



International Strategy for Disaster Reduction



# Gender Perspectives: Integrating Disaster Risk Reduction into Climate Change Adaptation

Good Practices and Lessons Learned

2008



United Nations

Please send your feedback and suggestions, including further case studies for consideration, to:

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# Foreword

It is a well-known prediction that women in the developing world will suffer the most from the effects of climate change. What needs equal emphasis however, is the fact that women also represent an immense source of potential and power to combat the increased disaster risks that climate change will bring.

Women in developing countries are already on the front line of adapting to climate change, with increasing floods and droughts impacting upon their livelihoods. As pivotal managers of natural and environmental resources and key frontline implementers of development, women have the experience and knowledge to build the resilience of their communities to the intensifying natural hazards to come.

But without the full participation and contribution of women in decision-making and leadership, real community resilience to climate change and disasters simply cannot be achieved. In too many places, women are still marginalized from community discussions about development planning. Real community-based development must involve the knowledge and energy of women, men, boys and girls.

This publication points out the vital nexus between women's experiences of natural resource management, climate change adaptation and disaster risk reduction, and how they can come together to make whole communities strong and sustainable. It also provides inspirational case studies of grassroots women's leadership, and of ways to support and encourage women's full participation as citizens in risk reduction, climate change adaptation, development, and disaster preparedness. The case studies also point to practical tools for implementing gender equality and mainstreaming gender perspectives.

Despite the clear connection between climate change, disaster risk reduction, and gender-focused approaches to development, there still needs to be an increased awareness of this important nexus. *Gender Perspectives: Integrating Disaster Risk Reduction into Climate Change Adaptation* will raise the profile of this key entry-point to sustainable development, sharing concrete solutions, and inspiring more action.

Mr. Sálvano Briceño  
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# Preface

The need for effective disaster risk reduction is even greater and more immediate than ever before.

The number and magnitude of disasters are currently increasing. Since 1975, the number of disasters has risen from around 75 to more than 400 a year. This increase in disasters is almost entirely related to weather-related disasters: over the last three years hydro-meteorological disasters increased by more than 100% from about 100 in 2004 to more than 200 in 2006.<sup>1</sup>

Climate change is expected to increase the severity and frequency of weather-related hazards such as storms, high rainfalls, floods, droughts, landslides, water stress and heat-waves<sup>2</sup>. Together with sea level rise caused by global warming, such phenomena will lead to more disasters in the future – unless prompt action is taken<sup>3</sup>.

Disasters disrupt a functioning community or society, causing human, material, economic and environmental losses<sup>4</sup>, affecting human development as a whole. We also know that the most significant losses of lives and livelihoods occur in the least developed countries.

Weather-related hazards put natural resources used by communities, particularly women, at risk. Women in developing countries are still largely responsible for securing food, water, and energy for cooking and heating. Drought, desertification, and erratic rainfall result in shortages or lack of resources to fulfill the needs of not only women, but also of their entire families and communities.

When women are supported to be active participants in preparedness and response efforts, their role within families and communities has been used to great advantage. Women's responsibilities in households, communities, and as stewards of natural resources, position them well to develop strategies for adapting to changing environmental realities.

Without the input of women, risk reduction and climate change adaptation strategies will not be designed for the entire community. Disaster risk reduction projects, policies and programmes will be meaningful and successful only if the interests of the whole community are taken into consideration.

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<sup>1</sup> European Commission (2008) Issue paper: EU Strategy for Disaster Risk Reduction in Developing countries

<sup>2</sup> IPCC Fourth Assessment Report 2008

<sup>3</sup> <http://www.unisdr.org/eng/risk-reduction/climate-change/climate-change.html>

<sup>4</sup> UNISDR. Terminology of Disaster risk reduction. <http://www.unisdr.org/eng/library/lib-terminology-eng%20home.htm>



# Introduction

This publication demonstrates the link between disaster risk reduction and climate change adaptation, while contributing to the ongoing global effort to promote gender equality in socio-economic development.

The present publication seeks to highlight initiatives that have successfully used disaster risk reduction as a tool to adapt to climate change and reduce risk and vulnerabilities in various parts of the world. The good practices selected show how disaster risk reduction can be integrated into climate change adaptation initiatives to reduce people's vulnerabilities to the impact of climate change and weather-related disasters, paying attention in particular to women's needs and priorities.

The first section emphasizes women's knowledge and capacity as environmental and natural resource managers. It also highlights the importance of land use and management, and alternative livelihood options in the context of climate change.

The second section highlights women's participation in community decision-making processes, showing the importance of building women's and girls' capacity in disaster risk reduction, and demonstrating their potential for leadership.

The third section briefly showcases some specific tools used to mainstream gender into planning and policy development, to assess vulnerability, and to design adaptive strategies.

For ease of reference, each good practice is presented in the same format beginning with a short abstract.

Our hope is that this publication will help to generate increased political interest and more financial resources to support gender mainstreaming in disaster risk reduction. We also hope that different stakeholders will take more action to promote gender equality in policy and decision-making processes for disaster risk reduction and climate change adaptation strategies.

We believe that this collection of good practices will inspire the replication of initiatives addressing gender issues and climate change adaptation, building resilience to disasters among the world's most vulnerable communities.

Ms. Feng Min Kan  
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# 1

## Women as natural and environmental resource managers

*As pivotal managers of natural and environmental resources, and key frontline implementers of development, women have the experience and knowledge to build the resilience of their communities to the intensifying natural hazards to come.*



# Bolivia



inter  
cooperation

## Democratizing knowledge for rural empowerment

*Intercooperation, Bolivia*



### Abstract

The Bolivian altiplano, or high altitude plains, are a harsh, cold and arid climate for agriculture, where innovative methods are needed for survival. In the Aymara language of the communities surrounding Lake Titicaca in Bolivia, 'yapuchiri' means 'sower', and refers to local specialist vocational farmers dedicated to agricultural learning. In this initiative, traditional agricultural and climatic knowledge was consolidated in groups of yapuchiris who were supported by Intercooperation to sell technological and financial services to local farmers. This has resulted in significant reduction of crop losses from drought, hail, frost and flooding, and has also meant the stabilization of market access for local crops. Female yapuchiris have taken a specific leading role in negotiating long term market access for local produce.

## How the initiative links Gender, DRR and Climate Change

This initiative has strengthened local capabilities in disaster risk management by consolidating and spreading indigenous knowledge through local experts. This has reduced vulnerability to this harsh area's hydrometeorological hazards, particularly frost, rain and hailstorms, and conversely, extreme heat and dryness, which are predicted to intensify due to climate change. The yapuchiris' increased outreach to communities in the face of climate shifts will prove a significant step in increasing the region's resilience to these changes. The inclusion of women's expertise in the yapuchiri system has been vital for transferring agricultural success into stable livelihoods, through women's traditional skills and roles in crop and seed storage, and in accessing markets. The female yapuchiris are also taking an active role in adaptive risk management, and in monitoring bio-indicators of climate and weather related hazards.

## The Initiative

This initiative aimed to support and use traditional knowledge of climate prediction for better decision-making in agricultural production and risk management. Gradually, it turned to a focus on strengthening human capabilities of both women and men in rural communities. As a result, local groups of technology suppliers were formed, called yapuchiris, who sell their services at market prices to other farmers. Those services are ten times cheaper than training offered by engineers, and just 20 per cent less efficient.

The initiative started in October 2006 and concluded in July 2008, covering two complete agricultural cycles. The first cycle emphasized climate prediction through the observation of local flora and fauna. This allowed for crop planning that was more sensitive to risk. The yield losses were reduced by 30-40 per cent in this first cycle. The second cycle then focused increasingly on the empowerment of women in market participation. That year, yield losses from frost, flooding, drought and hail were also reduced by 80-90 per cent.

This experience has been developed in rural Aymara communities around Lake Titicaca, Department of La Paz. In the provinces of Los Andes, Ingavi and Omasuyos the communities were Pillapi, Pircuta, Caluyo, Cutusuma, Sojata, Chococopa and Coromata. Of those communities, Chococopa specializes in producing quality potato seeds and supplies it to the other communities, which are gaining and consolidating a potato market share with traditional Bolivian cuisine restaurants.

The collective innovation of the yapuchiri system arose from a need for more technical assistance to farmers, and a lack of PROSUKO funds for more engineers. The gender element of the system arose from the need to focus and improve on productive farm work assigned to women. For instance, women are traditionally responsible for the storage of seeds and reproductive materials but not every woman in the community manages this at a high standard. Women yapuchiris were storing a very wide quantity of potato varieties, grain seeds, and other species, including medicines. Moreover, they researched and knew under which conditions and where to sow every species and variety. They had the knowledge to design strategies for risk management, and assisted other women farmers in doing so. In a majority of cases, women yapuchiris did not only transfer knowledge, but helped to build up analytical capabilities of farming women.

The PROSUKOs rural partner is UNAPA - a farmers' organization set up from former beneficiaries of PROSUKO projects, composed of 32 communal associations. UNAPA has a formal membership of 289 families, and provides services to approximately 2,500 families in five provinces of the Department of La Paz in Bolivia. UNAPA provides financial and non-financial services to its members. Financial services are a credit service through the Bolivian micro-finance system, and a crop

insurance service to cope with meteorological risk to agricultural production. Those services were developed with the help of specialized partners such as the PROFIN Foundation.

UNAPA's non-financial services are provided by yapuchiris, who started as "vocation farmers", that is, farmers with a particular artisanal dedication to agriculture. PROSUKO worked with yapuchiris to strengthen their capabilities with the aim of having them work for UNAPA as providers of agricultural research and extension services. With PROSUKO's facilitation, they designed the UNAPA position on agricultural risk management, and are developing and testing

technologies to cope with different risks. At present, UNAPA has 60 yapuchiris, 10 of whom are women. In two years yapuchiris were able to defeat frost damage on potato crops within communities, whereas more than 10 years of scientific research had made no impact at the grassroots level.

Market access is another UNAPA service currently conducted by women yapuchiris. They have a long-term potato contract and are developing markets for new products such as chuno, tunta (processed frozen and dried potato) and andean grains, such as canawa and quinoa.

## The Good Practice

In rural development in this area, knowledge has 'belonged' to scientific institutions, and farmers accessed it through formal extension services. The way that technical 'knowledge' has been defined, 'owned' and ringfenced, has reinforced social, cultural and economic marginalization. Farmers' needs were often not fully understood or met by the scientific community, especially the



needs of indigenous small farmers with imperfect Spanish. As a result, poor farmers traditionally lacked access to relevant knowledge for rural development, reinforcing their marginalization from power. PROSUKO, after several years of work in the revalorisation of traditional knowledge, decided to democratize knowledge management for poor farmers to solve agricultural problems.

The work of yapuchiris promotes a horizontal diffusion of applied experience and technology, and has increased the interest of farmers in local innovation. During the work of the project, farmers considered the agricultural risk management approach as their greatest need in a very difficult environment for agricultural production, and assigned this task to the yapuchiris, challenging them to build innovative solutions.

## Lesson(s) Learned

- Agricultural risk management is a task for both men and women in rural contexts. In environments as harsh as the Bolivian altiplano, their contributions must be articulated under a risk management framework, not as simply production systems or natural resource management.
- Empowerment can be achieved for women if only they are recognised as knowledge managers - and in some aspects of agricultural production processes, as the only bearer of relevant knowledge.
- Horizontal knowledge management is a tool for risk management and disaster prevention. When the research and management agenda is assembled by local communities (with both men and women contributing), scientists and development organizations are then able to add their efforts to a plan developed and fully supported by the people.
- Agricultural risk management can be a very cheap approach, because it is based upon farmers' capabilities and their own practices. Local innovation can be further developed and speeded up by using an approach centred in decision-making patterns, and by adding prior information in research designs (farmers usually have plenty of prior information). The world's cheapest agrometeorological forecast service is being implemented right now.

### Impacts & Results

UNAPAs farmers now lose less food because of climatic threats, and this success is attributed to the yapuchiris work; the impact of loss reduction is greater in bad years (with strong meteorological threats) and lesser in normal years.

Yapuchiris (men and women) are now capable of defeating frosts in the altiplano, so they feel more self-confident in their capabilities, and are attracting attention from governmental and academic institutions.

A legitimate research programme is being implemented in communities by the farmers and yapuchiris, and the technologies they develop do not need a programme for transferring the findings, since every farmer knows them, is involved in their development, and uses them at will. In two years more than 100 sound technologies and good practices were developed or reintroduced from traditional knowledge.

The innovative approach is alive among yapuchiris and UNAPA members. Innovations such as agricultural insurance are only one of several ideas in the process of development and implementation.

### The Challenges

Undoubtedly, the major challenge is to find project collaborators willing to accept the existence of other systems of knowledge, and to put in doubt some aspects of knowledge considered long-established. For instance, certain bio-indicators or rituals do not have an immediately clear causal scientific basis; open-minded multidisciplinary



research would be needed to prove their basis in science. On the other hand, PROSUKO also considered that there was sometimes no need to spend time proving a scientific explanation to things that locally functioned well. PROSUKO preferred to hire young amateur staff, because they were more open to change and are willing to learn new approaches to knowledge.

