

USAWC CIVILIAN RESEARCH PROJECT

**AN ARMY NATIONAL GUARD (ARNG) INSTALLATION SUSTAINABILITY PROGRAM (ISP) MODELED
TO ENSURE LONG-TERM MISSION READINESS AT ARNG TRAINING CENTERS**

by

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The views expressed in this academic research paper are those of the author and do not necessarily reflect the official policy or position of the U.S. Government, the Department of Defense, or any of its agencies.

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ABSTRACT

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Today, the nation is at war. Since September 11, 2001 the United States of America has been engaged in a war that has become known as the global war on terrorism (GWOT). In the time that has passed since 9/11, the U. S. Army has deployed over 300,000 soldiers across the globe in support of GWOT. Pre-9/11 requirements in the Balkans, the Sinai, Southern Command (SOUTHCOM) and other areas of the globe still have to be sourced by our Army. In addition to those requirements, the Army will have to rotate replacement units into current Areas of Operation (AO) while at the same time be prepared to deploy to future AOs.

This is a war that is projected to take many years to achieve victory. A war that will place significant strain on our active and reserve component installations that have a core mission to mobilize/demobilize and conduct realistic training that often requires significant maneuver areas. Those same installations must also evaluate combat readiness, support their families/communities (both inside and outside the fence), and remain capable of deploying those forces wherever they are required, whether it is within the United States or overseas.

Are there threats to both Army and Army National Guard (ARNG) installations that would prevent them from being able to support our nations' defense needs? If so, can they be mitigated/eliminated through proactive processes, or must we wait and react to each situation? The Army has been engaged in a process to create sustainable installations since March 2000. This process has developed into a model known as the Installation Sustainability Program or ISP. Simply stated, the ISP is a process to develop a long-range plan with interim objectives and targets that support the long-range plan. The ultimate goal of the ISP for each installation is to be able to conduct its training missions over the long-term in order to maintain or improve its ability to provide the nation with the defense capability it requires.

To date, the ARNG has not adopted the Army ISP process for use at its installations. The author is proposing an ARNG ISP model designed to ensure the ARNG continues to provide mission-ready forces to the nation when needed.

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AN ARMY NATIONAL GUARD (ARNG) INSTALLATION SUSTAINABILITY PROGRAM (ISP) MODELED TO ENSURE LONG-TERM MISSION READINESS AT ARNG TRAINING CENTERS

“Glance at the sun. See the moon and the stars. Gaze at the beauty of earth’s greenings. Now, think.”

—Hildegard von Bingen

SETTING THE STAGE FOR SUSTAINABILITY

THE GLOBAL STAGE

The modern era of environmental awareness is often said to have begun in 1970, the year of the first Earth Day celebration and the establishment of the Environmental Protection Agency in the United States under the Nixon administration. In a little more than one generation, the world we live in has undergone profound and fundamental shifts. Compared to earlier times, ours is one of extreme disruptions in the traditional ways of doing things worldwide, a time of rapid change, complexity and uncertainty; a world in which human impacts on ecosystems have reached unprecedented global proportions and implications.¹

Today, as never before, the competition for renewable and nonrenewable resources such as petroleum, timber, precious metals and ores, food, water, and undeveloped areas are stressing the earth’s ecosystems beyond their ability to recover. Pollution, commercial farming and fishing practices, mining, and an ever increasing and expanding human population have already impaired or destroyed many ecosystems.

According to the *Living Planet Report 2000*, a joint publication of the United Nations Environment Programme’s World Conservation Monitoring Centre, the World Wildlife Fund International, Redefining Progress, and the Centre for Sustainability Studies of the University of Xalapa in Mexico, over the last 30 years the state of the Earth’s natural ecosystems has declined by about 30 percent while the ecological pressure of humanity on the Earth has increased by about 50 percent over the same period. This report quantifies changes in the state of the Earth’s natural ecosystems over time, measures the human pressures on the natural environment arising from the consumption of renewable resources and pollution, and analyzes the geographic patterns of those pressures. The report indicates that the natural wealth of the Earth’s forests, freshwater, ocean and coastal ecosystems has rapidly declined over the past 30 years.²

THE ARMY AND SUSTAINABILITY

From Vieques in Puerto Rico to the Massachusetts Military Reservation (MMR) near Cape Cod to Makua Military Reservation in Hawaii, the news headlines show that the effects of military training are increasingly an issue of public concern.³ Beginning in 1997, Administrative Orders (A.O.) issued by the Environmental Protection Agency (EPA) Region 1 suspended all artillery, mortar and demolition training at the MMR due to public concerns about the contaminated sole-source aquifer and the Army National Guard's seemingly slow progress to address the issues.⁴

Until the last decade, the U.S. military did not have to compete directly for resources such as water, power, airspace and bandwidth, with its surrounding communities. Now, however, due to communities developing close to installation fence lines, many installations do have to compete for and share resources with their communities. This competition has, in many instances, impacted or curtailed training that is vital to maintain the readiness of our Army.

The Army's Environmental Strategy for the 21st Century is compliance based and does not ensure long-term sustainability. Practices that are compliant today may lead to future costs as developing science proves that environmental damage has been caused by what was once compliant. The potential for mandated cleanup of perchlorates used in rocket propellants is an example of a currently compliant activity that may have huge future economic and training impacts for the Army.

Our Army is a power projection Army that depends upon its Power Projection Platforms (PPP), to project the Army anywhere on earth. Issues such as urban sprawl, the cleanup of contaminated facilities, noise abatement, airspace and bandwidth competition, air particulate pollution, and the increased need for larger maneuver areas have created instances that will continue to affect the military's ability to train and project its forces. Increased public concern over these issues may impede or prevent the Army from being able to mobilize/demobilize, conduct realistic training, evaluate combat readiness, support its families/communities, and remain capable of deploying those forces when and where they are needed.

