



UN

Volunteers

inspiration in action

Contribution of Volunteerism to Natural Resource Management and Community-based Approaches to Climate Change

Front Cover: UN Volunteer Gaidama Abdou (centre, in red) trains farmers in Niger to improve agricultural techniques, increase soil fertility and plant trees to combat erosion. (Mahamadou Adamou, 2009)

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LIST OF ACRONYMS

CBA	Community-Based Adaptation	CBNRM	Community-Based Natural Resource Management
CBNRM	Community-Based Natural Resource Management	CBO	Community-Based Organization
CBO	Community-Based Organization	CUSO-VSO	Canadian University Services Overseas-Voluntary Service Overseas Canada
CUSO-VSO	Canadian University Services Overseas-Voluntary Service Overseas Canada	FAO	Food and Agriculture Organization of the United Nations
FAO	Food and Agriculture Organization of the United Nations	GEF	Global Environment Facility
GEF	Global Environment Facility	IPCC	Intergovernmental Panel on Climate Change
IPCC	Intergovernmental Panel on Climate Change	NGO	Non-Governmental Organization
NGO	Non-Governmental Organization	NRM	Natural Resource Management
NRM	Natural Resource Management	MDG	Millennium Development Goal
MDG	Millennium Development Goal	UNDP	United Nations Development Programme
UNDP	United Nations Development Programme	UNV	United Nations Volunteers Programme
UNV	United Nations Volunteers Programme	VIO	Volunteer-Involving Organization
VIO	Volunteer-Involving Organization		
CBA	Community-Based Adaptation		

EXECUTIVE SUMMARY

This Practice Note (PN) looks at ways to integrate volunteerism into the environment and climate change area. The PN was developed to provide an understanding of volunteerism and its contribution to this focus area.

This document is primarily intended for use by United Nations Volunteers (UNV) programme staff based in the organization's headquarters and in country offices. It intends to contribute to strengthening of UNV capacity to more effectively engage partners in environmental and climate change activities during its advocacy and programming work.

This PN presents relevant background information and basic concepts related to natural resource management and community-based adaptation and mitigation to climate change. It also highlights good practices and lessons learned drawn from analysis of case studies of volunteer contributions under UNV and non-UNV programmes and projects in this field.

The case studies provide examples of practices promoted by volunteers to build capacity at local and community levels, to encourage the sharing of good

practices of community-based organizations (CBOs) and non-governmental organizations (NGOs) with fresh new knowledge of practices and technologies, and to connecting local communities with national and international networks. Others demonstrate the contribution of volunteerism toward social inclusion of women and youth in project activities by developing gender sensitized activities and strengthening youth volunteerism.

The PN concludes with suggestions how volunteers can actively participate and make a lasting difference in the environment and climate change area in which they work. To this end, volunteers are encouraged to take an active role in: advocacy and policy support, awareness-raising and information dissemination, technical assistance, training and capacity building, and research, assessment and monitoring.

Volunteers can also play an important part during the design and analysis stage of environment-related programme development. In particular, volunteers can help promote: 1) an enabling environment, 2) linkages made between the environmental programme, poverty and development, 3) cooperation among key stakeholders, and 4) capacity development of VIOs and CBOs.

BACKGROUND AND RATIONAL

Natural resource management

Natural resource management (NRM) is a specific concept and action for realizing environmental sustainability and biodiversity conservation. Strong emphasis is placed in how natural resource management affects the present and future generation's quality of life. It requires balancing the needs of people and the economy with the ecosystems that directly and indirectly support them.

Environmental sustainability is a broader concept than NRM. NRM has specific boundaries, such as national, regional, district and community, in which properly planned resource management helps improve the quality of life of those who reside within such boundaries.

Importance of natural resource management

Ecosystem and biodiversity loss, deforestation, land degradation, shrinking freshwater supplies, air and water pollution, and global warming represent only a few examples of the on-going process of environmental degradation and continuous decline in natural resources. This trend has been observed and documented by numerous global, national, and local environmental assessments over the past few decades¹.

Concurrently, there has been a growing recognition that the social consequences and economic costs associated with such processes disproportionately affect the world's poorest people. The world's poorest are heavily reliant on natural resources for their livelihoods and, as a result, are extremely vulnerable to both natural disasters and environmental hazards. The decline of natural

systems through soil depletion, deforestation, over exploitation, and pollution represents a direct threat to nature-based income and is a contributor to increasing poverty.”²

In addition, much of an ecosystem's goods and services, on which the poor (particularly those in developing countries) rely so heavily, come from public 'commons' – such as communal rangelands, state or community forests, coastal waters, rivers, and lakes – over which no individual can claim exclusive rights, as they fall under a multiplicity or different public or community ownership regimes.

Some of the governance issues that prevent sustainable use of natural resources are lack of legal ownership and access, political marginalization and exclusion from decision-making processes.