For the farmers, another challenge was their mistrust of their own knowledge and capabilities, after generations of social marginalization. For example, there were initial difficulties in the fact that farmers were not accustomed to asking their neighbors for technical assistance. Some of them asked frequently: 'What could my neighbour teach me? Just call the engineer!' To remedy this situation, a methodological process that encourages gradual changes worked well for PROSUKO. After two years farmers support the work of yapuchiris and have been willing to be assisted by women yapuchiris.

### Potential for Replication

The initiative has a high potential for replication in Bolivia, because it could contribute to an effective participatory development process being adopted in different ecological locations and by different indigenous nationalities. The national government is interested in the project, with the possibility of incorporating elements into its development plans. There has also been international interest within the context of participatory knowledge management. Andean countries through PREDECAN (a disaster prevention project performed by Andean Community Countries) are conducting a regional study on good practices in risk management, and have taken PROSUKO's experience into account as one of three relevant case studies from Bolivia.

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# Mali



## Rural women develop sustainable alternatives to wood trade

Reducing desertification by empowering rural women

*Mali-Folkecenter Nyetaa, Mali*

*(In partnership with Dodo Finland and the Ministry of Foreign Affairs of Finland)*



### Abstract

Mali is a Sahelian country of which two thirds is desert. 90 per cent of the country's energy needs are met by burning wood and charcoal. As a result, deforestation is intensifying and desertification is accelerating. Loss of wood cover is intensifying erosion, which in turn makes the soil poorer for farming, and exposes loose soil that is more vulnerable to flood. Flooding happens more often with the heavy rains, and this is seen as partly due to climate change. The Sinsibere project works to reduce desertification by developing sustainable sources of income for rural women as an alternative to their commerce in wood. These alternative livelihoods include vegetable gardens and making shea butter products like soap. After six years, 80 per cent of the participating women no longer cut wood for commercial purposes, or have substantially reduced their wood-cutting. Besides environmental, literacy and financial education, training in soap making and in making energy-efficient stoves was organized for the rural women. These different trainings provided the women with skills that have made them more confident about themselves, better able to explore alternative livelihood options, and more eager to participate in village decision-making.

## How the initiative links Gender, DRR and Climate Change

The initiative reflects the close relationship between good environmental management and disaster risk reduction, linked by the position of women as key environmental resource managers. Empowering women with education about the environment, and giving them the skills to diversify their livelihoods in an environmentally conscious way, have led to significant success in effecting change. The diversification of women's income sources, and reduction in wood-cutting, will mitigate the future threat of intensified climate change and weather-related hazards such as flooding, landslides, drought and desertification. The initiative also contributes to climate change mitigation, through better management of resources leading to tree planting, less wood cutting, and more efficient stoves.

## The Initiative

The Sinsibere project works to reduce desertification by developing sustainable sources of income for rural women as an alternative to their commerce in wood. These alternative livelihoods include vegetable gardens and making shea butter products like soap. An important part of the success of these alternative sources of income was a microloan system that was developed for the women's groups who participated. This system made it possible to kickstart female entrepreneurship in the villages.

The project is based on the Local Environmental Plan that the municipal councils and the local people developed collaboratively, and so, has been a cooperative effort between the project workers and the local communities from the beginning. Literacy and mathematical courses have been organized for the women so that they are able to manage the micro loans and small commerce, encouraging entrepreneurship.

Mali is a Sahelian country of which two thirds is desert. 90 per cent of the energy needs are met by burning wood and charcoal. As a result, deforestation is intensifying and desertification is accelerating. The outskirts of the big cities are the areas that suffer most from human exploitation of natural resources. In the rural communities close to the capital, Bamako, cutting wood is often a source of income for women.

Loss of wood cover is intensifying erosion, which in turn makes the soil poorer for farming, and exposes loose soil that is more vulnerable to flood. Flooding happens more often with the heavy rains, and this is seen as partly due to climate change.

In 1999-2000 a Local Environmental Plan (PCAE) was made in the three project communes of Bougoula, Sanankoroba and Dialakoroba according to the recommendations of the National Action Plan in the framework of the UN Convention to Combat Desertification (UNCCD). Planning took place in close cooperation with the municipal councils and the local population. What clearly stood out from the plan's conclusions, was the need to reduce commercial woodcutting in order to hinder desertification and erosion.

In the beginning, environmental education was organized for the 60 villages (women and men) in the three communes, together with the municipal councils and the forestry authorities. The education addressed deforestation, erosion, cutting wood, farming, water, improved stoves and planting trees. This has made the people in the villages more aware of the environmental problems related to wood cutting.

In order to start the alternative income-generating activities, a system of savings and microloans was created. Local women were trained in a microloan system, and later on in literacy and mathematical skills, so that they would be able to independently manage the microloans.

Besides environmental, literacy and financial education, training in soap making and in making energy-efficient stoves was organized for the rural women. These different kinds of training provided the women with skills that have made them more confident about themselves, better able to explore alternative livelihood options, and more eager to participate in village decision-making.

The alternative incomes were based on two gardens created in two of the villages. These gardens provided land parcels for more than 120 women, most of whom now get their main income from gardening.

The first phase of the project started in 2001 and lasted until 2007. The second phase, which has a new focus on improving quality and marketing of the local products, started in 2007 and is planned to continue until 2012. A cooperative has been established for the women and a cooperative building has been constructed. So far the funding has been guaranteed until 2009.

The Sinsibere project is being implemented in the outskirts of the capital Bamako. It involves three communes: Sanankoroba, Bougoula and Dialakoroba in Kati District, Koulikoro Province, comprising some 60 villages and 40,000 inhabitants. These communes were chosen because they have been important producers of firewood for Bamako due to their easy road access.

The direct beneficiaries of the project are the women's associations and their 600 members in eight villages.

The services of the new cooperative centre are targeted in the first phase to the members of the women's associations and to 300 men from the villages. In future the cooperative will be open to all the interested women of the three communes.

The indirect beneficiaries of the project are the women's families, especially the children. The women have been able to buy clothes and pay school fees for their children with their income. After receiving training themselves, the women better understand the importance of education and are also able to better educate their children directly, especially in environmental issues.

Other indirect beneficiaries in the long run are all the local inhabitants, because of the improvement in the local environment.

The municipalities of Bougoula, Sanankoroba and Dialakoroba play an important role in the implementation of the project. Bougoula municipality helped obtain the land on which the cooperative centre was built, which resulted in the land being provided for free. All three communities support the project, participate and assist in some of the training, and also work as mediators if needed.

The project is being implemented collaboratively by a Malian environmental NGO, Mali-Folkecenter Nyetaa and the Finnish environmental NGO Dodo. The project is funded by the Ministry of Foreign Affairs of Finland.

## The Good Practice

The project has been proven to be a good practice as, after six years, 80 per cent of the participating women no longer cut wood for commercial purposes or have substantially reduced their wood-cutting.

Combining environmental protection with income generation is one of the key success factors of the project. If caring for the environment endangers the income of the poor, those people cannot take environmental action even if they want to. This is why creating sustainable livelihoods was, from the beginning of this project, considered a key dimension of sustainable development.

## Lesson(s) Learned

- There must be patience in helping people transition towards more environmentally friendly sources of income. Cutting and selling wood is a convenient source of income since it can be practiced at any time of the year. Meanwhile, gardening depends on seasonal and climatic factors. Therefore it has been important to give people enough time to get used to these alternatives. On the other hand, people have also had a positive attitude towards the alternative livelihood options, since gardening is less arduous and dangerous than woodcutting.
- The empowerment of women and development of women's entrepreneurship help educate future generations to combat climate change and desertification risks. This became increasingly clear throughout the project, despite the original aim being simply the development of sustainable income generating activities in the place of wood commerce.
- Individual ownership can contribute to project success. In the beginning of the project one of the activities was planting trees locally. Most of the trees have not been successfully maintained. The lesson learned was to not to plant trees in common land but instead commit individual people or families to plant them on their own land. It was also found that there was more success when seedlings were sold, even if with a very small price, than when they were given for free.

When starting the project, it was very important to hear the views of the local communities and rural women of the local problems and solutions. Even though the project is for women, men have not been excluded, but regularly participate in the meetings and are informed about what is going on.

Another important success factor was the range of training provided to the women, especially literacy and mathematical training. Encouraging women's entrepreneurship and assisting women to take responsibility for their initiatives has proven to be a good approach. Environmental education has been organized, and environmental issues have also been discussed during different trainings and meetings. This repetition has made environmental issues part of people's thinking about everyday life and survival.

The project has proven that it is possible to tackle the problem of woodcutting for commercial purposes, by introducing alternative sources of income for rural women. The quality of life for the women has increased, as many of them have better income from gardening as opposed to wood-cutting. They are happier and healthier and more able to participate in community decision-making.

A gender perspective has been essential for the project. Women have been the main focus, but some of the leading men in the villages also participate in the Sinsibere activities. The idea is not to work only with the women, but rather to empower them to be able to work together with the men in the community. Most of the men support this initiative as they have seen its positive impacts.

## Impacts & Results

The women participating in the project have gained a new social status in their community as decision-makers. They have started to take on new kinds of responsibilities in the communities, and their socioeconomic status has improved. Armed with education, they can address environmental issues within the community during group discussion. Even without wood commerce, women are the primary users of the forest, as they collect different forest products (e.g. seeds, fruits, leaves), use them for food and medicine, and sell them. It is important that their opinions are heard when decision-making over forestry and the local environment takes place.

Women are also the principal educators of their children, even if they have not attended or completed school. Due to the education and trainings, the women are now able to explain the environmental consequences of woodcutting to their children, and as they understand better the importance of education, they support their children more to attend school.

The concrete achievements are that 80 per cent of the women participating in the project no longer cut wood for commercial purposes or have substantially reduced this. Also, the 600 members of the women associations have saved together more than 4.6 million CFA francs (approximately 7,100 euros) in their micro-credit groups.

Two collective gardens have been built in two of the project villages and more than 120 women are now using them. A women's cooperative has been created and a centre has been constructed for training, and for selling the products.

Over 300 women have been trained in soap making and about 100 in making energy efficient stoves. 24 leading women have participated in literacy courses during the last three years and are now able to manage their associations and microloans independently.

## The Challenges

Getting access to good land is not easy for women in the project area. It often demands long discussions and negotiations with village authorities to obtain a suitable piece of land for a collective garden. Traditionally, gardening had been seen as a male activity. Nowadays with Sinsibere's help it is seen as suitable for women as well.

Another major challenge was the women's lack of skills for managing the simple commerce generated by the microloans. To remedy this, the project provided education and training.



After developing the new income generating activities, another challenge was the marketing of the products. Traditionally women sell the products in the nearest market where buyers from Bamako come to buy at a low price. To improve the prices, the cooperative was created and new marketing strategies are being developed.

A specific challenge for the gardening is the lack of water. Although the ground water is relatively near to the surface in this area, wells can dry out in the dry season. The wells can be deepened with a relatively small amount of money, but that capital investment could prove too much for the community.

### Potential for Replication

The basic idea is very simple: providing alternative sustainable resources of income for local people so that they can reduce or stop woodcutting or other environmentally harmful activities. It is very important to always listen to the local people and develop the alternative resources that are the most suitable for the local conditions.

The key elements of the project's success which can be replicated anywhere are: capacity building and training (most importantly: literacy and mathematics, and micro-credit training), a long timeframe for execution of the activities and respect for local yearly cycles (e.g. in the rainy season people are occupied with farming, and project activities can be executed mostly in the dry season), respect for local culture and habits, and not excluding men from the activities although women are the main actors.

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# Sri Lanka



## Effective planning through social mobilization

Communities mitigating drought

*University of Peradeniya, Sri Lanka*

*(In partnership with Darwing Initiatives-UP Aberdeen Link)*



Photo by Lindsay Stark

### Abstract

The village communities of Kalugala, Kosdanda, Udailuka and Padupola adjoin the Knuckles Mountain Forest in Sri Lanka Central Province. Increased state protection of the forest now limits the communities' ability to use the forest as their traditional source of survival. This initiative carried out comprehensive participatory needs assessments, with a strong gender perspective, and implemented a range of measures to support villagers' livelihoods at the same time as supporting conservation goals. A key finding was that water scarcity and seasonal droughts were the villagers' biggest problem, and a strong emphasis on drought risk reduction, biodiversity, water management for agriculture, and land management followed. To date, over 2,000 plants have been planted by 75 farmers in gardens that serve the dual purpose of improving livelihoods and conservation. Three nurseries are being maintained by the farmers. Organic farming has been adopted to reduce the disturbances to soil formation and water conservation, while biological measures are selected to enhance water infiltration and retainability. The project is ongoing.



## How the initiative links Gender, DRR and Climate Change

Drought risk reduction, better land-use, and better water management are key to improving the lives of these marginalized communities. Climate change is predicted to increase water stress; and the project's work to reduce drought risk will contribute to climate change adaptation. This is taking place through a comprehensive, integrated approach to environmental and natural resource management, geared towards improving livelihoods. The project mainstreams gender perspectives into its planning process, emphasizing the crucial role of women in resource management for climate change adaptation. Men and women both work on planning and deciding the ways by which every household will contribute and benefit. The way that women participate in the process has led to their increased strength as a voice within the community.