THE ARMY'S SUSTAINABILITY PROGRAM

THE TOP-DOWN APPROACH

In March 2000, the Senior Environmental Leadership Conference (SELC) met to discuss the Army's Environmental Campaign Plan and Operational Directive. The Council included 24 General Officers, 14 Senior Executive Service (SES) leaders, and representation from all Major Commands (MACOMS). The theme of the conference was "Investing in Our Future: Sustaining Our Environment" with a goal to: Increase Readiness and Reduce Costs *Through* Better Investments in Environmental Performance (Capability). The significance of the process was to provide the Army leaders attending the conference the opportunity to become active participants in the program's improvement.⁵

In July 2001, in response to the SELC, U.S. Army Forces Command (FORSCOM) established an Installation Sustainability Program (ISP). Under the FORSCOM ISP, these strategic plans focus on the long-term objectives of sustainability across all installation operations through lifecycle cost-effective investments implemented over the next 25 years, with specific resource requirements identified in the 5-year installation action plan.⁶

The FORSCOM ISP is designed to ensure that Army installations are positioned to continue their service to the nation indefinitely. It is an ongoing process that requires active engagement of operators, installation staff, regulators, state and local community officials to create and achieve long-term sustainability goals. The program consists of 3 key steps.

The first step in the process is to view the installation and surrounding community/region as a whole, and articulate the significant environmental issues that could limit the installation's ability to train and deploy combat-ready soldiers. Significant issues include those that already cause training constraints, are regional concerns, or that require significant resources to manage. These issues are then defined and discussed in an Environmental Baseline document developed by the installation.

The second step is to establish an on-going dialogue with all stakeholders about how to manage these issues over the long haul. The stakeholders include the Command Group, installation staff, soldiers and families, the environmental regulators at local, state, and federal levels, other federal agencies (such as US Geological Survey, US Fish and Wildlife Service), local governmental, business and environmental groups, and FORSCOM and Department of the Army (DA) supporting staff. Proponents and teams are created to tackle each significant

issue defined in the Environmental Baseline document. Proponents are appointed from those staff elements responsible for management and resolution of the issues. Environmental staff supports the teams with technical expertise. External stakeholders should also serve on the teams.

The third step involves developing and implementing 5-year plans that tie objectives to resources for each goal. The proponents and teams assigned to each goal develop a 5-year plan across the current Program Objective Memorandum (POM) that outlines a series of measurable objectives, and the resources required to accomplish them in all program elements. The plan is signed by the Installation Commander, and forwarded to Forces Command.⁷

Forces Command also developed its ISP as a result of Executive Order (E.O.) 13148, Greening the Government Through Leadership in Environmental Management, 21 April 2000. This Order requires that the head of all Federal agencies integrate environmental accountability into agency day-to-day decision-making and long-term planning processes, across all agency missions, activities, and functions. More importantly, it directs the integration of environmental management considerations into Federal Government policies, operations, planning and management.⁸

Further, this E.O. directs that Environmental Management Systems (EMS) will be developed and implemented to support leadership programs, policies, and procedures and that agency senior level managers will explicitly and actively endorse these strategies. The Order gives 12 months from the date of the release of the order for agencies to ensure its goals and requirements are incorporated into existing agency environmental directives, policies, and documents. It also requires that each agency prepare and endorse a written EMS to achieve the requirements and goals of the order.⁹ The Forces Command memorandum directs that the Baseline Document and Long-Range Plan developed during steps 1 and 2 of the ISP process serve as the EMS for each installation.

THE GRASS-ROOTS MOVEMENT

Fort Bragg was the pilot installation for the Forces Command's ISP. Along with the directive to commence sustainability through the ISP, FORSCOM also provided staffing and funding to assist Fort Bragg in its endeavor. Fort Bragg's Environmental Compliance Branch hired an environmental expert to lead the installation through the process of developing its ISP. The installation was also given funding to conduct the conferences and workshops needed to develop its program.

However, Fort Bragg actually started on its journey to sustainability in November 2000. The installation conducted a meeting with participation from the Environmental Compliance Branch, Operations and Maintenance, Director of Public Works (DPW), the Corps of Engineers (COE), Savannah District Office, Master Planning, and Range Control. The focus of the meeting was twofold; first, what did the participants believe to be the future constraints or threats to mission readiness? They are:

- rising costs of utilities,
- airborne pollutants,
- increasing solid waste due to construction on the installation. Bragg has its own solid waste landfill on the installation. The group realized that the threats to the installation would increase if the waste would have to be disposed at a site off the installation. The additional threats would include transportation costs and an increase of airborne pollution,
- water, Fort Bragg consumes 30 billion gallons of water per year, and
- the installation identified significant training area shortfalls.¹⁰

Second, what are the costs of?

- operations as they are conducted today,
- non-compliance,
- environmental impacts,
- current work load, and
- not having a plan?

In April 2001, Fort Bragg conducted an Executive Conference designed to initiate the ISP and include stakeholders from within and outside the fence line. The XVIII Airborne Corps Deputy CG and the FORSCOM Deputy Chief of Staff, Personnel and Installation Management (DCSPIM) provided Army senior leader representation to the conference. Other conference

participants included Fort Bragg garrison personnel and soldiers, and community members from local, county and state agencies and organizations.

This initial conference focused primarily on issues within the boundaries of Fort Bragg, not the surrounding community. Fort Bragg had addressed what it perceived as threats to its mission but had not asked the community what it perceived as threats to the community from Fort Bragg's operations. There was also little follow-up, if any, with the community after the conference.