Community-based natural resource management

Community-based natural resources management (CBNRM) can be defined as “the management of natural resources under a detailed plan developed and agreed by all concerned stakeholders.”³ Using a CBNRM approach, communities can “manage their natural resources and biodiversity in an efficient, equitable, and sustainable way.”⁴

CBNRM aims to achieve sustainable management of natural resources by the people who directly benefit from it. Thus, the objectives of CBNRM are not only related to environmental conservation, but also to community development, local self-

1. Millennium Ecosystem Assessment, 2005: *Ecosystems and Human Well-being: Synthesis*, Island Press, Washington, D.C.

2. World Resources Institute (WRI), in collaboration with UNDP, United Nations Environment Programme, and World Bank, 2005: *World Resources 2005: The Wealth of the Poor—Managing Ecosystems to Fight Poverty*, Washington, D.C.

3. Community-Based Natural Resource Management Network, www.cbnrm.net.

4. Blaikie, P., 2006: “Is Small Really Beautiful? Community-based Natural Resource Management in Malawi and Botswana,” *World Development*, Vol. 34(11).

government, and the creation of local institutions for the management of common property resources.

Improving the management of natural resources at the local and community level through transferring access and control over natural resources to communities is key to promoting sound NRM. Entrusting NRM to the people who most directly benefit from the goods and services produced by the same ecosystems directly contributes to environmental sustainability in a variety of ways:

- Communities can identify more accurately their own needs and priorities with respect to environmental problems and opportunities, compared to central government agencies or other outside entities.
- Participatory decision-making when managing and regulating natural resources can be more efficient and transaction costs become lower. Promoting local management of resources helps states and central governments to reduce their expenditure on such management, while resource conservation is improved.
- Local groups are more likely to respect decisions that they have participated in making. Thus, monitoring of resource use can be improved at minimal costs, while sustainability is likely to increase.
- When participatory and inclusive approaches are adopted, marginalised groups, such as youth, women, indigenous people, and people with disabilities, can have a greater influence on local economic activities and policies.

Climate change

Unusual patterns of climate change are confirmed to be happening due to the 'enhanced' greenhouse effect caused by human activity. Natural greenhouse effect is one of the primary factors that enable

humans to safely inhabit the Earth (otherwise the Earth's temperature becomes far too cold for us). The "greenhouse effect" is the heating of the Earth due to the presence of greenhouse gases. The basic mechanism can be summarized as follows: 30 percent of the sunlight beaming towards the Earth gets deflected by the outer atmosphere and the remaining 70 percent hits the Earth's surface. Out of this remaining sunlight, some are absorbed on the surface and some are reflected back to the sky. This infrared radiation is then captured and absorbed by greenhouse gases, such as water vapour, carbon dioxide, ozone and methane. Greenhouse gases, when working in a natural pace, regulate our climate by playing a role of a warm blanket. Since the Industrial revolution in the 18th-19th century, there was a sudden influx of greenhouse gases, particularly carbon dioxide, which contributed to additional absorption and emission of thermal infrared in the atmosphere. This strengthened the greenhouse effect and is the primary cause of climate change that has been confirmed to date.

Importance of Climate Change

Most scientific organizations of international standing as well as decision-makers, development practitioners, and the general public are in agreement that human-induced climate change is real and is already causing massive impacts. The most vulnerable nations and segments of society, such as women, youth, the poor, and other marginalized groups, are the least equipped to cope with the effects of climate change.

Some degree of global warming caused by past emissions is inevitable and is already causing significant social and economic costs.⁵ There is also a risk that progress made toward the achievement of

5. For example, unlike methane that dissipates from the atmosphere within around ten years, carbon dioxide remains in the atmosphere as many as 100 years.

the MDGs in many developing countries could be undermined as a result of climate change.

It is also widely acknowledged that climate change is having direct and indirect negative impacts on almost all aspects of development, including energy and industry, tourism, agriculture and food security, forestry and fisheries, poverty, gender, health, disaster mitigation, migration, etc.

Community-based adaptation and mitigation

The United Nations Framework Convention on Climate Change defines adaptation as: “adjustments in human and natural systems, in response to actual or expected climate stimuli or their effects that moderate harm or exploit beneficial opportunities.”⁶

Adaptation to climate change aims to reduce the impacts of climate stresses through a multiplicity of institutional, behavioural, technological, and infrastructural adjustments implemented at different levels and geographical scales by a multitude of actors. Typical adaptation measures may include the adoption of new crop species and improved agricultural practices (new tillage or irrigation methods, for instance), improved water management policies and infrastructure, and changes in land-use planning and re-settlement. Such measures can be anticipatory or reactive, short-term or long term, spontaneous or planned, societal or natural.

According to the UN Framework Convention on Climate Change (UNFCCC)⁷, mitigation in the context of climate change refers to “a human intervention to reduce the sources or enhance the sinks of greenhouse gases.”

Typical mitigation measures may include fuel switching, renewable energy (e.g. hydro, solar, wind and bioenergy), fuel efficiency, non-motorized transport, efficient land-use, efficient lighting, and so on. Adaptation and mitigation measures can emanate from individual initiative, the private sector, or public policy.