## The Initiative

This initiative focuses on improving livelihoods in harmony with environmental and natural resource management and conservation. It started in 2006 and it is ongoing.

It is being implemented by local communities and the University of Peradeniya, in Sri Lanka Central Province, Uda-Dumbara Divisional Secretariat Division, in the villages of Kalugala, Kosdanda, Udailuka and Padupola. These are traditional villages adjoining the Knuckles Mountain forest. The forest was declared the Knuckles Conservation Area (KCA) in 1968 and has been gradually placed under state control and governance. This has alienated the surrounding villagers' traditional livelihood linkages with the forest. The communities near the forest consist of 205 households clustered into traditional villages. They are marginalized from mainstream development and social services.

The participatory process undertaken by the University team with the communities has included:

- Sharing experiences and reaching consensus
- Mapping out their own terrain and resources
- Working out their capabilities to respond, and to implement solutions, with attention to gender capacities and roles

Men and women both worked on planning and deciding the ways by which every household would contribute and benefit. Both men and women were involved in identifying the crops, trees and making plans for land use, in order to increase resistance to drought, and to ensure the needs and concerns of both genders. Women, through their involvement in the participatory discussions, increased their strength as a community group, working hand in hand with men to work out their own recipe for reducing their vulnerabilities.

Participatory risk assessments revealed that the communities have experienced many types of disasters, particularly an increasing intensity of droughts and landslides. They also have a wealth of knowledge about environmental resource management through their traditional relationship with the forest. The initiative recognized that disaster mitigation would be a key entry point for stimulating interest, consolidating experiences, organizing social capital and building overall resilience.

Through community-based participatory risk assessment, the men and women of the villages agreed on shared responsibilities to reduce risk, and particularly decided to concentrate on water. The biggest problems for the communities were related to water scarcity and seasonal droughts.

The communities formed a committee with the support of the University team, to develop the lands in the 'buffer zone' just beyond the forest's

protected area. The activities undertaken by the communities included taking an inventory of the land's potential and capacities; the listing of species that are capable of serving the dual goals of conservation and livelihood security; and designing resource enrichment by selecting the plant varieties. They then selected and established pilot areas as learning laboratories and raised nurseries with the chosen plants. This expanded biodiversity and livelihood security.

Three pilot sites were selected to learn the practical measures and monitor the changes. Five families were initially selected to:

- Establish a conservation-integrated home garden development
- Establish a highland farm that contributes towards sustainable management of resources including biodiversity

- Develop the banks of the stream that runs through their land.

After seeing the changes, other farming families in the area demanded to be included in the projects. Farmers requested more activities to develop home gardens, highland areas, the areas used as seasonal fields, and to rehabilitate the riverbank areas.

The community-based organization focused on the development of the buffer zone, which worked towards reducing their livelihood dependence on the forest.

The direct beneficiaries of the project were 75 women and 82 men. The initiative was supported by Darwing Initiatives – UP Aberdeen Link, and the partnership has already expanded to involve six stakeholders.

## The Good Practice

This is a good practice because the activities are managed by the communities, with the full participation of women. A key success factor is the commitment and responsibility of the people, mobilized through the project's participatory risk assessment process.

These communities with decades of practical experience in managing their environment, have the best idea of how climate change-related hazards will affect them. They are prepared to use their knowledge and experience to work out locally appropriate strategies. This has resulted in one of the innovations of this project: the integration of livelihood, conservation and risk reduction measures.

There are great strengths in the communities' social network, where labour, experience and knowledge are shared reciprocally beyond the individual's farm fence or property. The process of capacity building and empowerment allows men and women to take responsibility for the work being done. Local willingness to work as a community materializes out of mutual respect and an inclusive and accommodating approach.

### Impacts & Results

The communities have improved and diversified their livelihoods through taking measures that both sustain their survival, and decrease the risk of drought and landslides.

- Over 2,000 plants have been planted by 75 households in gardens that serve the dual purpose of improving livelihoods and conservation.

- Three nurseries are being maintained by the farmers.
- Organic farming has been adopted to reduce the disturbances to soil formation and water conservation.
- Cinammon as a cash-crop has been introduced to underutilized shrub-land areas.
- Biological measures are selected to enhance water infiltration and retainability.
- The communities' increased capacity to organize and advocate means that they have also acquire the services of newly commissioned programmes like 'Maga Naguma' (development of access roads), 'Gama Naguma' (development of underserved villages/areas), sustainable agriculture, and 'Samurdhi' village development programmes.

## Lesson(s) Learned

- Physical planning is not sufficient to address the disasters associated with climate change; a process of social mobilization is essential, where all the sectors of the communities are to engaged and active as equal and responsible partners.
- A dedicated social mobilization process can be necessary to fully integrate a gender perspective on men's and women's different needs, priorities and experiences. Communities, when organized, can become agents for change, capable of facilitating and making decisions on technical needs and planning, implementation and monitoring. They are able to replicate and pass on good practices to the next generation.
- Capacity building and using a process approach contributes to success. Capacity building can be done through interactive learning, sharing and reciprocity.
- Land management can form the basis of collective action to reduce vulnerability to water scarcity and seasonal droughts.
- Flexibility is needed in the process to make adjustments to cater for newly emerging needs.

### Potential for Replication

This initiative can be replicated in the sense that participatory analysis and planning can be applied to other communities in different situations. Communities can then be supported to implement the best solutions to their problems.

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# Tunisia



## Women's knowledge for sustainable environmental management

Fighting desertification using natural resources and local knowledge

*Association des Jeunes de Zammour (AJZ)*

*(In partnership with Medenine IRA, GEF, CCFD and UNDP, Tunisia)*



### Abstract

Béni Khédache in Tunisia is a mountainous and dry region, vulnerable to drought in summer and sometimes torrential rain and landslides in winter. This wide-ranging sustainable environmental resource management project was comprised of numerous initiatives tackling desertification, water stress and erosion, through a variety of methods often based on traditional knowledge. The participation of women was particularly important for identifying local knowledge for reducing desertification. Techniques included rainwater harvesting, innovative irrigation, and increasing the area's biodiversity and plant cover. The initiative worked to reduce risks of hazards likely to be exacerbated by climate change, such as desertification, and landslides triggered by extreme weather.

## How the initiative links Gender, DRR and Climate Change

The initiative recognized that women's perspectives, knowledge, and key implementing role were fundamental elements of ensuring a sustainable environment through better natural resource management. The projects carried out were good examples of the overlap between natural resource management and climate change adaptation, as the activities reduced the risks of disasters likely to be exacerbated by climate change, such as desertification, drought, water stress, and landslides. Increased planting of vegetation also contributed to climate change mitigation through reducing carbon emissions.

## The Initiative

The initiative was implemented in Tunisia, Medenine Governorate, Béni Khédache Delegation, Zammour locality. It is a mountainous region characterized by its valleys and an arid and semi-arid climate. It is vulnerable to drought in summer and sometimes torrential rains during winter. The initiative consisted of several environmental and integrated development projects that fought soil degradation and water stress, and worked to increase biodiversity conservation. It started in 2001 and it was completed in 2004 and repeated the project, mostly unchanged, in 2004-2006.

The project worked to reduce stress on water supplies through incorporating local knowledge of water management, and removing obstacles to better soil management. Women were the primary implementers of most of the activities. Gender perspectives were included through consultation with women, and the recognition of their local know-how in the fight against desertification. Specific women's knowledge was collected in two reports; the first entitled: *Report on Gender analysis in the locality of Zammour* and the second entitled: *Report on the census of local abilities concerning preservation of natural resources*.

The total number of direct beneficiaries of the association's projects amounted to 100 people, among which there were 90 men and 10 women. However, women represented as much as 70 per cent of the project's indirect beneficiaries, due to their presence as decision-makers in the home, and implementers of the initiatives. This was not necessarily reflected in their 'official' roles as decisionmakers. Because of traditional practices, women in Zammour are not entitled to land access, so decisions over land use are made, or officially represented on their behalf, by their brothers or husbands even when the women are the real decision-makers.

The community level implementation of the projects involved both women and men, and reinforced the importance of women's participation.

Main implementing partners were the Medenine Regional Agriculture Commission and the Medenine Institute of Arid Regions (Medenine IRA). The project was funded by the Global Environment Facility's Small Grants Programme (GEF/SGP), the Catholic Committee against Hunger and for Development (CCFD) and UNDP Tunisia.

## The Good Practice

This was a good practice because of the attention paid to the relationship of the beneficiaries to their land, using traditional knowledge and practices to improve land-use and natural resource management. Using a participatory approach and building awareness were both key factors to the success of this initiative.



The work carried out by the project included assessing and implementing innovative rainwater collection methods, and the water preservation method of planting in stone pockets.

The stone pockets method is a traditional method that has been shown in studies to efficiently reduce the evaporation of the plantation's irrigation water.

Other important traditional rural methods and practices included the use of jessours (a series of small dams for rainwater management on valley slopes), fesguias (underground brickwork storage tanks for the collection of rainwater and streaming water), and majels (similar to fesguias but smaller) among others.

## Lesson(s) Learned

- Vulnerability to climate change can be reduced by increasing the vegetal area, and working with the crops of small agricultural producers. This approach also reduces greenhouse gas emissions through increased planting.
- Water stress reduction is possible through conservation of rainwater.
- These kinds of initiatives should take into account the importance of supporting sustainable livelihoods, that is, both income sources and food security.
- It is vital to work on the education and ecological awareness of the local population, for example through appropriate publications and media.

## Impacts & Results

Some of the concrete, verifiable achievements of this practice were:

- An increase in the vegetal area percentage
- The detection of innovative methods of water irrigation and treatment
- Eroded lands stabilized through artificial restoration and the planting of local species of fruit-bearing trees
- Biodiversity preserved at the mountainous ecosystems level

## The Challenges

The major challenges for this project were the poverty of the majority of the inhabitants, and the inability to mobilize necessary funds. To overcome these challenges, it is necessary to encourage and help people develop and maintain sustainable livelihoods to ensure a sustainable environment.

## Potential for Replication

To replicate these initiatives in a different context would require spreading knowledge of the practices through exchanging experiences with associations that pursue similar objectives, and international organizations who are engaged in the protection of the environment.

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# The Pacific



## Women planning sustainable agriculture

*The Development of Sustainable Agriculture in the Pacific programme (DSAP)*  
*Secretariat of the Pacific Community (SPC)*  
*(In partnership with ACIAR, FAO, IPGRI, UNDP)*



### Abstract

Since 2003, the Secretariat of the Pacific Community (SPC) has been implementing a sustainable agricultural development programme throughout the Pacific region. Using a participatory needs assessment approach, the programme has improved sustainable agricultural production and food security, while also addressing the challenges of hazards such as drought, flooding, rising sea levels, and other hazards that climate change is predicted to intensify. The programme's participatory approach includes a strong gender component, and in 2007 it was awarded the SPC Gender Award for its work across 17 Pacific nations.



## How the initiative links Gender, DRR and Climate Change

Real community change and effective development must include women as planners, sources of knowledge, decision-makers and implementers. The initiative's comprehensive inclusion of a gender perspective reflects this understanding. Small Island Developing States have a high vulnerability to climate change. The initiative's focus on better environmental and natural resource management for improved agriculture and sustainable livelihoods, has resulted in spin-off benefits for disaster risk reduction, especially in reducing risks associated with climate change. Resulting climate change adaptation measures have included the use of drought resistant and saltwater resistant crops, better irrigation to prevent drought, and increased resistance to erosion and landslides.

## The Initiative

The Development of Sustainable Agriculture in the Pacific programme (DSAP) uses a participatory approach to work with local farmers throughout the region to improve their food security and livelihoods. This improves their resilience to disasters and climate change. While the focus is on sustainable agricultural production, related benefits have been improvements to the quality of soil, more use of drought resistant or saltwater resistant crops, improved irrigation systems, better management of pests and diseases, evaluation of tissue plant cultures, terraced and planted hillsides to prevent landslides and runoff, and support for widespread home gardens for better access to nutritious food.

In the atolls, the DSAP focused on identifying problems and testing technologies with farmers to improve their traditional agricultural systems. Traditionally, the farmers used tree crop-based multi-story agricultural systems. DSAP worked to integrate livestock into these systems.

In the lowlands, the emphasis moved from research to identification and promotion of promising technologies, such as improved crop varieties, pest and disease management, land conservation and agroforestry technologies.

DSAP also produces and uses communication outreach tools to better promote project efforts within member countries, for example, nationally-based production and use of radio, posters, handbooks, brochures and videos.

The project:

- Used a gender analysis in its Participatory Rural Approach model, and in the design of the project, working with women, men, youth, and considering other social factors of the community, such as age.
- Has gender focal points and an advisory board.
- Gives gender sensitivity training to staff and members to incorporate gender analysis approaches.
- Builds capacity of both men and women.
- Has increased technological training and participation of women.

The project was designed on a model that encourages country-level planning, implementation and coordination. This has been achieved by establishing National Steering Committees (NSCs) involving a range of relevant stakeholders from both government and civil society.