Without public participation and support, an installation will only be able to address installation-specific issues rather than the sustainability issues that encompass the installation and its surrounding communities. Installations must seek a regional approach if they want to create a truly sustainable installation/community.

The conference did, however, produce some very tangible results for the development of Fort Bragg's ISP. Breakout sessions were conducted in the areas of:

- energy,
- buildings,
- air quality,
- water supply,
- water quality,
- materials and procurement, and
- training areas.

These functional groups generated a large number of ambitious and aggressive goals that were whittled down to 10, 25-year goals.

Following the conference, the commander sent out an executive summary to senior leaders on Fort Bragg appointing team leaders for each goal. These team leaders then conducted meetings with their teams to do a 'sanity check' on the goals, and to revise them, if necessary. These updated goals, recommended changes to team makeup and objectives were submitted to the garrison commander for approval in the September/October 2001 timeframe.¹¹

In the spring of 2002, the 10 goals were developed into a plan. The plan was not necessarily an end to make Fort Bragg sustainable, but it was a beginning. For each of the 10 goals, 5-year targets and objectives were established. Each of the objectives were linked specifically to resources.

Up to this point, despite installation-wide participation and support, the program was still viewed as an 'environmental program.' The Army environmental community at FORSCOM and other installations were working to develop a process that would educate Army leaders, soldiers

and civilians about what sustainability is, the complexity of sustainability issues, and that an ISP must take a systems approach if the goal is sustainable installations. Community, business and regulatory agency involvement are absolutely essential for developing sustainable communities that include Army installations.

The North Carolina Secretary of the Department of Environment and Natural Resources (NCDENR) agreed to support a sustainability plan with Fort Bragg at the regional level in June 2002. Despite community involvement with the Bragg process, the ISP only pertained to issues inside the fence line. While the community had been invited and attended previous meetings, the issues focused solely on Fort Bragg's sustainability.¹²

Fort Bragg hosted the Sustainable Sandhills Executive Steering Committee conference in February 2003 to seek volunteers to serve as leaders in the Sustainable Sandhills initiative. Leaders from the six surrounding counties and representatives from the state of North Carolina attended the conference. The purpose of the meeting was to encourage these groups to send representatives from their organizations to a sustainability-training workshop planned for May 2003.

William G. Ross, Secretary, NCDENR, told attendees at the May conference that the Sustainable Sandhills undertaking, jointly by Fort Bragg and NCDENR, would involve uncovering the combination of natural systems on public and private lands that will ensure the viability of the region for future generations.

"The value of this process is that it moves the region forward by finding conservation driven approaches to meet the "quadruple bottom line" of economic growth, natural resource protection and enhancement, social equity, and protection of the military's ability to perform its mission," Ross said.¹³

At the Sustainable Sandhills workshop, representatives from the surrounding counties, municipalities and leaders from both the business and environmental communities participated in what Fort Bragg refers to as Community Resource teams. There are five of these teams; each team developed long-range goals just as was accomplished with the Bragg ISP.

The Fort Bragg ISP is an ongoing process that continues to evolve as the community joins forces with the military and the program matures. Fort Bragg learned many lessons along the way to creating its ISP.

First, all of the stakeholders within the region need to be brought into the process from the beginning. Sustainability is about more than just military training and operations. The surrounding communities also live, work and play within the region. They, too, have sustainability issues that must be addressed in concert with the installation. State and federal

environmental regulators also need to be involved in the process from the outset. This demonstrates the Army's and the community's joint commitment to developing regional sustainability programs that focus on a systems approach.

Senior leader commitment and support is absolutely essential to creating a sustainable installation. The leadership provides the vision and guidance necessary to begin the program. Committed leaders also provide the resources, people and funding needed to make sustainability a reality. Finally, the command group is the conduit to the community. They facilitate the linkage between our Army and the public. If the Army is to succeed in continuing its mission, we must view the public as partners and co-planners on this journey to sustainability.¹⁴

Sustainability is not an environmental program. It is directly related to readiness. Sustainability includes all aspects of military operations. Fort Bragg learned early in the process that sustainability directly impacts readiness. In order to sustain Army training and operations, the Army must sustain the natural environment, its infrastructure and the well being of its personnel. The Army must also realize that sustaining local and regional communities, of which its installations are a vital part, is essential to success. While the long-term sustainment of military training and operations is paramount from a war-fighting perspective, it must be achieved by sustaining the well being of military personnel, the health of the natural environment, the quality of infrastructure, and the viability of affected communities.¹⁵

Other Army installations such as Forts Campbell, Carson, Hood, and Lewis have also implemented sustainability programs. Forts Benning, Eustis, Polk and Rucker, are scheduled to begin the process in Fiscal Year (FY) 04. Forces Command no longer manages the ISP, the Assistant Chief of Staff for Installation Management (ACSIM) is now the ISP proponent; and the Installation Management Agency (IMA) manages it on a regional basis.

ARMY NATIONAL GUARD SUSTAINABILITY

FOLLOWING THE ACTIVE COMPONENT'S LEAD

The active component has successfully developed and implemented a maturing sustainability program at the grass roots level. The momentum developed by the environmental community, the installations, and their local communities is growing within the Army. First FORSCOM, and now the IMA have built upon those successes and have begun to institutionalize the ISP process within the Army. However, there are Army installations that do not receive support or management from the IMA, and therefore, have not had the same opportunities to begin sustainability programs.

