need for current information on NGOs service delivery, including the type and extent of activities provided, areas of service delivery, and capacities of NGOs;
(ix) Need for policies, standards and a regulatory system;
(x) Priority needs to strengthen core functions of government include: policy and planning, contracting out of services; development of guidelines and standards to oversee NGO and private sector activities; leadership and management; participatory project development and management; monitoring and evaluation; research methodologies; and management and delivery of extension services;
(xi) Need for a public service payment systems for rural areas.

Table 1: Institutional Development and Capacity Building Matrix

Key Issues	Strategic Objectives/ Indicators	Needs assessment		Policy Agenda
		Short-Term Program (1-2 Years)	Medium Development Framework (2-5 Years)	
Structure and allocation of responsibilities amongst natural resource sector agencies	A coherent set of agencies with clear mandates in line with Govt. principles for the public sector and private sector delivery of non core functions	Undertake detailed institutional analysis and provide options for reshaping existing agency structure	Implement approved recommendations of institutional analysis	Number and mandates of public agencies
Role, functions and organization of individual agencies	Govt. approved mandates for all key agencies	Undertake detailed institutional analysis and initiate planning and implementation groups in line ministries	Approve new organizational structures for all sectoral line agencies	Terms of employment and incentive schemes
Large Surplus staff resources in existing agencies	Reduced staff number appropriate for new role	Human resources plan/based on new structure	Fully implemented reorganisation with trained professional staffs	As above
Functions and structure of provincial offices responsible for the natural resource sector	A coordinated approach to natural resource management	Initiate planning and implementation groups in provincial offices	Approve new organizational structures for all provincial offices	As above
Functions and procedures of village/district level shuras	Clear decision making processes at village/ district and provincial levels	Develop decision making processes around the concept of micro-watershed plans	Fully integrated and accepted decision making processes based on community determined priorities	Community empowerment policies
Shortage of sector/program managers for the public services	A highly qualified, motivated civil service	Provide incentives package for returnees and those with good qualification and/or experience	A stable, lean and motivated civil service	Civil service employment terms and conditions
Senior manager training program	In-service training courses conducted by accredited institutions	Interim joint venture between international institution and Kabul university	Independent management training centre, possibly part of the university.	Post- graduate training and funding
Technical sector training	Well founded vocational training			
Community empowerment skills development	Well equipped communities capable of full participation	Pilot programs in selected areas, part of community dev. Projects	National program to upgrade community participation in the development process	Community based development
Women in development	To upgrade the income generating capacity of women	Specific training courses aimed at off-farm employment	Established training programs through a gender specific organization	Women in development policies

IX. RECOMMENDATIONS

45. The issues, short and medium term needs identified in previous sections form the basis for the recommendations for the medium term institutional development framework. The framework is summarized in Table1. The recommendations are discussed more fully below:

A. Issues: A need for a shared understanding and common language on the role of government, and the need for a shared vision and strategic plan for the agriculture and natual resources sector.

Prior to undertaking rehabilitation and restructuring of the natural resources and agricultural sectors, it is important that key stakeholders in the sectors have an understanding of the role of a modern government and a shared vision and strategy for a development framework. Isolated from global developments due to years of conflict, government officials have little understanding of the technological advances and contemporary management practices. The first intervention, therefore, should be exposure to countries that have successfully restructured their ministries in line with the principles of good governance. Study tours to selected countries that have restructured and decentralized their natural resources and agricultural management will provide the basis for dialogue among government, the donor and NGO communities and the private sector. Following the study tours, change management workshops should be provided by internationally recognized change management agents. International consultants should be recruited to develop and lead the change management workshops, addressing the role and practices of a modern government; facilitate the development of a vision statement for the sectors, and a strategic plan for the sectors. This technical assistance is urgently needed, as it is a prerequisite for subsequent institutional and organizational development interventions.

B. Issues: Overlapping and duplication among the 3 ministries; hierarchical and overstaffed bureaucracies and unclear reporting lines within each ministry; structural and functional analysis needed as the basis for a restructuring plan.

Overlapping functions and duplication of core functions exist in the three ministries. Furthermore, at the operations level responsibilities for irrigation and extension services are also blurred. For example, responsibilities for water supply are divided between the MRRD and the MIWR. The MRRD indicates that it is responsible for the supply of drinking water and small, traditional irrigation systems, whereas the MIWR indicates that it is responsible for large irrigation schemes and water resources. However, MIWR also engages in the construction of small irrigation schemes (nahars). A clearer mandate and delineation of responsibilities is needed for the management of natural resources, which includes the management of water. Extension workers from both the MAAH and the MRRD have overlapping roles in facilitating the development of farmers' cooperatives. A detailed institutional assessment, including a structural and functional analysis of responsibilities and responsibilities among and within the ministries is needed as the basis for a restructuring plan.

C. Issues: Coordination and communications mechanisms are lacking between and among ministries, within ministries and among ministries and NGO service providers due to disintegration of government infrastructure, communication systems and limited human resource capacities.