Promoting climate change adaptation and mitigation at the local and community level is an absolute must for a number of interconnected reasons. Firstly, it's at the local level that events such as reduced rainfall, habitat loss, changes in the ecosystem, or extreme weather such as drought or flash floods, can result in freshwater shortages, reduced agricultural productivity, and/or increased health risks that can directly affect the livelihoods of individuals, families and communities living in the area. And it is at the community level that provision and realization of access to renewable and efficient energy truly generate the better and more MDG impact as well as climate change mitigation effects with the accumulated amount of greenhouse gas emission avoided.

Secondly, for developing countries and remote areas, vulnerabilities and adaptive capacities are context-specific and are best understood at the local level, as they depend on unique combinations of ecological, political, and socio-economic factors that determine people's ability to react to and cope with climate variations. For mitigation measures too it is important to understand the local context that each community is facing with regard to accessing renewable and more efficient energy.

Volunteerism

Volunteerism is a fundamental source of community strength and resilience that exists in all societies throughout the world. Volunteerism is expressed through a wide range of activities, including traditional forms of mutual aid and self-help, formal service delivery, campaigning and advocacy, as well as other forms of civic participation. The United

6. IPCC, 2001: *Climate Change 2001: Impacts, Adaptation, and Vulnerability*, Cambridge University Press: Cambridge, UK. pp. 877-912.

7. UNFCCC, http://unfccc.int/essential_background/glossary/items/3666.php

Nations General Assembly (A/RES/5638) defines volunteerism as undertaken of free will, for the general public good, and where monetary reward is not the principal motivating factor.⁸

Following the International Year of Volunteers in 2001, the United Nations General Assembly (A/RES/57/106) recognized that “volunteerism is an important component of any strategy aimed at...poverty reduction, sustainable development, health, disaster prevention and management, and social integration and, in particular, overcoming social exclusion and discrimination.” Furthermore the General Assembly noted that “volunteering, particularly at the community level, will help to achieve the development goals and objectives set out in the United Nations Millennium Development Goals...”

Volunteerism and environmental sustainability

Environmental sustainability is a concept closely related to sustainable development, and it has a number of definitions. The World Bank defines environmental sustainability as “ensuring that the overall productivity of accumulated human and physical capital resulting from development actions more than compensates for the direct or indirect loss or degradation of the environment,”⁹ whereas Asian Development Bank defines it as “the assessment that a project’s outputs can be produced without permanent and unacceptable change in the natural environment on which it and other economic activities depend, over the life of the project.”¹⁰

More succinctly, environmental sustainability is the act of maintaining or improving the natural resource capital. It entails such actions as rejuvenation of

plants and trees, protecting animal species, minimizing contamination and degradation of the environment, and managing the extraction of renewable resources below the rate at which they are renewed. Human activity closely interacts with and impacts the status of the environment and its sustainability. Due to its importance, environmental sustainability has become the 7th Millennium Development Goal (MDG).

Achieving the goal of environmental sustainability requires the ingenuity, solidarity, and creativity of many millions of ordinary people, particularly through voluntary action. Efforts on the part of governments, supported by the international community, can only complement what ultimately will depend on the involvement of people around the world. Recognizing this fact is the first step toward harnessing volunteerism – a vast resource - in a global effort to meet the 7th goal.

Volunteerism has been one of the driving forces behind the birth of the modern environmental movement. It has been through volunteerism that people across the world have been able to unite forces and mobilize their communities in campaigns and actions to address both local and global environmental issues and needs. The movement against the Narmada Dam in India and the Kenyan Greenbelt Movement represent just two of the most well-known examples of successful community campaigns and grassroots efforts in developing countries. It is this voluntary action of awareness raising, advocacy and empowerment within local communities and individuals that has led to a grand, mass scale social movement toward improving the environment and protecting their own livelihoods and future.

8. No footnote supplied

9. <http://go.worldbank.org/UC9PIUINF0>

10. www.adb.org/Documents/Guidelines/Eco_Analysis/glossary.asp?p=ecopubs

The success of environmental activism in conveying to the public the importance of a healthy environment for both development objectives and overall well-being of communities has progressively contributed to a new way of looking at our relationship with the planet.

UNV and environment and climate change

The United Nations Volunteers (UNV) programme is the UN organization that promotes volunteerism to support peace and development and it benefits both society at large and the individual volunteer. UNV contributes to peace and development by advocating for volunteerism globally, encouraging partners to integrate volunteerism into development programming, and mobilizing volunteers. These beliefs inform the concept of **volunteerism for peace and development**, which is at the core of UNV's mission.

“The difference UNV makes is by demonstrating peace and development results and impact through volunteerism. UNV's comparative advantage is the ability and knowledge to bring about transformational change through volunteerism, community voluntary action and civic engagement through active partnerships with civil society, volunteer involving organizations, UN agencies and Governments. This is inspiration in action.”