There are over 30 installations within the Army that are managed by agencies other than the ACSIM; US Army Medical Command (MEDCOM) installations, Army Materiel Command (AMC) installations, and ARNG Training Centers do not fall under the management auspices of IMA. At some point, the Army and the ARNG will have to address this shortfall if these installations and training centers are to remain a sustainable part of the Army's inventory of installations.

NGB-Army defines the States, Territories and District as an installation. The Adjutant General (TAG) determines whether the state will focus the state's environmental management system (EMS) on the entire state, or if the program will use a multi-faceted approach.¹⁶ The approach used by each state or territory will be based upon a myriad of factors such as:

- does the state have one or more training centers within its boundaries,
- does the state use a central or decentralized system to manage its training center(s),
- does the state have hazardous or toxic waste clean-up issues at any of its training center(s), and
- has the state experienced public opposition to training at any of its training centers?

The ARNG has established criteria set forth in National Guard Regulation (NGR) 5-3, Army National Guard Training Centers, to define its different types of Training Centers. Chapter 4-2, NGR 5-3 sets Standard Category Levels for the six types of ARNG Training Centers;

- Local Training Areas (LTA), support individual and unit training, no full-time support or cantonment facilities are authorized,

- Local Training Centers (LTC), support individual and unit training, and make maximum use of training aids, devices and simulation systems (TADSS). Full-time support is authorized, as well as expenditure of Sustainment, Restoration and Modernization (SRM) funds. May have limited or minimal cantonment facilities for company sized elements.
- Intermediate Training Centers (ITC), support individual and collective training from squad through company level. Full-time support and SRM expenditures are authorized. ITCs include limited small arms ranges and maneuver space.
- Collective Training Center (CTC), support individual and collective training up to battalion level. Full-time support and SRM expenditures are authorized. CTCs will include small arms ranges, cantonment facilities and maneuver areas for company force on force training.
- Maneuver Training Centers – Light (MTC-L), a maneuver training center designed to support individual and collective training for battalion and higher units. Full-time support and SRM expenditures are authorized. An MTC-L has sufficient ranges and training land to support collective live fire proficiency, combined arms live fire exercises and annual battalion training evaluations.
- Maneuver Training Centers – Heavy (MTC-H), a maneuver training center that focuses on multiple battalions and above task force level training, using a combination of live fire ranges and maneuver training land.¹⁷

To date, the ARNG has not embarked, as a corporation, on the journey to sustainability by establishing sustainability programs at its Training Centers. There are several reasons for this. First, NGB-Army is not a command and control headquarters, it serves as a 'channel of communications' between DA and the Army National Guards of each of the 54 States, Territories and the District of Columbia. In this role, NGB-Army acquires, manages, and distributes ARNG resources while developing and administering policies and programs for the use of those resources.¹⁸

Second, Executive Order 13148 directs that by 31 December 2005, each agency shall implement an environmental management system at all *appropriate agency facilities* based upon facility size, complexity and the environmental aspects of facility operations. DA has not released its definition of *appropriate agency facilities* as set forth in E.O. 13148. Due to this, NGB-Army has implemented a policy that will require, at a minimum, that an EMS be developed at the state or territory level, and at selected Training Centers at the discretion of The Adjutant General (TAG).¹⁹

Third, the ARNG has not embraced sustainability in the same way that Army installations have embraced it. Rather than developing its own sustainability program or using the Army's ISP, the ARNG intends to use an EMS approach to sustainability by developing its management strategy and determining long-term goals and objectives for each installation.²⁰ Even though environmental management systems and installation sustainability programs are extremely complimentary in nature, they should not be used exclusively. The ISP provides the strategic direction for the EMS. Many companies have used sustainability programs to guide the development of their EMS, providing long-term, strategic direction that would be otherwise absent. ARNG Training Centers can use the sustainability analyses to set EMS goals, and the EMS can thus provide a means to track and measure progress toward those goals.²¹

SUSTAINABILITY VERSUS ENVIRONMENTAL MANAGEMENT SYSTEMS

The process of sustainability enables the stakeholders, within and outside of the organization, to conduct a strategic analysis of the organization's processes. Through that analysis, the organization is able to develop long-term goals that are designed to sustain the organization over generations. In his book, *Mid-Course Correction*, Ray C. Anderson defines a list of requirements needed to attain complete sustainability:

- zero waste,
- benign emissions,
- renewable energy,
- closing the loop (recycling),
- resource-efficient transportation,
- education of employees and suppliers, and
- redesign of commerce.²²

These are lofty sustainability goals and may be extremely difficult and costly to achieve. However, by conducting an analysis of the organization's day-to-day operations, the threats to its long-term success, its purchasing, recycling and hazardous waste disposal processes, the stakeholders can improve or change those processes in order to meet the organizations' long-term sustainability goals.

On the other hand, an EMS, as required in E.O. 13148 and used by organizations all over the world, is an excellent tool for managing sustainability programs. An environmental management system standard affords an excellent opportunity and approach for assuring the

long-term objectives defined in an ISP analysis are achieved. The ISO 14001 EMS standard provides the best platform from which to base and build an integrated and comprehensive management system. But to prove sufficient for sustainability, an EMS must incorporate more than environmental considerations, it should include social, economic and infrastructure aspects as well.²³

The ISO 14001 EMS is designed for continual improvement through a system known as Plan – Do – Check – Act (PDCA). This is accomplished using five distinct functions or phases that are continually assessed, revised and acted upon, if necessary. The first phase is policy that can be provided through legislation, regulations, directives and memorandums. Planning is the second function within the system and provides the strategic vision for the management system. This portion of the EMS is 'imported' from the baseline document, or analysis completed by the stakeholders during the ISP process. During the analysis, the organization identifies threats or impacts to continuing its operations over the long term. Long-term goals are then developed to mitigate or eliminate those threats. As part of the planning and long-term goal development, targets and objectives for each goal are defined to establish short-term plans, in 5-year increments, and to allocate the resources required to reach the targets and objectives.