The primary beneficiaries are men and women farmers in 17 Pacific Island Countries and multiple local communities. Since 2003, thousands of people are likely to have benefited. The project's extension agents work with communities to build local ownership of projects.

The Secretariat of the Pacific Community (SPC) works through DSAP with villages and communities in each of the islands. The DSAP project is an important part of the SPC Agriculture and Forestry Programme, drawing on valuable SPC technical assistance and training.

The design and content of the DSAP project was finalized at a participatory planning workshop in October 2001 which involved representatives from various government, non-governmental organizations, and donor organizations from numerous Pacific Island Countries and Territories and the SPC.

DSAP has been implemented in: Fiji, Cook Islands, Federated States of Micronesia, French Polynesia, Kiribati, Marshall Islands, Nauru, Niue, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, Wallis and Futuna, and Vanuatu. It is ongoing in 17 Pacific Island Countries, with a first and second phase.

SPC receives donor funding for Land Programmes from Australian Centre for International Agricultural Research (ACIAR), the Food and Agriculture Organization (FAO), International Plant Genetic Resources Institute (IPGRI), and the United Nations Development Programme (UNDP )

## The Good Practice

The key source of success was DSAP's participatory approach, which works in partnership with all members of the community. DSAP identifies needs of women, men, and youth throughout the community. For example, men and women plant and work with different crops in different islands. The consultative process listened to local needs, in order to find the right tools and appropriate technologies in response.

The project worked at the national and at the community level, and involved all stakeholders in a participatory consultative process. Gender perspectives are embedded in the approach.

The setting up of national mechanisms in countries to ensure that all relevant stakeholders have been involved in the project has taken time, involving a considerable investment in regional, national and local consultations. This has been followed by a painstaking process of establishing sustainable linkages with rural communities, developing their trust and understanding. This work prepared the way for the National Agriculture Research and Extension Services (NARES), and their partners, to work closely with rural communities in order to identify their real problems and constraints.

The benefits of this approach are now being realized at the country and community level, in that the right agricultural technologies have been identified and adopted to overcome the right problems, improving production.



## Lesson(s) Learned

- A participatory approach that assesses the needs of all members of the community is important for the successful implementation of sustainable projects.
- Participatory processes, if they are to work well and be sustained, take time.

### Impact & Results

- The training has built capacity in planting. People now plant a variety of crops that grow quickly and provide sustenance after storms, and are investigating crops that are resistant to pests, drought, and saltwater.
- Reforestation and appropriately planting hillsides prevents siltation and stabilizes shorelines to prevent erosion and landslides, further protecting marine resources, and increasing disaster resilience.
- With this improvement in agricultural resources, the communities and their livelihoods have increased their resilience to potential disasters and impacts of climate change.

### The Challenges

Consultative processes involving communities, using gender analysis, and building trust requires engagement over long periods. DSAP was designed to focus on using participatory processes and recognized that it would take time. This was built into the programme's framework.

### Potential for Replication

The project has been replicated in 17 countries throughout the Pacific and would work similarly in rural coastal communities.

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Photo by ActionAid

# 2

## Women as leaders, decision-makers and full participants

*Without women fully taking part in decision-making, leadership and implementation, real community resilience to climate change and disasters simply cannot be achieved. In too many places, women are still marginalized from community discussions and development planning. Fully sustainable community-based development is involving the knowledge and energies of women, men, boys and girls.*



# Brazil



## Efficient irrigation, energy, and citizenship for sustainable development

*Rede de Desenvolvimento Humano-REDEH, Brazil*

*(In partnership with Cariplo Foundation, SouthSouthNorth and the Dutch Ministry of Foreign Cooperation)*



### Abstract

Pintadas is a very poor area in the Northeastern region of Brazil that suffers prolonged drought. Its people depend on agriculture, but irrigation, if it exists at all, is extremely basic. The lack of innovation in water management limits the agricultural productivity of small farmers, which feeds the region's poverty cycle. The threat of climate change to regional development looms large, as drought is expected to worsen, and rainfall periods to become briefer and more intense. Despite Pintadas' many vulnerabilities, a microcredit scheme operates in the area, which was a positive force for implementing this small-scale irrigation project. The initiative introduced irrigation and agricultural technology chosen through a consensual participatory method, which had a strong emphasis on gender perspectives. This resulted in new methods that were small-scale enough for individual families and women to use. The project engaged with the local Women's Association, made sure it had a women community leader spearheading the initiative in the community, targeted women as project beneficiaries, and monitored collaboration between men and women in implementing the projects.

## How the initiative links Gender, DRR and Climate Change

Both women and men are learning how to handle new irrigation and water management technologies for the improvement of small scale agriculture. In the history of Pintadas this is a breakthrough. Due to the participatory process of the initiative and grassroots work with the local Women's Association, gender analysis was a strong factor in choosing beneficiaries, and technologies that could be effectively implemented by all. The impact of this initiative reduces the risks of food and water shortage during the long periods of drought in this region that are becoming even more intense, consistent with climate change predictions.

## The Initiative

Pintadas is located in the Northeastern region of Brazil, the poorest region in the country where 42 per cent of the population, or 18.8 million people, are poor. About half of them (7.9 million) live in rural areas, with income and life expectancy well below the national average. The region is characterized by a semi-arid climate with very little precipitation, high temperatures, a deep groundwater table, sandy soils and prolonged periods of drought.

Water scarcity in rural areas of Northeastern Brazil seriously affects the economic development of entire villages, because of the limited water available for sanitation and agriculture. Agriculture in the Northeastern region often represents the core economic activity for entire villages. However, most of the water used for agriculture is still harvested by hand through small containers, and irrigation is either nonexistent or as basic as a small trench that water is poured into by hand. This limits the agricultural productivity of small farmers - the poorest segment of society - and feeds the poverty cycle that traps the region.

Climate change is also posing a serious threat to the development of the entire region. According to IPCC reports and other studies, extreme weather events and change in surface temperature are likely to have punishing effects on semi-arid areas like Pintadas, through increased temperatures, decreased rainfall, longer periods of drought, and intense precipitation condensed over shorter periods of time. This is likely to affect the water cycle and the way in which water is stored in local surface and groundwater reservoirs. Poor communities are likely to be the ones to suffer most, since they have very little capacity and resources to cope with such changes.

### Socio-economic characteristics of Pintadas:

- Lack of water and energy infrastructure.
- The area is affected by periodic droughts. These jeopardize and undermine the economic productivity of local agriculture.
- High vulnerability to climate change. It is predicted to rain more on the average but with rain concentrated over specific periods of time. The risk of prolonged droughts is also increasing.
- Poor access to adequate agricultural technologies. The greatest majority of farmers in Pintadas are family farmers who base their productivity on subsistence agriculture. Modern strategies and small-scale technologies are not available to them. Agricultural practices in the Northeast are very traditional, consisting of water harvesting and land watering by hand. Very occasionally there are small engineering works that aim to improve access to water, such as small channels and connection or diversion trenches.
- Presence of accessible financial resources. The main difference between Pintadas and many communities of Northeastern Brazil is that Pintadas has micro-credit schemes that can be used for the dissemination of this project's modern irrigation technologies.



The pilot phase of the Project Pintadas Solar started in June 2006 and has been completed. Planning for the scaling up of the initiative is taking place now.

The pilot had four phases:

1. Planning: The beneficiaries were selected in a consensual way, and organized their visits to similar project sites so that they could picture where they were headed.
2. Selection of the technologies: This was carried out in partnership with the beneficiaries and had a focus on innovation.
3. Implementation: There were seven systems, five of solar powered drip irrigation and two of organoponics.
4. Evaluation: The project was evaluated on a larger scale.

The project's first move was to start working in partnership with the Association of Women of Pintadas. The Association contributed by identifying the beneficiaries and being involved with the design of the

project. The second move was to identify a woman as leader of the project, Nereide Segala, a local leader. These were the key first steps to guarantee that the project addressed gender issues.

The initiative identified and introduced new small scale irrigation and agricultural methods, such as solar-powered pump irrigation, and growing crops using organoponics. This allowed more control over agricultural production by decreasing dependence on seasonal rains, while the technology involved also remained 'user-friendly'.

The project included families as the target units, so women and men had to work together to learn how to implement the project and reach its goals. The project monitored collaboration between women and men. The beneficiaries are 7 families. In 5 cases the main beneficiaries are women.

The project was funded by Cariplo Foundation from Italy and SouthSouthNorth which is financed by The Dutch Ministry of Foreign Cooperation.

## The Good Practice

The Project Pintadas Solar is an innovative good practice as it encompasses irrigation and energy efficient technologies for small scale agriculture. Women and other members of the family can learn to use it, and the irrigation can also be used at the level of the household.

The project is innovative in the following ways:

- It uses opportunities created in the new climate change framework (ie. support for biofuel production) to improve livelihoods of underserved populations living in semi-arid remote areas.
- It addresses adaptation to climate change for poor communities by introducing small scale energy and water efficient systems.
- It combines cultivation of crops and species that will guarantee food security with crops for sustainable small-scale biofuel production.
- It develops the capacity of farmers, especially women, to deal with new technologies of irrigation and cultivation.



- It helps to create a new prototype of small scale agriculture that can be disseminated in semi-arid regions all over the world.
- It empowers women not only as beneficiaries but also as knowledge holders who can positively contribute to implementation of alternative methods of agricultural production.

## Lesson(s) Learned

- To nurture the spirit of partnership all along the project. This maintains a high learning curve and high level of interest on the part of the all the stakeholders involved.
- At every stage the choice of technology has to be submitted to a reality check, which means that original ideas and plans have to be revisited as the project unfolds.
- Find ways of remunerating beneficiaries for their time.
- It is important to show results throughout the project, in order to motivate beneficiaries and partners to hold on and overcome obstacles that are inherent in the process.
- To make sure that the role of 'invisible' partners, that is, women, are addressed in each phase of the project and made a visible part of the process.
- To make sure there is capacity building in climate change-proof technologies.
- To ensure that new technologies are on a small scale that is within the reach of women and small farmers.
- That women are motivated to learn how to handle tools and technology that is practical and addresses the direct needs of the family and the community.

## Impacts & Results

The innovation is that these irrigation and energy technologies allow for better control by the families on how to cultivate their small pieces of land. The concrete results are that the small farmers, especially women, are learning how to cope with drought and still guarantee food and a small income to their families.

- 7 small scale systems installed applying different methods of energy generation to pump water and increase energy efficiency (drip irrigation, organoponics, renewable energy)
- Small scale agriculture model proven to be viable in the municipality of Pintadas (population 10,000) and its surroundings.
- Networking with the key people and organizations promoting crop production for the biofuel market in small scale agriculture

- Lessons learned from the Pintadas Solar experience disseminated around the world through the SouthSouthNorth Network which is active in 6 countries (South Africa, Tanzania, Mozambique, Indonesia and Bangladesh).
- The project has been considered as a reference to be studied at Center for International Development, Kennedy School of Government, Harvard University.

## The Challenges

One main difficulty was to ensure that women adopted the new technologies. Any change even if it is for the better, can provoke resistance. The fact that the beneficiaries were engaged in the project together as a group helped overcome those resistances. By seeing the positive results, the beneficiaries became more interested in learning and coping with the difficulties were common at the outset.

The biggest challenge is that drought has, in the past, discouraged small farmers from engaging in agriculture. The use of innovative forms of irrigation, and the management of soil and different crops, is showing them that a sustainable livelihood through agriculture is indeed possible.

Projects could be improved if we understand that the use of technology is just part of the solution. The inclusion of the view of the beneficiaries and project partners is the key to the sustainability of the project over time, as is building human resource capacity.

## Potential for Replication

The main principles of the Project are universal and can be applied to similar drought-prone locations, which are common in sub-Saharan Africa and semi-arid regions of the Asia, as well as Brazil and Latin America.

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# India

act:onaid

## Empowering women as community leaders in disaster risk reduction

An experience from the Tsunami Response Programme, Andaman and Nicobar Islands

*ActionAid International*

*(In partnership with Disaster Emergency Committee)*



### Abstract

This project built women's resilience to disasters in the Andaman and Nicobar Islands through empowering them as participants in community decision-making. This was achieved through a Participatory Vulnerability Analysis that gave women space for awareness raising, sharing experiences, skills-training, and forming participatory womens' group and community groups. Eventually, this led to activities identified and implemented by women with the support of ActionAid, such as collectively learning to swim and to fish, and gaining financial and economic management skills. While part of ActionAid's Tsunami Response Programme, the initiative also increased women's resilience to weather and climate related hazards such as floods and cyclones.

## How the initiative links Gender, DRR and Climate Change

The main hazards that place the Andaman and Nicobar islands at risk are tsunamis, floods and cyclones. Climate change is already suspected to be behind changes in rainfall patterns. For example, in 2005, average yearly rainfall increased by over 20%, leaving half of Nicobar Island underwater. The vulnerability of the islands to climate change has been exponentially increased because of changes to the topography due to the Indian Ocean Tsunami. This initiative put women at the centre of making communities more resilient to climate and weather-related hazards as well as other risks in the Andaman Islands. It shows that even in cultural contexts where women have very little public role, women can be supported to take a much more important role in reducing disaster risk, and in helping their entire communities adapt to climate change. Disaster preparedness training such as learning to swim, and increasing disaster recovery capacity through financial management, fishing, and water management, have been ways that these women have been able to adapt to the predicted increased risk of flooding, soil salination, and changing rainfall patterns.