UNV's mandate has significantly evolved since its establishment in 1970, when its initial role was to recruit, place and administer the services of qualified volunteers, who provided professional support to UN agencies, funds, programmes and governments in various countries. The key UN General Assembly Resolutions and UNDP's Executive Board Decisions that have defined and advanced the UNV mandate are the following:

- The UN General Assembly (GA) Resolution 1976 had called on UNV to promote the advancement of

the role of youth in Development and to be a major operational unit of the UN for the execution of youth programmes.

- The UN GA Resolution 1978 had called UNDP Administrator and Executive Heads of UN system organizations to promote, the use of UN Volunteers in UN-assisted project and activities.
- The UN GA Resolution 2001 had expanded the UNV mandate on raising awareness and promote volunteerism for development.
- The UN GA Resolution 2005 support for corporate volunteering.
- UNDP's Executive Board (DP/2007) encouraged UNV to increase its focus on assisting programme countries in developing sustainable, national capacities and to mobilize volunteers domestically through national volunteer schemes, volunteer centres and networks (DP/2007/2).
- UNDP's Executive Board Decision 2008 calls UNV to contribute to environmental sustainability and Climate Change agenda.

UNV advocates for the **integration of volunteerism in development** frameworks at global, regional and national levels, targeting specific priority areas in which the role of volunteerism, past and present experiences of UNV, partner priorities and commitments and emerging issues of global concern all justify and attest to the added-value of UNV interventions.

The 2011-2013 UNV Programme Strategy identified environment and climate change as one of the organization's three strategic focus areas. This was in response to an increased global recognition of the actual and potential role of volunteerism for achievement of sustainable development and the MDGs. It also corresponds with repeated calls by

both the United Nations General Assembly and the UNV Executive Board for increased engagement of UNV in the field of environmental sustainability, including climate change.

In accordance with the United Nations human rights-based approach to development, the UNV strategy integrates three cross-cutting pillars of social inclusion: youth, women, and other marginalized groups. The principle of partnership remains the cornerstone of any UNV intervention at the global, national, and local level.

UNV recognizes that sustainable management of natural resources and community-based approach to climate change are inextricably linked to poverty reduction. UNV aims to increase its support to initiatives involving community-based organizations and local volunteerism that can play a decisive role in improving the lives of the poor, while simultaneously benefiting the environment.

VOLUNTEERISM IN ACTION: CASE STUDIES

The following case studies have been selected to provide geographical coverage and to highlight the role of volunteerism in environmental sustainability. Special attention is given to addressing issues related to gender, youth and the involvement of marginalized groups.

The methodology for the development of the case studies followed a four step process:

1. A desk and literature review based on interviews, project documents and articles;
2. The analysis and integration of information extracted from the interviews, project documents and articles;
3. A synthesis of results in the case studies;
4. The identification of lessons learned.

The methodology was participatory and consultative in approaching the key stakeholders who were involved in the coordination and implementation of project activities. For each case study, project officers and/or volunteers were interviewed.

Case Study #1: Alternative livelihoods for biodiversity conservation through community volunteerism in the Tonle Sap region of Cambodia

The Tonle Sap is the largest freshwater lake in Southeast Asia and one of the most productive freshwater ecosystems in the world. The Tonle Sap is critically important for Cambodians as a source of nutrition and livelihoods. The principal threats to biodiversity in the area are loss of habitats, over-exploitation of forest, fish and wildlife resources, encroachment and land clearance, and the impact of exotic species on native flora and fauna.

To address the issues above, UNV partnered with UNDP, the Global Environment Facility (GEF), and the Government of Cambodia to promote – through community volunteerism – alternative, biodiversity-friendly, income-generating activities among communities living in the three core areas of the recently established Tonle Sap Biosphere Reserve. Conceived as an integral part of the UNDP/GEF Tonle Sap Conservation project¹¹, the UNV project aimed to expand the livelihood initiatives originally envisaged by the GEF project, while at the same time, reinforce community mobilization and participatory aspects of the project. The goal was to break the vicious cycle that links biodiversity loss with deterioration of livelihoods.

UN volunteers supported the project by providing training and technical input. Volunteers also mobilized communities to establish linkages with civil

11. The UNDP/GEF Tonle Sap Conservation Project is in turn part of a broader Tonle Sap Environmental Management Project. The goal of the project is the sustainable management and conservation of natural resources and biodiversity in the Tonle Sap basin. The project is co-financed by the Asian Development Bank, GEF, UNDP-Capacity21, the Wildlife Conservation Society and the Royal Government of Cambodia.

society organizations, to reinforce local ownership, and promote biodiversity. Examples of project activities included distribution of fuel-efficient stoves and water filters to reduce the need for firewood. At the same time volunteers encouraged villages to look into environmentally-friendly businesses, such as mushroom growing and ecotourism.

Twelve self-help groups were established in the communities, with around 500 families participating. About 85 percent of the members of these groups were female. Group members actively raised awareness in their communities and advocated for better natural resource management and protection of biodiversity. The project also improved the capacity of self-help group members to provide for their own families.

Analysis and lessons learned

The UNV livelihoods component of the Tonle Sap Conservation Project increased local awareness and recognition of the value of biodiversity in the Tonle Sap region. The project also had a tremendous impact in terms of inclusion of women and youth in project activities, demonstrating that volunteerism is a powerful tool for social inclusion.