The third function, "Do" is known as implementation and operations. This encompasses the implementation of the sustainability program and the organization's day-to-day operations as they relate to implementing the sustainability plan. This phase of the EMS fits very well with the Army's short-term fiscal year budgeting and execution process and the targets and objectives developed during the planning phase.

Checking and corrective action define the "Check" portion of the management system. This function provides a venue to conduct an 'azimuth check' on where the organization is in relation to meeting its targets and objectives, and ultimately, its long-term goals. It also provides the opportunity to take corrective action if the organization is 'off course'.

Finally, management review defines the fifth function, or "Act". This provides the leadership with the opportunity to review the program, make necessary adjustments and to provide the vision and support required for the program's success. Both the checking and corrective action and the management review provide the basis for continual improvement through repeated verification and accountability.²⁴

THE MODEL

The ARNG Installation Sustainability Program model is based upon the three-step ISP process outlined in the Forces Command memorandum, while enabling TAG to tailor the model to meet the unique circumstances found in their state. The model can be applied to the entire state or territory; it can also be used regionally within the state, or it may be focused for implementation at a specific training center or centers. Additionally, critical decision points are identified during the process that gives TAG the ability to determine whether to continue with the process or to pursue other options.

NGB-Army directed the states and territories to develop Integrated Natural Resources Management Plans (INRMP) and Integrated Cultural Resources Management Plans (ICRMP) for their states and territories (installations).²⁵ Many states have done these plans for their training centers as well. These plans, particularly the INRMP, serve as an excellent starting point for the development of the baseline document, which identifies the mission of the installation, challenges to achieving sustainability, as well as identifying teams and their respective proponentcy.

The model consists of four distinct phases that can be completed in as little as 9 months²⁶. The 9-month timeline assumes that the state has a robust full time staff and the resources to develop its ISP. However, states can model their ISP timeline based upon available resources. During phase I, the key leaders develop a sustainability program briefing. This briefing is called the initial agreement briefing and provides information regarding the benefits of sustainability, preliminary resource estimates along with currently available resources (manpower and dollars), and it defines the process and the timeline of events. This is the first critical decision point where the leadership commits to initiating the ISP process.

Two workshops are conducted: one during phase II and the second during phase IV. After the completion of the second workshop (phase IV), the command group will reach another critical decision point as to whether or not to implement the program. If the decision is made to continue the process, the products developed during the two workshops become the program's strategic vision and are then incorporated into the EMS.

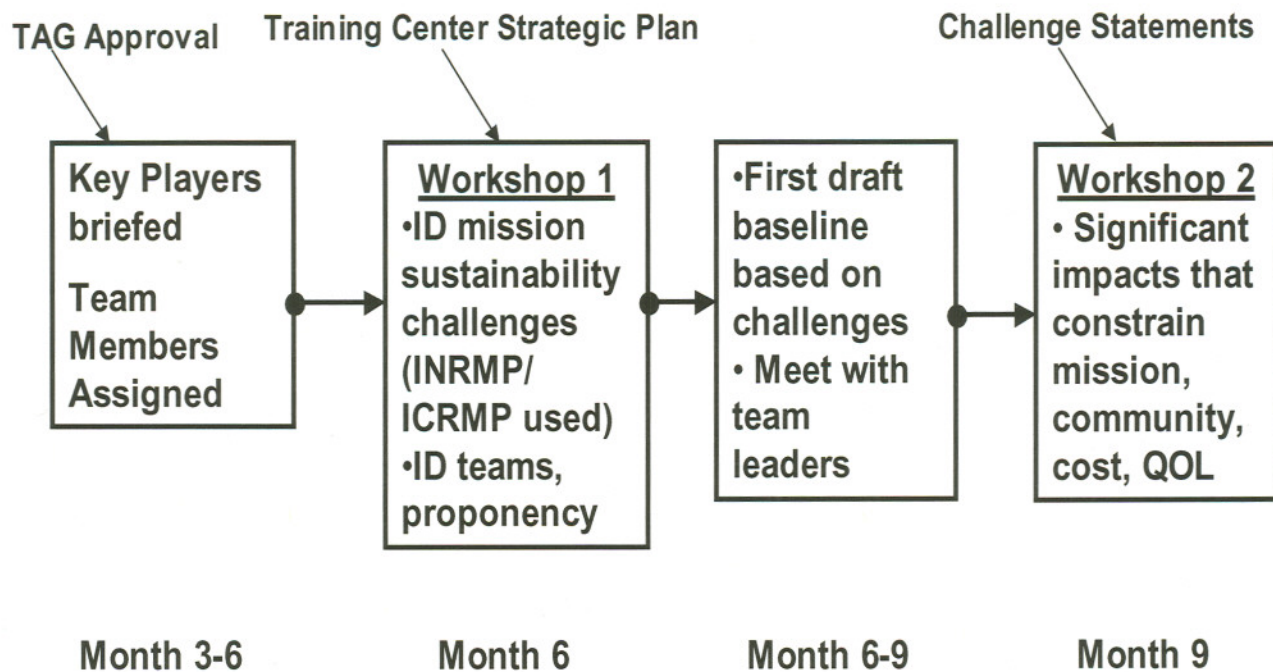


FIGURE 1 ARNG ISP MODEL

Each box in the figure represents a distinct phase of the model. The key players shown in phase I provide specific expertise and resources for the sustainability program. The following are examples of key players:

- Environmental Chief,
- Installation Strategic Planners,
- Public Affairs Office,
- Range personnel,
- JAG,
- Science Advisor,
- Procurement/Contracts, and
- Installation stakeholders (division/brigade commanders)

The purpose of the first workshop (phase II) is to create an understanding of what constitutes a sustainable installation. It is absolutely critical to start the installation analysis and workshop sustainability training with the focus on core business competencies. The program must tie mission readiness to the overall installation mission of supporting training and providing quality of life (QOL) for those who work and train on the installation. The workshop 1 attendees

also analyze the cumulative environmental threats and impacts from each core business process and determine which ones pose sustainability challenges.

