Chapter 7. Concluding Comments

7.1 It is clear from this empirical study that there have been very promising advances in the adoption and spread of sustainable agriculture. The 208 projects/initiatives show clear increases in food production over some 29 million hectares, with nearly 9 million households benefiting from increased food production and consumption.

7.2 Food production has increased through one or more of five different mechanisms:

i. intensification of a single component of farm system (with little change to the rest of the farm) - such as home garden intensification, vegetables on rice bunds, and introduction of fish ponds or a dairy cow;

ii. addition of a new productive element to a farm system, such as fish in rice or trees on boundaries, which provides a boost to total farm food production, but which do not necessarily affect cereal productivity;

iii. better use of natural capital, especially water (by water harvesting, irrigation scheduling, water stressing), and land (by reclamation of formerly unproductive land), so leading to additional new dryland crops and/or increased supply of additional water for irrigated crops (so increasing cropping intensity);

iv. improvements in per hectare yields of staples through introduction of new regenerative elements into farm systems (eg legumes). The proportional yield increases are greatest in rainfed systems (though starting from a lower base) than in irrigated systems;

v. improvements in per hectare yields through introduction of new and locally-appropriate crop varieties and animal breeds.

7.3 These increases are not yet making a significant mark on national statistics, as we believe there is a significant elasticity of consumption in many rural households. They are eating the increased food produced, or marketing small surpluses to other local people.

7.4 We cannot, therefore, yet say whether a transition to sustainable agriculture, delivering increasing benefits at the scale occurring in these projects, will result in enough food to meet the current food needs of developing countries, the future basic needs after continued population growth, and the potential demand following adoption of more meat-rich diets.

7.5 Even the substantial increases reported here may not be enough. However, there is scope for considerable confidence, as the evidence also indicates that productivity dividends can grow with increasing number of improvements, and that productivity increases steadily over time if natural, social and human capital are accumulated.

7.6 Sustainable agriculture can be complementary for rural people's livelihoods. It can deliver increases in food production at relatively low cost, plus contribute to other important functions. Were these approaches to be widely adopted, they would make a significant impact on rural people's livelihoods, as well as on local and regional food security.

7.7 Total production is the important measure for livelihood improvements, and sustainable agriculture systems are almost always more diverse and more multi-functional than both `modern' and `pre-modern' ones. These increases in yields may only represent the start of improvements, as synergistic and asset accumulation effects are expected to increase the dividend over time.

7.8 We see significant opportunities for sustainable agriculture to help cross the `inverted-U' often used to describe transitions in national economies. This indicates that as income increases, so environmental degradation also increases (that is, natural capital is lost), until a point is reached when degradation starts to fall as income is diverted, and the curve turns down. The challenge for relatively undeveloped, or pre-modern, agricultural systems is to find a way to jump directly across the inverted U, so missing out on the intermediate phases of high degradation, to an area of high natural capital and high food production. For modern or conventional systems relying on externalising costs to the environment for their success, sustainable agriculture offers opportunities to move along the curve much more rapidly.

7.9 But there are clearly major constraints to overcome. There will be losers along with winners, and some of the losers are currently powerful players. And yet, social organisation and mobilisation in a number of contexts is already leading to new informal and formal alliances that are protecting existing progress and developing the conditions for greater spread.

7.10 Sustainable agriculture clearly does not have all the solutions, but great progress has been made in recent years. With further explicit support, particularly through national policy reforms, these benefits to food security and attendant improvements to natural, social and human capital could spread to much larger numbers of farmers and rural people in the next decade.

7.11 Major current constraints centre on national policies. Most countries have elements supportive of sustainable agriculture, which in turn supports the emergence of sustainable livelihoods. But few make the most of synergism on offer when policy is integrated in the same way as sustainable practices on the farm. National agricultural policies that put sustainable agriculture policies firmly centre stage, with appropriate support, incentives, and institutional reform, would begin to see nations throughout the world and their people reap substantial dividends.