## The Initiative

When the Indian Ocean Tsunami hit the Andaman and Nicobar islands in December 2004, more women died than children or men— not due to chance, but due to gender inequalities. Their roles as carers and mothers meant that when the tsunami hit, they put the safety of their children and assets before their own survival. Furthermore, women spent their lives within their households and had very limited experience interacting with others outside this private space. This, in combination with the social expectations of what is acceptable for women, contributed to the fact that when their clothes were ripped off by the debris, many women died indoors rather than allow themselves to be exposed to the shame of running outside naked to escape. During the initial response to the tsunami, women found it difficult to access relief and rehabilitation support, as they were not often involved in its distribution or in decision making processes.

Analysis carried out by ActionAid showed major power imbalances between women and men in all spheres of their day to day experiences. By challenging power relations that are the root causes of women's exclusion, ActionAid sought to transform gender relations by redistributing more evenly the division of resources, responsibilities and power between women and men. This kind of transformative redistribution is politically challenging because it does not simply channel resources to women within the existing framework, but seeks to change the framework itself.

This project aimed to build women's resilience to disasters in the Andaman and Nicobar Islands, through integrating gender perspectives into ActionAid's Tsunami Response Programme, specifically in its disaster reduction initiative. The project focused on increasing women's participation in community decision-making through awareness raising, sharing experiences, skills-training, and forming participatory women's groups and community groups. It was part of an International Tsunami Response Programme being implemented in four Asian countries (Maldives, India, Sri Lanka and Thailand) and one African country (Somalia). In India, the project is being implemented in two states (Andhra Pradesh and Tamil Nadu) and two Union Territories (Pondicherry and Andaman & Nicobar Islands).

The project was initiated in 2005 and successfully completed in December 2007. Prior to the tsunami there was no NGO presence on the Andaman and Nicobar Islands. Due to a lack of capacity of local partners, ActionAid implemented this programme directly, supported by the Disasters Emergency Committee (DEC). The DEC is a UK-based umbrella organization that launches and coordinates international disaster response by raising funds on behalf of UK NGOs. To ensure its local sustainability, all stages of the project promoted strong ownership at the community level, especially by women.

## Good Practices and Lessons Learned

The project addressed women's marginalization by designing strategies that would develop women's understanding, increase their interest and participation, and engage them actively in the disaster reduction process on the islands.

The main elements of the initiative included:

- An ongoing Participatory Vulnerability Analysis (PVA) of local risks and underlying vulnerabilities
- The organisation of women's groups for advocacy and to take action to reduce their vulnerabilities
- Training in financial recording for women
- A group saving initiative for women
- Facilitating women's involvement in village Self Help Groups

The Participatory Vulnerability Analysis (PVA) process allowed women and the communities as a whole to identify the sources of their vulnerabilities. This included many issues of underlying vulnerability such as housing, education and health. The process also identified community knowledge and capacities that may have previously been ignored, and formed the first stages of a disaster response plan. The plan included identifying safe places during emergencies and the formation of task forces with certain roles and responsibilities. The PVA maps that evolved through the participatory exercises helped to create greater awareness of the vulnerabilities the communities face at the village level.

Prior to the tsunami, women were not involved in the development process of their communities. For many women this was their first experience of working together within an organised structure. Platforms for women were created in the form of women's groups to provide a space for problem sharing and to discuss the issues and challenges facing them. Women discovered that organising into collectives to train in many traditionally male-dominated activities, challenging gender stereotypes, they would be better prepared to cope with hazards.

One of the first issues to arise was that unlike men, women did not know to swim, and needed to learn.

During tsunamis and floods they were at much higher risk of drowning. In their cultural context of gendered restrictions and taboos, women would have never been able to learn how to swim unless they did so as a collective.

All women were actively encouraged and supported to form women's collectives, Mahila Sangathans, at both the village level and at district level. The Mahila Sangathans encouraged women to mobilize themselves within their villages, to empower them to make their own decisions, and to give them a voice within the community.

ActionAid also supported the formation of formal community Self Help Groups (SHGs) and monitored their gender balance. Of the 32 SHGs now registered on the islands, only six have more male members than female and just under half consist solely of women. For the first time, women are taking part in public dialogues on the problems of the community and the solutions available. These groups are now decision-making bodies registered with local government. ActionAid has supported the construction of community halls that is undertaken by the community, funded by ActionAid and targeting women-only SHGs.

These groups have undertaken a variety of activities since ActionAid's work began. For example, women have restored old ponds and wells and created new ones, making their crops less dependent on rainfall. They have also organised to build dykes to protect their farming land from flooding.

After learning to swim, women have also been supported to start fishing for the first time in the Andaman and Nicobar Islands. Given that farming may be increasingly threatened by land salination and flooding due to climate change, fishing is an alternative livelihood that will allow them to adapt to this impact. The women have been able to obtain licenses certifying fishing as their livelihood, meaning that they will be entitled to government compensation if their fishing is disrupted by floods or tidal waves.

## The Good Practice



Emergency response efforts can be an opportunity to create space for women's participation in public decision-making about community development. This is a best practice for reducing climate change risk and disaster risk.

The PVA was a tool for effectively integrating a gender perspective into the ActionAid disaster reduction programme. The PVA is a good practice because it builds the capacity of women to lead communities and ensure that community action is sensitive to their own needs. It is an approach that acknowledges the differential impact of disasters on women when doing the analysis, specifically, the intrinsic link between gender inequalities and women's reduced capacity to cope with disasters and recover from them.

The women involved in the PVA increased their knowledge through information-sharing, better understanding their vulnerabilities and capacities in order to address them. By supporting women to participate in community life, ActionAid was able to include women in disaster reduction initiatives and empower them to take leadership positions and responsibilities for implementation. As climate change becomes more evident, it will be important that women already have structures in place that allow them to play an active role in mobilising communities to reduce the impact of weather and climate related hazards.

Reducing women's vulnerabilities through capacity-building and instilling new skills and knowledge proved an effective approach. Access to information and control over resources will have a great bearing on their capacities to prepare, mitigate, manage and respond and recover from any future disaster.

## Lesson(s) Learned

- Women's participation in public affairs is a key step towards the realization of women's full potential as leaders and champions of safe community practices to protect lives and livelihoods.
- Women's civic participation needs to be complemented by targeted income-generating activities such as group-saving or gender-sensitive cash-for-work programmes, as this helps them gain confidence and empowers them to demand equal rights to men.

### Impacts & Results

Women have been able to:

- Overcome strong resistance from their families and men-folk to actively participate in and contribute to community programmes and exercises - setting up women's organizations, taking a strong leadership role across the community in registered village Self Help Groups, and building wells and dykes for better water management and protection of agricultural land from flooding
- Participate in male-dominated activities on an equal footing, demanding equal rights after taking up economic and financial activities that have increased their expectations.
- Learn to swim for the first time, decreasing their risk of drowning during disasters
- Start fishing for the first time, increasing their economic independence, their ability to cope with disasters, and their ability adapt to climate change threats to agriculture
- Increase their stake in the economic sphere and increase their access to income-sources, including rights to compensation for the loss of property and livelihoods
- Overcome barriers and obstacles when they are encouraged and guided

### The Challenges

Prior to the tsunami, women were not often found in the public domain. While mobilizing women there was evidence of resistance from men, and from the communities as a whole. This type of intervention had not made prior to the tsunami and was a new concept to majority of the islanders. Sensitizing the communities to these new concepts had to be taken into account.

### Potential for Replication

It would certainly be effective to replicate this practice elsewhere in many contexts. The foundation of its success lies in the mobilization of women to have the confidence to direct their own lives and have economic independence.

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# India

## Women organize as environmental activists

Women reduce disaster risk by building community action and resilience: a case study of Dasholi Gram Samaj, Chamoli, Uttarakhand, India

*Action for Disaster Reduction and Inclusive Development, (ADRID)*

*Dasholi Gram Swaraj Mandal, India*



Photo by Christopher R. Wigginton

### Abstract

Springing from a spontaneous demonstration against indiscriminate deforestation in 1976, this women's civil society movement began to lead development initiatives by addressing environmental issues through a disaster risk reduction perspective. After winning respect from communities with their activism, women were increasingly able to position themselves as community leaders and disaster risk reduction activists in their own right. Local women have worked with men to effectively change the ecological profile of the area by preventing deforestation and recharging water resources. This has reduced the risk of flooding and landslides from extreme weather events - disasters which are likely to be exacerbated by climate change.

## How the initiative links Gender, DRR and Climate Change

This local environmental movement was founded by women, due to their key role as natural resource managers and close relationship with the forest as a resource. This movement is an expression of the central role women play in environmental and natural resource management in many agricultural communities. It is also an empowering grassroots civil society movement that serves as a platform for women's participation in community decision-making. Preserving the forest fights deforestation, erosion and desertification, reducing risk of climate-related disasters such as floods and landslides. Better management of biodiversity to prevent disasters is an important element of climate change adaptation. Preserving the forest will also contribute to reducing carbon emissions.

## The Initiative

This project deals with disaster risk reduction, risk-free development and livelihood issues. Both women and men have been active participants, although women founded the initiative through development activism.

The initiative started in 1976 as a spontaneous non-violent protest against indiscriminate deforestation, which had been resulting in frequent floods and landslides. Women prevented trees from being cut by acting as human shields. This was not a project-driven initiative, but a people-led movement, which has now transformed the way the state and local government looked at forestry and natural resource management. It is an on-going process, now organized in the form of a registered body called the Dasholi Gram Samaj Mandal.

Disaster risk reduction has been integral to the initiative as a core survival concern. The national and federal governments have recognized the Dasholi Gram Samaj Mandal as a major community-led environmental conservation movement, but it has yet to be understood and documented as an initiative having far-reaching disaster risk reduction implications.

The movement was initiated in Dasholi village of Chamoli district of the then undivided state of Uttar Pradesh. The women of Dasholi Gram then mobilized women's groups from neighbouring villages. Chamoli district now falls in Uttarakhand, the hill state carved out in 2000. The initiative later spread to other districts in the region that included Uttarkashi, Tehri Garhwal and Pauri Gahrwal.

Dasholi Gram Swaraj Mandal is the institution anchoring the endeavor, which now covers issues related to conservation of natural resources - jal, jangal aur jameen or water, forest and land - to reduce disaster risk in the region.

The partners are women's groups from villages that are dependent on the local forest for their essential needs, like water, fodder and firewood. The women, in their roles as providers of essential household and community services, and managers of natural resources, are greatly sensitive to the risk of damage and loss from natural hazards such as earthquakes (the area is in seismic zone 5 with the highest risk regions in the country), cloud bursts, flash floods and landslides.

Women established that natural resource conservation was a matter for community concern, and that the issue demanded action involving men as partners. The initiative introduced fundamental shifts in gender relations due to women's positioning as community leaders. Their actions resulted in the regeneration of the forest, a reduction in the drudgery borne by the village women, and less land damage from floods and landslides.

## The Good Practice

This is a good practice because the efforts of the local women's groups under the leadership of Dasholi Gram Swaraj Mandal, have effectively changed the ecological profile of the area (as confirmed by satellite pictures) by preventing deforestation and recharging water resources. It is also an unprecedented model of people-led disaster risk reduction and development.

Some of the innovative elements of the initiative are:

- Emergence of environmental conservation as a women's livelihood issue
- Men joining a women-led movement
- The community challenging government policy and practices on environmental matters
- Collective local action undertaken against institutionalized corruption

It is notable that the initiative involved:

- Participatory analysis
- Action by women as a collective
- Disaster risk mitigation implemented as a way of life rather than as project activity.

The initiative has had ripple effect on adjoining villages and districts, and it has been sustained for 32 years as a women-led movement, practically without any external support.

## Lesson(s) Learned

- Local wisdom and action can bring transformative shifts in development and DRR practice.
- The empowerment of women lies in their organization and action; outside development actors such as government, NGOs and donor agencies need to create only the conducive conditions for local women to reach their potential and take action.

## Impacts & Results

- The amount of green area, which was abysmally low, has improved dramatically. More than 500 hectares of land have been converted into green cover in the first few years of initiatives.
- Achievements include reduction in landslides, forest regeneration, stabilized livelihoods, and improved access to water, fodder and firewood.
- Women and men acting as partners has been one of the high points of the movement.
- The initiative broke the existing stereotypes of women as vulnerable and victims.

## The Challenges

The major challenge of this initiative was the Government's initial reluctance to accept the community as the true custodian of the forest and of its resources. However, media attention, international recognition, and eventual government acknowledgement have lent legitimacy to people's role in ecological and environmental conservation.

## Potential for Replication

This initiative can be replicated in other regions and different contexts by promoting participatory analysis and action among women and men.

Promoting local organizations and their initiatives, and identifying and supporting local champions, are key to achieving similar successes.