The states and territories that have completed and have an approved INRMP and ICRMP will have identified many of their significant challenges to mission sustainability, particularly those issues within the fence line. However, a key ingredient to developing truly sustainable training centers will be including community and regulatory stakeholders from outside the fence line. This will facilitate the development of a sustainability initiative that focuses on the region in and around the installation versus focusing only on installation-specific issues.

Public support of and participation in the ISP is absolutely essential to achieving sustainability and thus continuing the mission of training and producing ready forces. The interrelationships between mission, public and the environment create the basis from which all are sustained. The triad of sustainability seeks to give equal weight to the mission, other users of the environment, and the environment itself.²⁷

Another critical portion of phase II is the identification of and assignment to the core teams. The core teams should be built around the installation's core business competencies. The primary Sustainability Planner should develop a list of the core teams. Teams should consist of about 12 to 15 members. The teams should include representatives from environmental, strategic planning, installation support organizations, such as the DRMO and DPW, key staff, selected maneuver elements that use the installation's facilities, and the community.²⁸

The products developed during the first workshop guide the strategic vision of the ISP. Consensus is used to forward challenge statements that articulate the installation sustainability issues and guide discussions during the conference. The statements are a summary of what issues the installation needs to address to ensure mission accomplishment and to attain sustainability. The challenge statements are then used to develop the baseline document. Cumulative environmental impacts that look at sustainability from a systems approach are also developed and help to enable the core teams to see the 'big picture.' Team topics, based on the core business practices, are developed as a starting point and then modified based on the identified challenges and impacts.

Essentially, workshop 1 provides the strategic plan link between the mission core business competencies and the team topic areas and proponents. Because business processes evolve and change more rapidly than core competencies, using the competencies offers a more stable method for linking the process.²⁹

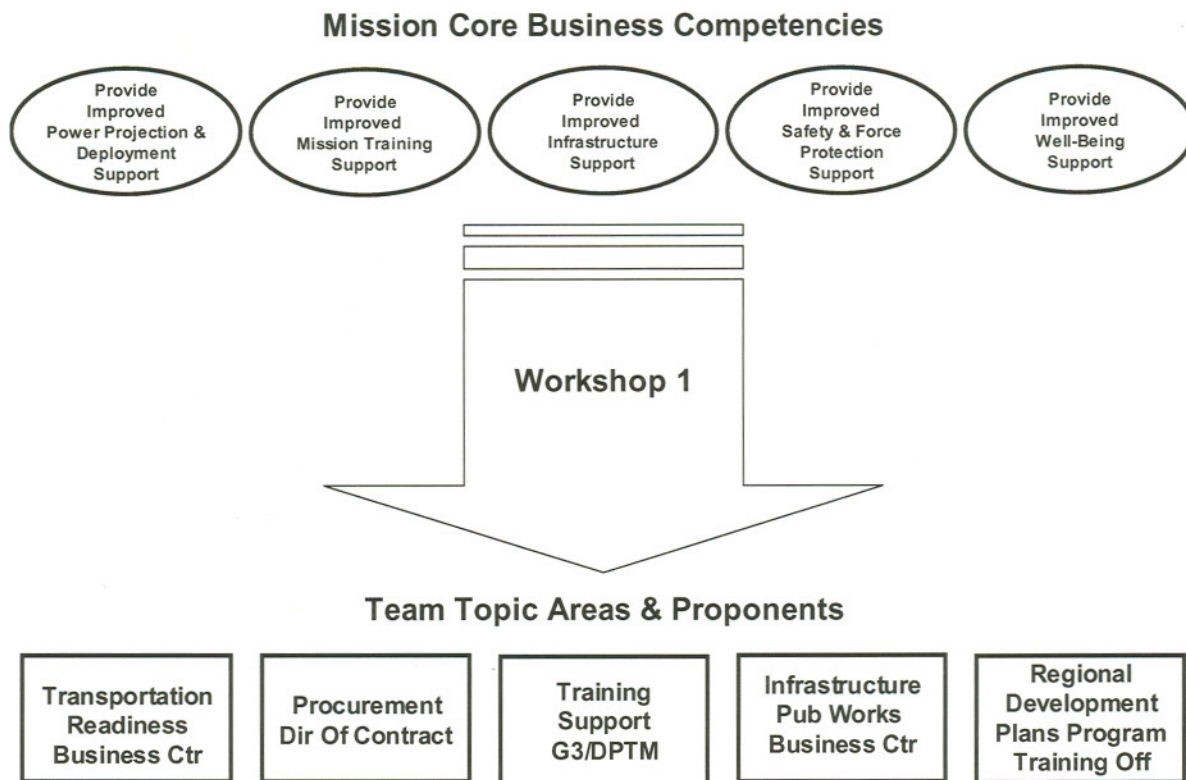


FIGURE 2 STRATEGIC PLAN LINK

The second workshop is usually conducted about three months following the first workshop, but the exact timing is dependent upon the ISP timeline. This provides the teams and stakeholders with the time to develop the baseline document, decide which core business competencies to analyze for sustainability challenges, and to develop mission maps for their business competencies. During the time between workshops, the core team leaders need to meet to discuss their roles during and after the goal-setting conference (workshop 2). This meeting allows for amplification of team leader roles and in-depth discussions of the ISP process.