Due to their long-term presence and commitment, national UN volunteers were able to gain the trust of community members and succeeded in revitalizing the tradition of solidarity and self-help. With the technical support, training (training of trainers, in particular), facilitation, dialogue, and networking provided by the UN volunteers, sustainable results were achieved in the field of institutional and individual capacity development. Self-help group members received technical training, learned entrepreneurial skills, and diversified their income through more sustainable, productive activities. The self-help groups became affirmed institutions that sustain their members and regularly engage in community-led environment and livelihoods advocacy and education.

Without adequately including disadvantaged groups – such as women, youth and minorities – CBNRM initiatives can only reinforce existing social dynamics and the exclusion of such groups. A conscious effort for social inclusion should be built into every CBNRM intervention.

Some of the crucial elements for successful implementation of CBNRM approaches in the Tonle Sap project included:

- Clear economic incentives; benefits must exceed costs to guarantee investment of time, effort, and resources by the communities and there must be clearly defined revenue-sharing mechanisms;
- Collective proprietorship of the resources;
- Interventions that were undertaken at an appropriate scale (social and ecological), to ensure sufficient economies of scale and feasible ecosystem management; and
- Empowerment of participating communities to make informed decisions, with the necessary technical assistance and capacity building measures in place to make the introduction of new technologies, management arrangements, and economic activities successful.

While the role of local communities in NRM is absolutely pivotal, communities alone may find it difficult to break away from unsustainable practices and embrace complex collective decision-making processes. Conducive national policies and legal frameworks, appropriate market incentives, technical and financial assistance, collaborative partnerships with government agencies at national and local levels, and donor support are all factors that play a role in the promotion and implementation of CBNRM.

Case Study #2: Involvement of Ethiopian youth volunteers in combating desertification¹²

Ethiopia suffers among the worst erosion in the world, losing two billion metric tonnes of soil each year. Studies indicate that 70 percent of the country is affected by the spread of desertification, which in turn aggravates land degradation and increases poverty. UNV collaborated with the United Nations Convention to Combat Desertification in youth volunteerism in environmental management to halt land degradation and desertification through grassroots-level projects in two regions of Ethiopia (Amhara and Oromia).

A UNV pilot project 'Involvement of Ethiopian Youth Volunteers in Combating Desertification' was implemented in partnership with the Federal Environmental Protection Authority of Ethiopia. UN volunteers supporting this programme supervised, empowered and capacitated 200 youth volunteers to work in soil and water conservation, forest management, water harvesting, setting up nurseries, beekeeping, and horticulture at four different worksites. During 2008, youth volunteers constructed 33 trenches and 114 micro-basins to conserve soil and water and planted 11,500 tree seedlings.

The youth gained useful skills and hands-on experience, while simultaneously improving their livelihoods. Their visible progress helped raise awareness of environmental issues among communities and had a multiplier effect on neighbouring communities and other youth groups.

12. For more details, please refer to the UNV website, www.unv.org/en/current-highlight/environment-2008/doc/youth-volunteers-hold-back.html and UNDP/UNV. 2007, 'Involvement of the Ethiopian Youth Volunteers in Combating Desertification,'

Faced with challenges such as unemployment, inadequate education and skills development, and limited control over resources and assets, youth in developing countries are often seen as recipients of aid rather than as potential contributors to the development of their country. With this project, Ethiopian youth served as catalysts of development and of change in their communities, and acquired increased social recognition and self-esteem.

Analysis and lessons learned

The project to combat desertification allowed participating youth to demonstrate their ability to contribute to the welfare of their community at large. The success of the project was largely based on the identification of interventions - through extensive participatory processes - that not only interested young people, but that also mobilized their energy, commitment, and willingness to learn.

The project helped the youth work toward shared objectives with their communities and to address the development needs of both. In doing so, the project gradually built a strong partnership between the youth groups and their communities, as well as local and central government authorities, NGOs and civil society. This type of project ultimately contributes to the expansion of volunteering opportunities at the local level, as well as to promotion and recognition of the role of volunteerism in development.

Case Study #3: Community-Based Adaptation (CBA) Programme

UNV has partnered with UNDP and the GEF Small Grants Programme in the implementation of a global programme, which pilots community-based adaptation (CBA) projects. These projects are designed to enhance the resiliency to climate change impacts of communities whose livelihoods

are highly dependent on natural resources and their ecosystems. The ultimate objective of the CBA programme is to create small-scale 'project/policy laboratories' in participating countries - Bangladesh, Bolivia, Guatemala, Jamaica, Kazakhstan, Morocco, Namibia, Niger, Samoa, and Vietnam. These laboratories will generate knowledge about how to achieve adaptation at the local level through on-the-ground experience and will help to advocate for clear policy practices.