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# Nepal



## Women and men working together against flood

Overcoming barriers to women's participation in disaster risk reduction

*CARE Nepal*

*(In partnership with Jagaran Abhiyan Nepal, Development Training Center, Samaj Utthan Yuva Kendra and ECHO)*



### Abstract

Samadhan, meaning “solution to a problem”, was a project to increase flood awareness and preparedness in the southern flood plains of Nepal. The project worked to build community capacity. Women were specifically targeted in the innovative design of trainings and awareness-raising, and women comprised half the membership of the community disaster risk reduction committees. Women moved from the sidelines to become active participants in designing and implementing disaster preparedness. The increased level of women's participation was a real mark of success, in a culture and society where women are often not allowed to participate in household and community decision-making. Women's and girls' participation at times outnumbered men's and boys' participation in training and evacuation drills. When the seasonal flooding occurred, the Samadhan communities showed their new collective strength, and saved lives and assets that would have otherwise been lost.

## How the initiative links Gender, DRR and Climate Change

Climate change will increase flooding, particularly in Asia, and flood preparedness will become increasingly important. Women's participation in reducing the risks of climate and weather related disasters will be vital to the success of climate change adaptation for vulnerable communities.

## The Initiative

The goal of the Samadhan project was to increase the flood awareness and response capacities of 48 communities in the southern flood plains of Nepal. This region is subject to frequent natural hazards and the project sought to reduce the effects of these hazards on the most vulnerable populations.

Samadhan, meaning “solution to a problem” in Nepali, was implemented in 48 flood prone communities in the Sarlahi, Mahottari, and Dhanusa districts of southern Nepal. The project started in February 2006 and ended in July 2007. With support from other donors, CARE continues to strengthen the capacity of community disaster risk reduction committees. The project was implemented by CARE and three local NGO partners. It strengthened community capacity for disaster risk reduction through organizing community disaster risk reduction committees and taskforces, and the training of school teachers.

The project sought to mainstream a gender perspective into disaster risk reduction activities by:

- Facilitating equitable representation of men and women on community disaster risk reduction committees and taskforces
- Promoting girls' leadership in school-based disaster risk reduction
- Overcoming barriers to women's participation in disaster risk reduction.

A door to door awareness campaign helped reach reached women and children, since they were often at home during the day. The team also put a lot of time and effort into designing training for capacity building. As a result, women's participation was high. The training was conducted right in their villages, so they did not have to travel far and they were in their comfort zones with known people. The training was open to anyone, with no limitations on numbers, and each session was only three hours so women could fit them in with their daily workload with greater ease.

Moreover, design of the training was revised based on community feedback. For example, communities already knew how to use gabions - cages or boxes filled with soil and used in constructing dams or foundations – so the gabion demonstration was replaced. The women requested a demonstration of improved cooking stoves instead, which was duly provided.

Additionally, because there was a children's learning stall, mothers were able to go to each demonstration without having to look after their children. As a result, they were better able to focus on learning the skills. An unintended yet positive consequence of having a children's stall where children heard stories about past disasters from their elders and learned about disaster preparedness, was on-site 'day care'.

During the first few training events, the Nepal Red Cross Society volunteers were used as resource people for the first aid stall. Afterward, female community health volunteers and health clinic assistants provided communities

with first aid training. This was the most popular stall among women. When asked why, women said that it was because they used to think first aid was a man's job, that is, it was prestigious and challenging. Now they too possessed the knowledge and skills.

The team also put greater time and thought into the facilitation of community evacuation drills. The drills help communities understand in practice what to do before, during and after a natural hazard. They are also an excellent method of evaluating the relevance and effectiveness of a given community contingency plan.

To ensure high turnout of women and other vulnerable groups in these drills, CARE and partners planned a two-week gap between the community contingency planning workshop and the evacuation drill. During those two weeks, local resource people and community disaster risk reduction committee members went door to door raising awareness about the community contingency plan, the family preparedness plan, and the date and time of the drill. The two weeks of awareness raising helped increase women's participation in the drills. When local resource people and committee members went door to door to talk with people, they did it during a time when women were at home. Special emphasis was also paid to vulnerable communities, for example the dalit communities living along the riverbank. As a result, their turnout at the drill was also high.

Gender needs and concerns included women's general lack of participation in household and community decision-making within this particular community and culture. Women are often more vulnerable than men during disasters like floods, which are a common hazard in the project area. Their traditional dress limits movement, they often do not have access to early warning systems, they are often not chosen by community leaders to participate in community committees or attend training workshops or meetings, and they are responsible for ensuring the safety and security of their children during emergencies. The project raised awareness about these barriers among both men and women, and sought to increase women's awareness of and capacity for disaster risk reduction.

The capacity of the community disaster risk reduction committees (DRRCs) was tested during the July-August 2007 floods. There was a marked difference in community response between Samadhan communities

and non-Samadhan communities. The DRRCs and local resource people were already responding to the floods before CARE was able to reach them with assistance. In some non-Samadhan communities, however, staff and local partners report that when they arrived, people were waiting around anticipating relief assistance and were not as visibly active as the Samadhan communities. From anecdotal evidence, it appears that training and resources from Samadhan helped the community committees more effectively respond to the floods, reducing the losses of lives and assets.

Indeed, when these floods happened, the DRRC in Balasaghara, in the Dhanusa District, put to use the knowledge, skills and resources obtained through the project. It immediately began using the wooden evacuation boat, built through the project, to rescue villagers when the floods began. It also used the boat to ferry villagers to relief distribution sites and to collect fodder for livestock. The DRRC chairperson used the evacuation boat and life jacket (also received as part of Samadhan) to save the life of a 15 year old boy, who would have otherwise drowned. As a result of helicopter drops of relief assistance, which was a common practice of the government of Nepal, many flood affected communities fought over relief supplies. But in Samadhan communities like Balasaghara, conflict was minimized as DRRCs took over management of the distribution process. The DRRCs divided supplies and ensured that the most vulnerable and affected households received them. Distribution was much more organized, as verified by the Red Cross, which stated in various stakeholder meetings in Kathmandu that, in areas where CARE had a presence, there was no fighting over distribution of food and non-food items.

When the flooding first began, the DRRC in Singyahi, in the Mahottari District, rescued people from Chamar Tole, a dalit community. It also provided lanterns, tarpaulin and life jackets to the 11 affected families (equipment comes from supplies provided to the DRRC through Samadhan). The DRRC used the Samadhan-provided microphone to deliver public information and advice immediately after the flooding.

On the evening of July 26 (the night before the district government launched emergency response), the DRRC in Dhaubali village, Jaleswor municipality, in the Mahottari District, used the microphone provided by Samadhan to alert people that a nearby dam was about to burst. Because

of continuous heavy rain, the river was overflowing and putting too much pressure on the dam. Men and women in Dhaubali worked together after receiving the warning call to reinforce the weak sections of the dam with stones and soil and prevented it from bursting. In the first few days of the flood, the DRRC used the microphone to deliver public safety announcements.

CARE's implementing partners were three local NGOs: Jagaran Abhiyan Nepal, Local Development Training

Center, and Samaj Utthan Yuva Kendra. Their roles were to mobilize communities and schools for disaster risk reduction, identify and develop local resource people, coordinate with local government, monitor and supervise local level project activities, and advocate for integrating disaster risk reduction into development planning by government. The project was funded by ECHO and benefited 40,916 community members, 10,792 school children, 150 school teachers, and 480 community leaders.

## The Good Practice

The project is a good practice because it increased women's and girls' participation and contribution to disaster risk reduction. A key success has been the level of women's participation in disaster risk reduction in a culture and society where women are often not allowed to participate in household and community decision-making. Women's and girls' participation at times outnumbered men's and boys' participation in such activities as skills training and evacuation simulation drills.

The project made an impact in promoting gender equality and disaster risk reduction. The case of Andupatti is a good example. When the project first started there, women sat quietly at the back of the room or on the sidelines during meetings and training workshops, peering from behind their saris. Women's participation in disaster risk reduction gradually increased. Women on the community DRRCs told project staff that their participation on the committee had led to more gender equity in disaster preparedness.

Fewer and fewer women remained silent, and women began taking pride in their disaster preparedness measures – storing grains for the monsoon season, building raised storage shelves, and keeping important documents, such as citizenship certificates, in safe places. They participated actively in community trainings on disaster preparedness. Because there was equal representation of women on the disaster risk reduction committee, women had a say in what small-scale mitigation measures communities will design, implement and maintain. They also played an active role in finalizing community contingency plans and simulating community evacuation drills.

Innovative elements of this project include changing the format of the way trainings are conducted in Nepal – from the conventional training hall format to skills fairs where the training is brought directly to the community and emphasizes practical skills rather than conceptual or theoretical knowledge.





## Lesson(s) Learned

- Flexibility and humility is extremely important, if projects are to best incorporate gender equity. Initially, the project team was focused on delivering outputs, as measured by the number of community disaster risk reduction committees established, the amount of information, education and communication materials created/distributed, the number of disaster risk reduction community trainings conducted, and so forth. It took time to reflect, however, with a mid-term report to the donor and a mid-term project management team assessment meeting. CARE and its local partners received constructive feedback from the donor, recognizing that it needed to improve processes to ensure that the project incorporated women's voices and facilitated their leadership in disaster risk reduction.
- A smaller target can yield more robust results. After the mid-term report, the project management team decided to reduce the targeted number of communities (as per initial proposal) with consent from the donor. This was a difficult decision, but one that proved to be the right one. With fewer communities in the project, the team was able to focus on strengthening processes to improve gender equity within project activities, spending more time learning from each other, and promoting the cross-fertilization of knowledge and experience across the three local NGOs and districts.

Innovative elements also include door-to-door canvassing, which works in densely populated rural populations. Women in the project area are often limited in their mobility. Door-to-door canvassing increases the potential for women to obtain knowledge, ask questions and engage in dialogue about disaster risk reduction.

### Impacts & Results

Overall, the project succeeded in providing access to disaster risk reduction information and skills training to women from poor, flood-prone, and socially conservative communities. When record high floods hit southern Nepal in July 2007, men and women worked side by side to respond to the crisis.

Project outputs related to increasing women's participation in and contribution to disaster risk reduction include the organization of 48 community skills fairs, which built women's and men's skills in first aid, household mitigation measures, such as improved cooking stoves, air nurseries, and methods to refertilize flood degraded land. A total of 28,199 people, or 60 per cent of the general population, representing 68 per cent of targeted households, in 48 communities participated in these skills fairs; 39 per cent were women, 34 per cent men, and 27 per cent children. Another result achieved was the facilitation of 48 community evacuation simulation drills. A total of 13,836 people, or one-third of the total target population in the project area, participated in the drills; 42 per cent were women, 31 per cent men, and 27 per cent children.

The project sought to implement previous recommendations on gender and disaster risk reduction, particularly with respect to early warning systems, such as the lesson that women may prefer different means of early warning than men. The project supported the use of local early warning systems, like the beating of drums, as well as the use of microphones.

## The Challenges

One of the challenges faced by the initiative was how to effectively reach the targeted population. At a mid-term assessment workshop, the project management team decided that it was not doing enough to raise awareness about disaster preparedness at the household level. It felt limited by the conventional training hall space and design; the project could only reach a limited number of people, and most of the people coming to the trainings were men. It also felt limited by posting information, education and communication materials in public spaces; this did not allow for dialogue and discussion. Disaster studies on gender suggest that men prefer getting information via radio, while women prefer information to be provided on site, so that they can ask questions.

To overcome this challenge, the team started a door-to-door awareness campaign. They reached more women and children this way since, generally speaking, it is women and children who are at home during the day. Local resource people (community volunteers) were given training on door-to-door advocacy. Each local resource person had a target of reaching 120 households per month. They were equipped with information, education and communication materials. In many cases, the local resource people far exceeded their monthly targets.

## Potential for Replication

The potential for replication is good. Lessons learned have already been incorporated into the proposal design of another DRR project. CARE hired field staff from Samadhan to work with the new project in order to replicate good practices from Samadhan in two other districts with two new local NGO partners.

The project team produced a lessons learned document, which it shared with other project teams within CARE Nepal. Staff met with other project managers to discuss lessons from the project and ways in which to incorporate DRR into ongoing projects and future proposals.

Lessons were also shared with other ECHO partners in Nepal and other countries in South Asia through a regional best practices and lessons learned conference in Kathmandu. Staff from other organizations and countries were responsive to some of the good practices identified in Samadhan and discussed ways in which they could incorporate them into their projects in the future. (CARE staff also benefited from good practices of other organizations at this meeting).

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# South Africa



## Girls as leaders in community resilience

Reducing the social vulnerability of marginalized adolescent girls

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### Abstract

Sonderwater is the poorest neighbourhood of Ikageng township, a peripheral township of Potchefstroom, North West Province of South Africa. Ikageng was originally designated as a 'black only' settlement during the apartheid era. In the past decade, Ikageng has been characterized by rapid expansion resulting in the creation of informal settlements like Sonderwater, in which the poorest residents live in inadequate sheet metal houses without even the most basic infrastructure such as running water, sewage, or electricity. Citizens and in particular adolescent girls, face growing poverty, crime, the prevalence of child-headed families, diseases (HIV/AIDS/STDs), drugs, alcoholism, lack of education, prostitution, and domestic, physical, and sexual abuse. The G.I.R.R.L. Project – 'Girls In Risk Reduction Leadership' – aims to reduce the social vulnerability of marginalized adolescent girls in Sonderwater using practical capacity building initiatives to increase individual and community resilience, including to disasters. The culmination of the project will see the girls designing and hosting a community event where they will share their risk reduction knowledge with the other men, women and children in the community to design a plan for the community to reduce the impact of disasters.