Workshop 2 is where sustainability all comes together. The workshop should begin with a review of sustainability concepts and a roadmap for the installation's ISP process. For those training centers already using an EMS, the training material documents should be tailored around the EMS' significant analysis. For those installations not yet functioning with an EMS, the deliverables from workshop 2 will provide the aspects and impacts for the EMS.³⁰

The draft baseline document with the challenge statements provides the key inputs for the second workshop. Each team topic in the baseline document contains a discussion of each

issue as it relates to the installation mission, quality of life, cost of operation, and the community. The baseline document should also include discussions and graphical depictions of the significant impacts that installation activities may have on long-term sustainability.

Finally, the teams present the ISP long-term (25-year) sustainability goals with linked, specific short-term (5-year) targets and objectives to the leadership for approval. Once approved, these goals become the strategic vision for the training center's sustainability program. Implementation of the program begins with the incorporation of the vision into the EMS.

CONCLUSIONS

The Army has developed a sophisticated environmental management program that focuses on compliance rather than mitigation.³¹ Compliance alone will not bring about sustainability. Federal and State laws that mandate environmental compliance primarily drive the Army's focus on compliance. Additionally, competition for resources, particularly funding, causes the Army to divert precious resources to compliance programs that focus on regulatory requirements rather than long-term mitigation strategies.

The Army uses a 3-pillar approach to environmental funding. The pillars are environmental compliance, pollution prevention (P2) and conservation (Natural Resources). The Army's Environmental Must Fund Policy is based upon this 3-pillar approach. The policy only authorizes funding for legally mandated environmental requirements, signed agreements and other judgments.³² As written, the policy does not provide funding for sustainability programs.

Organizations that focus on compliance-based programs rarely know the true cost of their programs. Unless "full cost accounting" (FCA) methods that include external costs are used to integrate environmental considerations into business decisions, the actual cost of a process cannot be known.³³ The external costs must consider both the monetized and non-monetized impacts on human health and the environment to accurately portray the actual cost of the process.

Due to Army environmental funding policies, the ARNG has not directed the implementation of sustainability programs. However, NGB-Army has directed its installations (states and territories) to develop EMS programs by 31 December 2005. Funding is available for states to write their EMS plans, but the funding to implement and sustain the program is not.

Further, EMS programs in and of themselves do not create sustainable installations. Environmental management systems should be used to manage the sustainability program. Neither should be used exclusively.

Because we are an Army at war, the nation will continue to need mission-ready combat forces in large numbers. Combat, combat support and combat service support units from the Army and its Reserve Components will need sustainable installations to conduct realistic training, to support soldier and family well-being, and to project them when and where they are needed. The Army and the Army National Guard will continue to rely heavily on their installations and training centers to provide the infrastructure needed to support and produce combat ready forces. This heightened demand for Army forces will also step-up the stress on the natural and built environments in and around our installations while causing an increase in the competition for resources with the surrounding communities.

RECOMMENDATIONS

The Army must reengineer its environmental funding policy to include sustainability of its active and reserve component installations. The policy must also recognize that sustainability incorporates the core business competencies across the spectrum of the installation, not just environmental compliance. In the short term, compliance might seem to cost less than mitigation. However, installation sustainability is a proactive process that seeks not only to comply with existing laws and regulations, but also to mitigate and eliminate harmful practices that have degraded the environment and used future generation's resources.

The unpredicted and unprogrammed cost of being ordered to clean up the environment can and will have serious impacts on other Army programs. Therefore, the Army should use full cost accounting methods to integrate environmental considerations into its programs. Predictive FCA methods enable the Army to determine or predict the external costs of its programs and then to program those funds during the POM cycle. Without FCA, the Army will not be able to, nor will it attempt to, predict one program's potential impacts on other Army programs.

The ARNG should adopt this sustainability model in order to create sustainable training centers if it is to continue to provide the Army and the nation with the combat forces it needs. Sustainable training centers seek systematic approaches to identifying challenges to mission accomplishment across the spectrum of installation activities, and then to reduce or mitigate those challenges. The model presented also seeks to garner community and regulatory agency

partnerships in order to develop sustainable regions, not just training centers. Sustainable training centers are absolutely essential to ARNG mission accomplishment and success into the future.

As part of the ISP process, each installation develops its own set of long-term goals based upon identified challenges to mission accomplishment. However, many training center goals will have common themes across the spectrum of installations. Collectively, the ARNG can identify goals that are common to multiple training centers and then budget for and program ARNG resources to attain those goals.

NGB-Army must provide the leadership and resources necessary to develop sustainable ARNG training centers. To accomplish this, NGB-Army should establish an ISP Advisory Board with representatives from the NGB staff, the states and territories and the Training Centers. Training Center and NGB-Army proponents would be assigned for each common goal to provide strategic guidance and oversight for their particular goal or goals. For example, if a common goal is to reduce air pollution and the ISP Board decides to reach that goal by procuring alternative fuel vehicles, the NGB-Army, G4 as the proponent for this goal, would work the issue at the national level.

In this way, the ARNG would institutionalize the program at the national level, provide direction and guidance for the program, and use the collective buying power of the ARNG, rather than having each state or territory go it alone. In essence, the ARNG would produce a sustainability program rather than having each state embark on a sustainability initiative that may or may not succeed. Sustainable ARNG Training Centers would then become a reality.

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ENDNOTES

¹ Brian Nattrass and Mary Altomare, Dancing with the Tiger, Learning Sustainability Step by Natural Step, (Gabriola Island, Canada, New Society Publishers, 2002), 28.