UNV is implementing a three-year project in support of the larger global CBA programme. Jointly funded by the Government of Japan and UNV's Special Voluntary Fund, the UNV component aims to strengthen and sustain CBA projects through volunteer mobilization and development of methods to measure and integrate voluntary contributions into adaptation efforts. UNV – with the support of national and international volunteers serving in seven of ten programme countries - is working in particular on: 1) fostering mobilization and ownership among communities; 2) supporting the meaningful participation and inclusion of the most vulnerable people in CBA project development, implementation, and monitoring; 3) facilitating the capacity building of NGOs, CBOs, VIOs, and partners; and 4) promoting and measuring voluntary contributions to adaptation.

In Niger, volunteer contributions to the CBA programme have already shown significant progress, in particular through the mobilization of national UN Volunteers. National UN Volunteers have been constantly encouraging people, inspiring them through concrete actions, and promoting collective action for natural resource management. They have mobilized hundreds of women, men, youth, elderly and people with disabilities to voluntarily contribute their valuable local knowledge, know-how, labour force and materials to the successful implementation of CBA activities.

CBA target areas in Niger have been the villages of Maïkoulaké, Atoulé, and Roubou, all located within a fragile, intermediate eco-zone. Although they are near the Tarka Valley – one of the nation's few remaining fertile areas – the villages, which are home to 1,600 people, are at risk as the Sahel expands. These three agro-pastoral communities depend largely on natural resources for their livelihoods. This leaves them highly vulnerable to natural and economic shocks, as well as climate change.

The project has bolstered the adaptive capacity of local communities through the following activities: (1) promotion of sustainable farming techniques that enhance yields, while helping regenerate soil; (2) demonstration of quick-maturing varieties of local staple crops; (3) training of farmers in techniques that improve soil fertilization, dune fixation, and natural regeneration; (4) creation of a community-managed bank of agricultural inputs, such as fertilizers and pesticides; and (5) provision of animal-drawn plows and farming inputs to households whose adaptive capacity is lowest. Faster growing varieties are an essential adaptation response to shorter growing cycles that are the result of more irregular rainfall and increased overall aridity.

Farmers are convinced of the value of the new seeds. In fact, farmers from neighboring villages who did not participate in the trials noticed the improved production from the quick-maturing seed varieties and have shown a willingness to switch. CBA pilot farmers volunteered to share their experiences and newly-acquired knowledge with their peers during traditional *causeries* (talks), and have rebuilt the initial stock to allow more farmers to benefit.

Villagers in these areas have shown an understanding of the long term process of adaptation, as they expressed a pride in and desire to leave a legacy to their children. Activities they have actively engaged in include well rehabilitation, dune fixation, and tree planting.

Partner communities and NGOs are taking their responsibility as a pilot project very seriously: they know that if they succeed, they will be able to influence policy in order to widely increase adaptive skills of their peers.

Analysis and Lessons Learned

The community-based adaptation strategies being piloted in Niger build on local traditions of solidarity and volunteerism (such as traditional collective work, called *gayya*). By facilitating empowerment and inclusive participation, the project ensures that communities realize the short and long-term social gains that will emerge from pro-active adaptation to climate change.

Results of the implementation of determined adaptation activities are more easily observed, documented, and assessed at the local level. Community, family, and individual choices represent real life examples of good practices and contribute tremendously to the learning process that is at the core of this community-based pilot project.

Case Study #4: Adaptation to climate change at the household level in Tajikistan¹³

Tajikistan has a complex geographic and climatic profile due to its mountainous terrain. Climate data from the last four decades shows that temperatures are increasing in the lowlands and decreasing in the highlands. For example, in the Varzob District snow volume appears to have lessened at higher elevations, while the volume is growing at lower elevations and in the foothills. Panjhok, a village in

the Mid-range Mountains, is enduring longer winters and bigger snowfalls each year. Meanwhile, villages at lower elevations often battle mudflows, landslides, and erosion — the result of rapid glacial melting and changing rainfall patterns.

With financial support from the Canadian International Development Agency, CARE implemented a project ‘Adaptation to Climate Change in Tajikistan’ targeting villages in the Varzob District. The project aimed to strengthen adaptive capacity at the household level to reduce the impact of climate-related shocks and stresses. CARE also sought to increase the capacity of the local government and NGOs to address the impacts of climate change.

Because of both their vulnerability and their vital contribution to the well-being of families, CARE’s strategy in Tajikistan focused on women. Social and religious norms keep women closer to home, while huge numbers of men have migrated to Russia for work, resulting in large numbers of female-headed households. Also, polygamy is on the rise, leaving many first wives struggling as their husbands support additional families. For these reasons, women are often the most vulnerable within these communities. CARE’s adaptation strategies had to be doable within the confines of women’s domestic responsibilities. Activities included distribution of cold frames (small-scale greenhouses that help extend the growing season), training in food drying and preservation, and introduction of more energy-efficient and less polluting cooking devices.

Early results from the project indicated that the activities had a positive impact on reducing household vulnerability to climate change **and on encouraging women to help each other**. Other successes included: increased food security for vulnerable households during the difficult winter season; transfer of technologies for adaptation and energy efficiency; empowering women to make decisions in their households.