An analysis is required to identify the cross-functional areas in the production and service chains among and between key stakeholders resulting in the development and strengthening of efficient and effective cross-functional mechanisms. Assistance in this intervention can be included in the institutional development assessment of the ministries recommended above. Once systems are developed and tested, formal agreements are needed to institutionalize coordination processes.

D. Issues: Identification of human resource redundancies and issues related to retrenchment, separation packages and safety net options.

The ministries lack data on the numbers and capacities of their human resources. There is no current database on actual numbers of employees, particularly at the provincial level. Numbers of government employees are based on positions rather than on actual numbers of positions

filled. The first step in restructuring and retrenchment is securing accurate data on actual numbers of positions filled. Once the database is established, redundancies can be identified and a retrenchment plan developed. Because retrenchment effects not only employees separated from government service, but often large numbers of people dependent on their support, separation options and packages will need to be carefully designed. Participatory discussions among the ministries and effected staff will be needed to craft a socially responsible and phased retrenchment plan addressing separation options, remuneration packages and social safety nets.

E. Issues: Need for professionally qualified and trained senior executive staff:

Training and professional development of a senior executive cadre has been non-existent during the years of conflict. Knowledge and competence in modern management principles and practices are needed across the ministries. While a rational and long-term training plan is needed, training senior executives in core functions is urgently needed. echnical Assistance should provide for senior level training in policy and planning, financial management, and project development and management. Immediate steps should be taken to identify appropriate international training programs and to identify a cadre of senior managers to participate in the program.

F. Issues: Lack of data across all sectors and the need for a modern and professional Management Information System (MIS).

There is a lack of data at all levels including: availability and condition of infrastructure and equipment; numbers and capacities of human resources by provinces; number and condition of irrigation systems; and numbers and issues related to animal populations and production. Technical assistance is needed to support data collection projects, however linkages with other stakeholders involved in data collection are needed to explore the extent of their data collection activities prior to initiating new surveys and data collection. There are reports that the Afghanistan Information Management System (AIMS) is initiating a survey of surveys to organize the data collection process and to avoid duplication. Coordination with this agency, therefore, is a first step in data collection. Once data is collected, it needs to be entered into a computerized data base system at central level with access at provincial and district levels. As soon as a computerized data base system is developed, polices governing the MIS system and regulations ensuring currency of the data and accuracy and maintenance of the equipment will need to be developed and disseminated.

G. Issue: Role and functions of provincial offices need clarifying, and capacities built according to functional responsibilities.

The draft National Development Framework emphasizes the need for a small, streamlined central government with community driven development. Community-driven development supports process that gives communities authority for the overall management of projects with agencies playing a supporting role. Community-driven development is most appropriately used for the provision of local goods, basic services and the management of natural resources.[12] A phased process working towards administrative decentralization of government in the immediate term should begin with an institution and capacity building assessment at local government levels, provided through technical assistance, to determine human resource capacity and infrastructure needs. The findings of the assessment should provide the foundation

[12] Community-Driven Development (CDD) Website, World Bank

for the development of a decentralization plan. Implementation of the decentralization plan, involving the transfer of responsibility for the planning, financing and management of certain public functions from the central government to provincial offices of line ministries[13] becomes a part of the medium term development framework

Issues to be addressed in transferring responsibilities for a variety of services to provinces are: the degrees of authority to initiate, plan, implement, operate and maintain development projects; authority and mechanisms for tendering contracts with NGOs and the private sector for a variety of service including extension services; formally defined participatory governance systems with mechanisms to ensure compliance; the flow and management of money from central to the provinces and effective financial control systems. Specifically, systems will need to be developed and strengthened to include: (a) election of local representatives responsive to their constituents; (b) inter-governmental arrangements for fiscal flows to local governments and CBOs; (c) a conducive legal and regulatory framework that supports community action, and (d) clear policies that define financing rules and roles of key players.[14]

The institution and capacity building assessment should outline in the decentralization plan, the implementation process addressing the scope and staging of decentralization, considering, for example, decentralization to a small number of selected provincial offices to test the strengths and weaknesses of the decentralization process.

H. Issue: Need to define the role and structure of the Agriculture Training Institution

An integrated natural resource and agricultural training institution is needed to address related and competing issues between the sectors. In the immediate term, key stakeholders should conduct meetings to discuss institutional options to address the overall training needs of the sectors. Study tours should be conducted in countries successfully providing an integrated approach to natural resources and agricultural management. An action plan should be developed to establish the appropriate institutional framework. Implementation of the action plan should be initiated and completed in the medium term. The institutional framework should be supported by a mandate institutionalizing the training system.

I. Issue: Public service payments into rural areas.

An interim process along with mechanisms for mobilizing cash into rural areas, and particular into high priority areas, should be developed and agreed upon to address emergency needs of communities. In the medium term, a national rural finance system should be developed and implemented.

[13] Decentralization Net, The World Bank
[14] Community Driven Development: Policy, Strategy and Institutional Reform, World Bank