² Ibid., 28-29.

³ David D. Jones, Manette Messenger, Ron Webster, and Rudy Stine, "Installation Sustainability: Transforming—The Army's Future," Federal Facilities Environmental Journal (Spring 2002): 27.

⁴ William F. FitzPatrick, The Lessons of Massachusetts Military Reservation, Strategy Research Project, (Atlanta Georgia: US Army Environmental Policy Institute, April 2001), 22-27.

⁵ Raymond Fatz, "Army Environmental Program Update," briefing slides with scripted commentary, Army Worldwide Environmental and Energy Conference, (Atlanta, GA, 2-4 December 2002).

⁶ David S. Eady, Rochie E. Tschirhart, Jorge A Vanegas, Ph.D., and Ronald D. Webster, P.E., "Searching For Sustainability In An Encroaching and Transforming World," DRAFT White Paper (22 April 2002): 16.

⁷ LTG Lawson W. Magruder III, DCG and CofS, US Army Forces Command, "Installation Sustainability Program," memorandum for Commanders, FORSCOM Installations, Fort McPherson, Georgia, July 2001.

⁸ Executive Order 13148-Greening the Government Through Leadership in Environmental Management, (Federal Register: April 26, 2000), Volume 65, Number 81, Page 24595.

⁹ Ibid., 24596-24597.

¹⁰ Dr. Christine Hull, Fort Bragg Environmental Compliance Branch, interview by author, 02 October 2003, Fort Bragg, NC.

¹¹ Ibid.

¹² Ibid.

¹³ XVIII Airborne Corps Public Affairs Office, "Military and Surrounding Counties Join Forces to Form Vision for Region," Media Release, 04 April 2003.

¹⁴ Hull, interview.

¹⁵ Jones, et al., 31.

¹⁶ LTC Brian Rogers, Strategic Initiatives Implementation Officer, interview by author, 07 November 2003, Army National Guard Readiness Center, Arlington, VA.

¹⁷ Departments of the Army and the Air Force, Army National Guard Training Centers, National Guard Regulation 5-3, (Arlington, VA: National Guard Bureau, 01 February 2002), 9-10.

¹⁸ LTC Brian Rogers, "Environmental Management Systems (eMS) Leadership Briefing," briefing slides, Staff Support Conference, DOL Breakout, (Camp Joseph T. Robinson: National Guard Professional Education Center, 27-31 October 2003).

¹⁹ Ibid.

²⁰ LTC Jerry Walter, Chief, NGB-ARE, interview by author, 20 November 2003, Army National Guard Readiness Center, Arlington, VA.

²¹ Jones, et al., 36-37.

²² Ray C. Anderson, Mid-course correction: Towards a sustainable enterprise: The interface model, (Atlanta, GA, The Peregrinilla Press, 1998), 28.

²³ Eady, et al., 17.

²⁴ Ibid., 18.

²⁵ LTC Walter interview.

²⁶ Kevin JM, Palmer, "Guide To Creating A Sustainable Installation In Twenty-Five Years Or Less (GTCASIIITYOL)," briefing slides, Orlando, Florida, 08 December 2003.

²⁷ Thomas (Tad) McCall, "How To Succeed In Winning and Maintaining Public Support For Military Testing and Training In The United States," Federal Facilities Environmental Journal (Autumn 2001): 91.

²⁸ Palmer, 5.

²⁹ Ibid., 9.

³⁰ Ibid., 20.

³¹ Jones, et al., 37.

³² Sharon Bucci, DAIM-ED, Department of the Army "Army Environmental Must Fund Policy," information paper, Pentagon, Washington, DC, 01 February 2000.

³³ Paul Bailey, "Full Cost Accounting for Decision Making at Ontario Hydro: A Case Study," Final Review Draft (22 March 1996): 6-7.

GLOSSARY

A.O.	Administrative Order
ACSIM	Assistant Chief of Staff for Installation
AMC	US Army Materiel Command
AO	Area of Operations
ARNG	Army National Guard
COE	Corps of Engineers
CTC	Collective Training Center
DA	Department of the Army
DOC	Director of Contracting
DPTM	Director of Plans, Training and Mobilization
DPW	Director of Public Works
E.O.	Executive Order
EMS	Environmental Management System
EPA	Environmental Protection Agency
FCA	Full Cost Analysis
FORSCOM	Forces Command
FY	Fiscal Year
GWOT	Global War on Terrorism
ICRMP	Integrated Cultural Resources Management Plan
IMA	Installation Management Agency
INRMP	Integrated Natural Resources Management Plan
ISO	International Standards Organization
ISP	Installation Sustainability Program
ITC	Intermediate Training Center
JAG	Judge Advocate General
LTA	Local Training Area
LTC	Local Training Center
MACOM	Major Command
MEDCOM	US Army Medical Command
MMR	Massachusetts Military Reservation
MTC-H	Maneuver Training Center – Heavy
MTC-L	Maneuver Training Center – Light
NCDENR	NC Department of Environment and Natural Resources
NGB	National Guard Bureau
NGB-Army	Army National Guard component of National Guard Bureau
NGR	National Guard Regulation
P2	Pollution Prevention
PAO	Public Affairs Office
PDCA	Plan – Do – Check – Act
POM	Program Objective Memorandum
PPP	Power Projection Platform
QOL	Quality of Life
SELC	Senior Environmental Leadership Conference

SES
SOUTHCOM
SRM

TADSS

TAG

Senior Executive Service
Southern Command
Sustainment, Restoration and
Modernization
Training Aids, Devices and Simulation
Systems
The Adjutant General

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