13. CARE Climate Change Information Centre. 2009. “CARE in Tajikistan: Women as Agents of Adaptation: Case Study.” Available at: <http://www.careclimatechange.org>.

Analysis and lessons learned

CARE's experience demonstrated that even the most practical and simple steps taken at the household level, such as empowering women for decision-making in the household and simple technologies, can reduce vulnerability to climate change. This project has shown the power and influence of solidarity and social capital among vulnerable women.

Case Study #5: Environmental sensitization based on satellite imagery in Togo

A team of four online volunteers¹⁴ - two Geographic Information Systems and Remote Sensing specialists, a professional in environmental and social impact management, and an economist – helped AfricAvenir (an NGO engaged in political education and information dissemination about Africa, both in Africa and Europe) obtain up-to-date information about the state of the environment in 15 Togolese localities. By collecting, analysing and interpreting satellite images, AfricAvenir has been able to assess the impact of climate change in this region.

While the Remote Sensing specialists collected and processed the satellite images, the other two volunteers carried out an environmental analysis to track signs of drought, desertification, biodiversity loss, soil degradation, and depletion of water resources. This information was entered into a Geographic Information System database, a key tool for a sensitization campaign that AfricAvenir has planned as a next step.

The online volunteers' work laid the basis for a campaign to raise awareness on climate change and

its causes and consequences among local populations and authorities. It also aimed to set in motion decision-making processes at the local, regional and national level about protecting natural resources and taking adaptive measures to deal with climate change.

Analysis and lessons learned

Although counter-measures against the impact of climate change must take place at the community and local level, not all the solutions may originate from that level. The achievements of the online volunteer and their contributions toward awareness raising and information dissemination in Togo symbolize this. It is useful for volunteers on the ground to know about ventures such as the online volunteers. This represents a borderless network that can connect local needs with global supply of capable and motivated volunteer resources.

14. www.onlinevolunteering.org

ROLE OF VOLUNTEERISM

Role of volunteerism for NRM and biodiversity conservation

Volunteers and volunteer-involving organizations (VIOs) can play a crucial role in supporting local community efforts in sustainable management of natural resources and biodiversity conservation.

This can be done by working primarily in the following areas:

Advocacy and policy support: Local volunteers and VIOs (such as NGOs and community-based organizations) are often the first to voice community problems and interests vis-à-vis national and sub-national institutions and can advocate for incorporation of key local environmental issues at the national level.

The successful implementation of initiatives at the local level can serve as a stimulus for up-scaling at the national level or the incorporation of lessons learned and good practices at the national policy level.

Awareness raising and information dissemination: community-based natural resource management (CBNRM) is a long-term, process-oriented and demanding approach. To establish rules, institutional set-ups, and natural resource management practices that may require a break with the status quo, the first step is raising awareness in participating communities of existing environmental issues .

Volunteers and civil society organizations that have a demonstrated ability in the field of environmental education in the context of CBNRM can play a crucial role in delivering key messages and harnessing volunteerism around practical environmental issues at the grassroots level.

Technical assistance, capacity building, and training: CBNRM involves every segment and member of community. Especially when CBNRM introduces new or modified natural resource management practices and technologies that may have a major impact on or demand from the community's socio-economic behaviours and activities.

Volunteers can facilitate involvement of community members and provide technical assistance to build local and national capacity for sustainable natural resource management.

Because volunteers offer their skills and competences freely, they tend to be highly-valued and respected by their counterparts and beneficiaries. Utilizing national and community volunteers helps build local capacity and ensure long-term sustainability. When this is accompanied by attention to and respect for cultural differences and indigenous knowledge it can be a powerful contribution.

Activities such on-the-job training, exchange visits, and demonstration sites are highly appreciated and successful capacity building methods.

Research, assessments, and monitoring: Volunteerism also has a central role to play in participatory assessments, project and programme planning, and monitoring and evaluation. However, in order to be effective, the cost and the requirements (investment of time, training, and facilitation) should not be underestimated. Volunteers involved as facilitators need appropriate training and also will benefit by acquiring on-the-job experience.

Role of volunteerism for community-based climate change approach

Volunteerism has the potential to move disadvantaged populations away from being passive victims of climate change, toward becoming primary actors in adapting their own lives and livelihoods. In the context of community-based approaches, volunteers and VIOs can play a crucial role in promoting and supporting to a local community's adaptation and mitigation efforts in the following ways:

Advocacy and policy support: Volunteers and VIOs can facilitate and mediate the relationship between government authorities (national and local) and local communities, as well as represent local communities' interests and needs in the context of local and national decision-making processes, so that local conditions, vulnerabilities, and coping capacities are adequately considered in policy-making. From this point of view, volunteer involvement is most effective when it is planned from the onset, in collaboration with national governments and other development partners, within the scope of a broader national framework.