## How the initiative links Gender, DRR and Climate Change

The initiative addresses the underlying social vulnerability of marginalized girls through empowering them to be leaders in disaster risk reduction. It also inspires social change through challenging assumptions about the roles of girls in the community. Named for its lack of a basic human requirement, Sonderwater – meaning ‘no water’ - already experiences water scarcity. The area is prone to drought, but also flooding and wind storms. Climate change and its accompanying predicted increase in the intensity and frequency of these hazards, is likely to render the vulnerable population of Sonderwater even more vulnerable. It is an area already socio-economically challenged, resource deficient, and lacking a basic level of public infrastructure to help its population overcome the challenges of the natural environment. The initiative has helped girls to plan how to reduce the effects of flooding, drought and severe wind storms, all of which will be exacerbated by climate change. It has also encouraged more critical thought in the community about how climate change and its accompanying hazards, will directly affect people.

## The Initiative

The G.I.R.R.L. Project – ‘Girls In Risk Reduction Leadership’ – aims to reduce the social vulnerability of marginalized adolescent girls using practical capacity building initiatives to increase individual and community resilience to disasters.

Social inequality puts women and girls at a distinct disadvantage even in the most basic terms such as access to information, access to resources, limitation of movement and failure to understand survival methods during disasters. The project seeks to help incorporate girls and their perspectives into community-based disaster management and decision making processes.

The funds for implementation were awarded in December 2007 and the project officially began its logistical stages in January 2008. The implementation phase of the project is ongoing and has an end date of September 2008. Critical project dissemination and promotion activities will continue until November 2008. A second phase of the project may be implemented in another community nearby.

The initiative is being implemented in Sonderwater, the poorest neighbourhood of Ikageng township, a peripheral township of Potchefstroom, North West Province. Potchefstroom lacks the extensive development of cities like Johannesburg and Cape Town. Its peripheral township, Ikageng was originally designated as a ‘black only’ settlement during the apartheid era.

The already increasing frequency and impact of disasters in the wider African continent is exacerbated by underlying human vulnerabilities. In the past decade, Ikageng has been characterized by rapid expansion resulting in the creation of informal settlements like Sonderwater, in which the poorest residents live in inadequate sheet metal houses without the most basic infrastructure as running water, sewage, or electricity. Citizens and in particular adolescent girls, face growing poverty, crime, the prevalence of child-headed families, diseases (HIV/AIDS/STDs), drugs, alcoholism, lack of education, prostitution and domestic, physical, and sexual abuse.

The girls were selected based on the recommendations of school officials and local ward leaders. After being introduced to the project, the girls will participate in an extensive two-month training programme with instruction from specialists in areas such as personal and public health, fire safety, counseling and disaster planning. At the end the girls will be asked to help to design and arrange for a community event to showcase their new skills and build stronger relationships within the community.

The project was designed to complement traditional but important roles of women while expanding their knowledge and capacity in areas such as community based disaster planning. Gender is a central focus of the programme and therefore it was essential to integrate a gender approach into the project’s implementation, such as using women facilitators as role models.

The culmination of the project will see the girls designing and hosting a community event where they will share their knowledge with the other men, women and children in the community so that they may all benefit. They will work with the disaster coordinator as part of a team to help design a plan for the community to reduce the impact of disasters and extreme events. The men, women, adolescents and children of Sonderwater will then be encouraged to work together as an effective team, representing the needs and interests of their community in disaster risk reduction.

With this initiative, girls have been empowered and encouraged to voice their opinions, will gain more confidence and respect, and will have more to contribute to their relationships, livelihoods, family and community.

Twenty-five girls between the ages of 13 and 18 will be the first direct beneficiaries. The programme is not designed to benefit these girls exclusively, but rather it is based on the premise of utilizing them as facilitators to help promote information and provide 'social services' to the community as a whole.

The Sonderwater community of men, women and children (approximately 3,000 households) will be the recipients of the 'team of leaders' and will work with these girls and the local disaster committee to develop an effective localized community based disaster plan.

Local government representatives will gain valuable insight into the risks facing their constituents. This knowledge can lead to better policies and support for future projects, leading to more cost-effective disaster reduction measures.

The project is being implemented by the African Centre for Disaster Studies, and a Disaster Coordinator (North West Region) with local experience in Emergency Management, Disaster Risk Reduction. The Kenneth Kaunda Municipal District helped by providing representation within the community, expertise on youth and women's issues and access to local government support. The project is also supported by academics and the World Bank through the ProVention Consortium, and will be seeking private sector involvement.

## The Good Practice

This project is a good practice because it addresses social vulnerability of women and girls in an effective, integrative, cost effective, participatory, non-technical and easily replicable manner.

Also, it acknowledges the basic premises of disaster risk reduction, which seek to emphasize the critical components of people, complex systems and non-structural approaches to reducing vulnerability and building resilience. It looks at the needs of a vulnerable group, establishes how society and culture counteract or contribute to their vulnerability, and addresses the problem through a 'human' based approach.

The initiative is based on previous recommendations on gender and disaster risk reduction that seek to build social esteem, balance unequal social power relationships, build the capacity of women, encourage their participation and to incorporate the experiences and perspectives of women and children.



In this case, poor black girls in South African townships are challenged by cultural and social ideologies, which often rank them as inferior. The initiative's methods look at why they are vulnerable - specifically physiology, lack of resources, limitations on access to information and nearly non-existent decision-making power. It acknowledges the complexity of external factors that contribute to vulnerability, but also provides practical, age-appropriate information and builds capacity. This capacity directly encourages and promotes the voices of these girls to be integrated into decision-making within disaster planning but also gives them the foundation for building greater respect as equals within their community. The practice does not seek to keep intelligent girls in isolation but to develop them as leaders, role models and facilitators to help improve the conditions of the men, women and children living within their community.

## Lesson(s) Learned

- If the participants cannot understand the conditions of their social vulnerability, it is not possible to effectively address these problems.
- Building confidence through information and education is central.
- Girls can gain respect and social power within their community through the ability to help others.
- Young people should not be overlooked as agents of disaster risk reduction. Their perspectives can often be thought-provoking, fresh, and very valuable.

## Impacts & Results

This project has had a great impact in the promotion of gender equality in disaster risk reduction by:

- Opening up new opportunities for further work in the area of the local government and disaster coordination
- Increasing awareness of the specific plight of women and girls in the community, in particular, that they have been overlooked in disaster risk reduction, even though they can make meaningful, informed contributions.

Some of the concrete achievements have been:

- Increased capacity through providing information and training in critical areas, to enhance the survival skills of vulnerable residents
- Specific information and training provided to 25 adolescent girls (aged 13-18 years)
- Adolescent girls engaged in both pro-active and reactive activities for reducing risk and social vulnerability
- Girls have taken on a leadership position in their community.
- Effectively established a culture of community 'safety and awareness', through the creation of empowered, skilled and informed community resource people.
- Developed positive relationships between local disaster coordinating entities, community stakeholders and empowered youth for work on local community-based disaster plans.

## The Challenges

The major challenge faced by the initiative has been to keep the number of participants relatively low in order to foster closer relationships among the team of girls, and to highlight the fact that they were specifically selected as part of an 'elite group' to help build confidence and sense of importance. Once these concerns were understood, the supporting agencies agreed to set a limit and decided that they would like to replicate the project in another community.

## Potential for Replication

The potential is available to replicate this type of project in many communities with identified 'vulnerable' populations. It could be applied to the disabled, elderly or other target groups. Application of the basic training ideas could be used in targeting groups with different disaster risks – environmental components (such as tree planting and hedge row based agricultural training for landslide prone areas) could be easily integrated. Variations on the health issues included could be varied to reflect the scenarios present in varying countries, such as malaria in other parts of Africa or dengue in the Caribbean.

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Photo by: Cecilia Castro, INMUJERES Mexico

# 3

## Gender sensitive tools for climate change adaptation and disaster risk reduction

*These case studies point to practical tools such as toolkits, handbooks, and innovative techniques for implementing gender equality and mainstreaming gender perspectives in planning and policies.*



# Mali

inter  
cooperation

## Highlighting local coping strategies for drought

The CRiSTAL Tool: Community based risk screening tool - adaptation and livelihoods

*Intercooperation, Switzerland (In partnership with IISD, IUCN, SEI and SDC)*



### Abstract

The ‘Community-based Risk Screening Tool – Adaptation and Livelihoods’ or CRiSTAL is a decision support tool. Drawing on the environmental impact assessment model and the Sustainable Livelihoods Framework, CRiSTAL aims to provide a logical, user-friendly process to help users better understand the links between climate-related risks, people’s livelihoods, and project activities. Between 2004 and 2006 an interdisciplinary team conducted a series of field tests on completed or ongoing natural resource management projects in Bangladesh, Mali, Nicaragua, Tanzania and Sri Lanka. Today, many projects are using CRiSTAL as a tool for understanding local vulnerability and to check ongoing coping strategies. Moreover CRiSTAL is being used for adjusting concrete programs and projects in order to increase livelihood resilience. In the Malian Sahel, the CRiSTAL has shown that rural communities have developed coping strategies for extreme climate events such as droughts. The process has also identified an increase in the disaster risk of heavy rainfall, in line with climate change predictions, for which no traditional coping strategies have yet been developed. CRiSTAL was developed by Intercooperation, IISD, IUCN and SEI with funds provided by SDC.

## How the initiative links Gender, DRR and Climate Change

The application of CRiSTAL\* allows a detailed analysis of hazards and their impact on livelihoods at the local level, including hazards that are predicted to intensify as a result of climate change. In Mali, a particular threat is the increase in hydrometeorological extremes. The CRiSTAL approach also provides a gender specific vulnerability analysis for different parts of the population, highlighting specific coping strategies of women, and resulting in clear pointers for how gender specific measures will need to be incorporated into projects.

\* The CRiSTAL Tool can be downloaded from the website: [www.iisd.org/security/es/resilience/climate\\_phase2.asp](http://www.iisd.org/security/es/resilience/climate_phase2.asp)

## The Initiative

The analysis in Mali with CRiSTAL, a project planning and management tool, is part of an overall approach by Intercooperation (the Swiss Foundation for International Development and Cooperation) to strengthen local capacity in climate change and disaster risk reduction work. The tool produces answers about the current climate risks, their impacts at the local level and the current coping strategies of the community. By listing the different hazards occurring in the region and their impact on livelihood resources, the participants learn about climate change and disaster risk reduction's link to their everyday lives. This approach also provides space for a gender specific analysis on the differences in vulnerability in the rural population.

The analysis was conducted within the 'Programme d'appui aux organisations paysannes pour la valorisation des ressources naturelles', or the so called Jèkasy Programme in Mali. The programme is funded by the Swiss Agency for Development Cooperation (SDC) and is implemented by Intercooperation. Its aim is to contribute to sustainable development and diversification of the natural resources in the region of Ségou and Sikasso; some complementary activities in local economic development are cofinanced by Liechtenstein Development Service (LED) and the Canton of Vaud.

The criteria for selecting the region were:

- Household livelihood supported by women's income, through use of non-timber forest products
- Social conflicts over access and use of natural resources among pastoralists, farmers and forest gatherers
- Land degradation and desertification, with pressure on fertile land

In Mali, the analysis was conducted between October and December 2007 as a pilot activity in the region, with possible future activities being planned. CRiSTAL was applied three times in the region of Ségou, in the community of San, in the East of Mali as well as once in the region of Sikasso.

The tool was applied so project planners can better understand vulnerabilities of local livelihoods to climate hazards, especially hydrometeorological extremes. It also brings to light the strategies people use to cope with the increasing stresses. It is also of particular use for the communities themselves, who deepen their understanding of the impact of climate change, specifically how it affects and will affect their daily activities and their production strategies.

CRiSTAL provides a space for grassroots stakeholders to be heard. Moreover, it produces a simple but systematic climate and livelihood analysis so participants can get a clearer idea about the current climate change situation and possible threats to their livelihoods. Simultaneously, the analysis makes stakeholders at the national, regional and local level aware about climate change issues.

Women did not have their own workshops during the CRiSTAL process, but particular attention was paid to women's participation, and a female programme officer in charge of the region's work was skilled in addressing sensitive issues. The CRiSTAL analysis highlighted the clear gender specific distinction of livelihood activities, with women having a key role in certain agricultural activities, e.g. cooking, collection of dry firewood, the collection of shea nuts, and the extraction of shea butter.

However, the management of the agricultural land as well as the various activities related to agroforestry parks, are run entirely by men leading the community. Although from a legal perspective all natural resources belong to the State, from a local traditional perspective the owners are clearly defined within a community and

belong to a man. Women in the community generally do not own land and have hardly any rights regarding the management of natural resources, despite often working in the fields. The power of the male landowners over the natural resources means that the poorest groups, in particular women, are doubly excluded – from both the land and its resources – and are thus more vulnerable.