Awareness raising and dissemination of information: In order to communicate climate change-related issues to vulnerable communities effectively, it is vital to explain symptoms of climate change, long-term trends, and related impacts in a simple and practical way, making direct reference to people's experiences, needs, and priorities. Volunteers can be engaged to reach out to every societal group, including youth, women, and other marginalized groups. In this aspect, volunteers within targeted communities play a vital role, making sure that messaging and awareness-raising is widespread and helping it to be incorporated into a community's mind-set with the goal of shaping daily behaviour.

For instance, the multiplier effect of educating school-aged children on environmental and climate change-related issues has been widely documented. Environmental messages are most successful when conveyed or supported by reputable community members, such as traditional and religious leaders, teachers, and doctors, who can act as role models for other members of the community.

Technical assistance, capacity building and training: Volunteers can help by introducing knowledge, abilities, and skills, while building community, household, and individual capacity to make decisions in the context of a changing climate. One of the important tasks here for volunteers is to 'translate' scientific, scenario based, and macro data and findings to those that are applicable and graspable by local people. Since the success of climate change activities depends heavily on the ability of various stakeholders to understand local-level climate change risks and vulnerabilities, it is important to work jointly in the identification and implementation of planning, strategies and policies.

Facilitation and empowerment: Volunteers and VIOs can work with local communities to implement climate change feasibility studies, methodologies and tools. This can range from gathering and analysing baseline data, to facilitating risk and vulnerability assessments. Vulnerability and coping capacity are socially determined and vulnerable groups are likely to be disproportionately affected by the impacts of climate change. Thus, empowerment is critical. For instance, with regard to particular vulnerabilities among women toward climate change impacts¹⁵, gender-focused adaptation and mitigation interventions such as the one carried out by CARE in Tajikistan, can go a long way in improving local livelihoods and reducing poverty.

15. UNDP. 2008. "Resource Guide on Gender and Climate Change." www.un.org/womenwatch/downloads/Resource_Guide_English_FINAL.pdf

ANNEX I: Recommended reading list

Theme	Title	Link ¹⁶
Human development	UNDP (2007) "Human Development Report 2007/2008"	http://hdr.undp.org/
	Global Humanitarian Forum (2009) "The Anatomy of a Silent Crisis"	www.humansecuritygateway.com/documents/GHF_HumanImpactReport_AnatomySilentCrisis.pdf (PDF)
Energy and Industry	SDI and UNEP (2007) "Climate Action Book 2008"	www.climateactionprogramme.org/publication/book_2008/
	OECD (2008) "Climate Change Mitigation – What do we do?"	www.oecd.org/dataoecd/30/41/41753450.pdf (PDF)
Tourism	UNEP (2008) "Climate Change Adaptation and Mitigation in the Tourism Sector: Frameworks, Tools and Practices"	www.unep.fr/scp/publications/details.asp?id=DTI/1047/PA (PDF)
Agriculture & Food Security	FAO (2008) "Climate Change and Food Security: A Framework Document"	www.fao.org/docrep/010/k2595e/k2595e00.htm
	FAO (2009) "Food Security and Agricultural Mitigation in Developing Countries: Options for Capturing Synergies"	www.fao.org/docrep/012/i1318e/i1318e00.pdf (PDF)
Fisheries & Marine Resources	FAO (2008) "Climate Change for Fisheries and Aquaculture - A Technical Background Paper"	ftp://ftp.fao.org/docrep/fao/meeting/013/ai787e.pdf (PDF)
Poverty	Sperling, F, eds. (2003) "Poverty and Climate Change – Reducing the Vulnerability of the Poor"	www.undp.org/energy/docs/poverty-and-climate-change-72dpi-part1.pdf (PDF)

16. These links were last accessed in September 2010.

Theme	Title	Link ¹⁵
Development Linkage	OECD (2005) Bridge Over Troubled Waters: Linking Climate Change and Development, edited by S. Agrawala	www.oecdbookshop.org/oecd/display.asp?K=5LGQLVGQGPLX&DS=Bridge-Over-Troubled-Waters-Linking-Climate-Change-and-Development (only on sale)
Gender	UNDP (2008) “Resource Guide on Gender and Climate Change”	http://content.undp.org/go/cms-service/download/asset/?asset_id=1854911 (PDF)
Health	WHO (2003) “Climate Change and Human Health”	www.who.int/globalchange/publications/cchhsummary/en/
Water	IPCC (2008) “Climate Change and Water. Technical Paper of the Intergovernmental Panel on Climate Change”	www.ipcc.ch/pdf/technical-papers/climate-change-water-en.pdf (PDF)
Disaster	UNDP (2004) “Reducing Disaster Risk: A Challenge for Development”	www.undp.org/cpr/whats_new/rdr_english.pdf (PDF)
	UNEP (2008) “Disaster Risk Management for Coastal Tourism Destinations Responding to Climate Change - A Practical Guide for Decision Makers”	www.unep.fr/scp/publications/details.asp?id=DTI/1048/PA
Migration	Commission on Climate Change and Development (2009) “Accommodating Migration to Promote Adaptation to Climate Change”	www.ccdcommission.org/Filer/documents/Accommodating%20Migration.pdf (PDF)
Security	(refer to human development theme above)	



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