The communities have always struggled against the region's semi-arid conditions. Climate hazards such as droughts, lack of rainfall during the rainy season, and irregular rainfall are a part of daily life. According to the participants, since the severe droughts in the 1970s, the Malian government stated that such events should not be considered an external threat, but need to be integrated into daily life and production strategies.

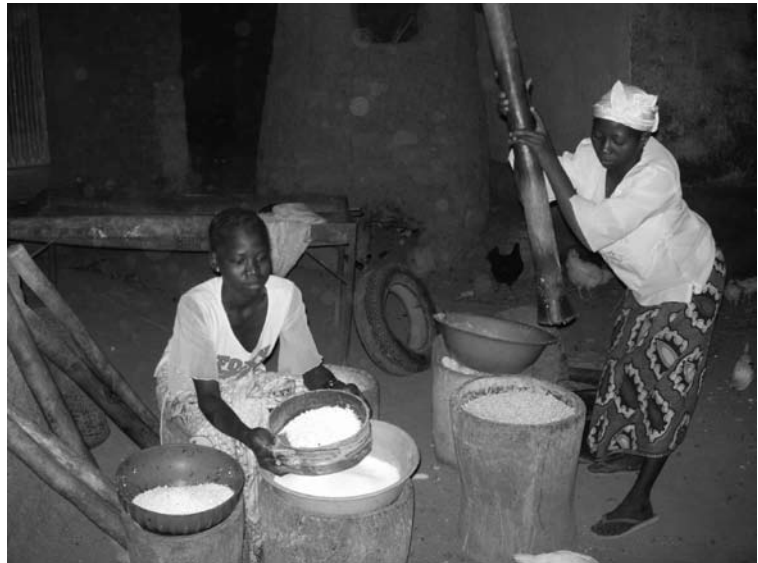
## The Good Practice

The CRiSTAL analysis has shown that rural communities have developed coping strategies to cope with climate hazards and to a certain extent with extreme events such as droughts. CRiSTAL was able to highlight women's coping strategies.

- Due to food insecurity in the region, generally caused by drought, women in Mali have always stored their harvest separately from the family. Although most of the women do not own land or trees, certain products are exclusively harvested and collected by women.

For example, the collection of shea nuts as well as the extraction of shea butter is exclusively a women's activity. These products are then used during difficult periods when the harvest made at household level is insufficient.

- The selling of fire wood, or chickens and goats, are other coping strategies that women use to get through difficult periods.
- Although this remains an exception, it has nonetheless become more common that women in peri-urban areas try to form associations to gain access to land by renting or purchasing plots. Women will even buy land from their husbands for agricultural production, and try to get microloans from banks or micro-finance organizations.



- The elaboration and the implementation of local conventions can also facilitate the rights and the access of women to natural resources so that they can manage land plots.

However, the CRiSTAL participatory process of listing 30 years of hazards showed: (a) a more frequent occurrence and an increase in the intensity of climate hazards and (b) new phenomena such as ‘vent violent’ (strong winds) from the Sahara and more heavy rainfall causing floods. Floods from September 2007 in several regions of Mali illustrate the local vulnerability to a new phenomenon - no traditional coping strategies for heavy rainfall and floods exist. Besides landslides, severe consequences have been the losses of many crops as well as a great amount of the annual harvest.

## Lesson(s) Learned

- Better collaboration between men and women is needed to deal with climate risks. Sharing the risks of production between all members of the household is a strategy for dealing with climate insecurity.
- The impact of climate change will worsen the exclusion of women involved in agriculture, due to their lack of fertile land. Particular support has to be given to women so that they have not only access to natural resources, but that they also can make decisions on the management of trees, for example multipurpose tree species.
- Gender inequity has a negative impact on the management of the land and the agroforestry parks. The clarification of tenure and propriety rights on the local, but also on the national level will be essential.
- Local communities have some coping strategies; however, they will not prove sufficient should current conditions continue. Additional support by the government and NGOs is needed to protect rural communities.
- As the recent floods have shown, rural communities are vulnerable to new climate hazards. It is therefore increasingly important that disaster risk reduction be embedded at the national, regional and local level.
- In Mali, two different Ministries are responsible for climate change and disaster risk reduction. Supra-ministerial collaboration and exchange is necessary for guaranteeing coordinated work in areas of overlap. Although gender specific analyses regarding disaster risk reduction and climate change are essential, the National Adaptation Programme for Action (PANA) and the National Communication do not fully integrate these aspects into their analyses. Encouraging an exchange with the people responsible for climate change and disaster risk reduction on the national level is required.

## Challenges

- The current patriarchal system favours the older generation. Not only women, but also young men have limited rights and opportunities, and require particular support to access agricultural and forestry production.
- A particular challenge will be to prepare the farmers to cope with floods and droughts at the same time. The establishment of preventive measures, and technological investment into adaptive seeds that can cope with both extremes, could be key solutions.
- For women to sustain their independent livelihoods, the wider family must have a stable source of income. When income suffers at a family level, through for example a bad harvest, falling revenue, the cost of supporting children and other family, and so forth, it is the private income and the power of women that is specifically used for communal needs.

## Potential for replication

The analysis in Mali is part of Intercooperation's overall approach, and many projects are currently using CRiSTAL as a tool for understanding vulnerability and for checking ongoing coping strategies. CRiSTAL is also being used for adjusting concrete programs and projects in order to increase livelihood resilience. It is highly recommended to incorporate these kinds of analyses into country programmes and projects.

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# Nepal

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## Bringing voices of poor women to the climate change debate

Capturing and channeling women's adaptation experiences to policy-makers  
*ActionAid International (In partnership with ActionAid Nepal and IDS)*



### Abstract

In Nepal, poor rural women will suffer greatly from climate change, and policy and funding must take their needs into account. Although they have significant knowledge to share about adapting their agricultural practices to build resilience to weather-related hazards and reduce disaster losses, they do not participate in any decision-making on climate change policies. They also have adaptive strategies and mechanisms already in place. An action research initiative allows Nepalese women in poor and remote communities to use video as a means of communicating their climate change concerns and experience to policy-makers at local and national levels. It addresses the serious gap between climate change policy makers and women at the grassroots who are already amongst the most affected by climate change. It also empowers grassroots women to become advocates for change instead of passive objects of research. This has developed their capacity to keep their issues on the ever-evolving policy agenda.



## How the initiative links Gender, DRR and Climate Change

Evidence shows that women are more affected by disasters and because of power imbalances between men and women they are likely to experience the most negative impact of climate change on their health, food security, access to water and livelihoods. For women, making sure their voices are taken into account in climate change and disaster risk reduction policies is a human rights issue. The initiative gives voice to their gendered experience of increasing weather and climate-related disasters. It also sheds light on women's capacities and their climate change adaptation activities, which include disaster risk reduction techniques to specifically combat flood, droughts and other weather-related disasters increasing with climate change. This repositions grassroots women in the climate change policy debate because they have the right to participate and are a source of knowledge for adaptation.

## The Initiative

This initiative captures the experiences, opinions, needs and recommendations of poor women in isolated Nepalese communities, to feed into the climate change adaptation policy and funding process. The films are recorded by the women, who then write a storyboard that guides local NGOs when editing. Clips from the interviews are presented to stakeholders at local to national level working on the design of Nepal's National Adaptation Plan of Action.

This research developed from an initial study by ActionAid and the Institute of Development Studies (IDS) at Sussex University. This study examined how women are coping with and adapting to climate change, and their most urgent needs for adapting their livelihoods. It took place in the aftermath of the disaster triggered by monsoon floods in 2007 in Bangladesh, India and Nepal. In Nepal, the study took place in the village development committees (VDCs) of Matehiya and Suryapatuwa in the districts Banke and Bardiya in the mid-western development region, highly vulnerable to climate change impact. VDCs are the smallest government administrative units. The villages have no electricity and no transport links, and were chosen because they are high risk areas inhabited by poor communities deprived of basic services. This is a result of factors including the civil conflict, and the population's dependence on agricultural livelihoods that have been severely affected by changes to the monsoon pattern.

The study asked women what they wanted to adapt to climate change and reduce risk of disasters that would destroy their livelihoods. Focus groups of women were asked about their existing strategies and mechanisms to cope with the increase in flooding and what they perceived as the main constraints and barriers to effectively securing their livelihoods. Teachers, local authorities, saving and credit groups and local associations involved in the management of water and forestry resources were also used as key informants and to validate the information collected in the focus groups.

The action research to allow women to convey those messages to policy-makers themselves started a few months later in the Banke and Rusawa districts.

The action research initiative's methodology had the following steps:

- Workshop to train research team, presentation of project to women and local organisations in project locations (climate change high risk areas in Nepal where ActionAid works)
- Train women and partners in the use of cameras and storyboarding to ensure local organisations do not alter messages when editing.
- Women interview each other and use cameras to document their problems and produce short films
- The last stage will be to present the videos to government officials, academics and other policy-makers.

Now communities and local partners have been successfully trained in the use of video-cameras. Evidence shows that women and local organizations 'own' the process. Since the completion of training, short videos have already been produced and edited independently of ActionAid and the process facilitator.

In this phase special attention has been put on the sustainability and mainstreaming of the project. For example, the camera being used is a low-cost and easy-to-use model that can be charged with car battery power if needed.

The initial study *We know what we need: South Asian Women speak out on Climate Change Adaptation* was authored by IDS and ActionAid. The action research to empower women to become advocates of the recommendations identified in that first study is led by an IDS postgraduate student and researcher with the support from ActionAid and partners, Bheri Excellence Environment Group, Nepal Agroforestry Foundation (NAF) and IDS.

## The Good Practice

This initiative is a good practice because it gives women the space to participate and tell policy makers what they want, instead of being assumed to be vulnerable, powerless victims of climate change. It encourages a shift from researching 'about' gender issues, towards action research that can generate change led by women themselves. This offers an alternative to other research that is undertaken to influence policy. Conventional research is extractive: it does not help women to participate in the policy-focused advocacy that outside organizations are trying to use to improve the women's own lives. Organizations need to lead by example to allow communities to speak for themselves.

The initiative responds to recommendations on gender, climate change and disaster risk reduction that relate to the need for practical tools to support women to engage in debates and planning, and to sensitize decision-makers to the advantages of equal participation.



## Lesson(s) Learned

Although the women had a very good understanding of the problems they face and very clear priorities for adaptation, they might not necessarily know about all the alternatives that could be available to support their livelihood adaptation. Future research projects could consider giving additional input to the focus group discussions to enrich their analysis, for example through data available on the predicted climatic changes in their region.

It might also be useful to conduct this research with both women's and men's groups to study where they are aligned and where they might conflict. It is important that climate change adaptation measures effectively improve the resilience of the community as a whole whilst promoting greater gender equality.

### Impacts & Results

This initiative furthers gender equality by facilitating representation of women in the policy arena and effectively highlighting how their experience and insights can help policy-makers ensure climate change responses make a difference to the worst affected groups.

The concrete achievement at the local level is that women are more able to participate in the research project to reflect on their situations, articulate their concerns, and identify the actions that they believe will translate into a positive change in their conditions.

Evidence of this can be seen by the various short and long term adaptation techniques adopted by the women, such as the adoption of bio-engineering techniques to minimize the effects of flood, adoption of less labour intensive technologies, the initiation of multiple cropping and intercropping practices, investment in alternative irrigation methods, the introduction of early paddy of short duration, the practice of homestead rising, and the promotion of alternative energy technology like solar energy, biogas and improved cooking stoves.

The women shared their experiences of these methods and then critically discussed them to determine their effectiveness. Through the process they identified the factors that would increase their resilience, such as strengthening social practices and community safety nets to support livelihoods and reduce financial risk.

*“If we do not change our attitudes and practices, it is difficult to survive in the changing conditions. We are adapting systems like the ones used by migrant hill societies. We are strengthening our social institutions to cope with flood and drought by providing support to each other, like food and shelter for our flood-affected neighbours”*

*- Muna Mukeri, 55, from Matehiya, Nepal in research report.*

### The Challenges

One of the main challenges of this initiative is to ensure that the findings of the research and the voices of these women are consistently fed into relevant policy dialogues and valued as substantive contributions to the debate. Qualitative research on grass-root perspectives is often considered mere ‘anecdotal’ evidence and therefore shadowed by facts and figures that are arguably considered a better representation of reality. The key to overcoming this is to build the local capacity of poor and excluded groups to engage in people-centred advocacy. This is precisely the focus of the second phase of this initiative.

### Potential for Replication

The research project outlined above could be relevant and applicable in all other contexts since the process itself can be easily adapted. It can be most easily adopted and adapted by organizations working on climate change and disaster risk reduction that wish to do more work on gender and women's rights. The method could be especially relevant in regions where there is no documented research specifically targeted to ask poor and excluded women what they want in relation to climate change adaptation or disaster risk reduction. Information on the specific challenges and strategies adopted by women facing risks of a different nature or environment, such as in urban areas, would also contribute to the policy understanding of women's priorities, and empower them through the process.

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# Tajikistan and Africa



## Designing adaptation strategies for vulnerable women

Analyzing and understanding the causes of vulnerability to climate change

*CARE International*

*(In partnership with CIDA and local NGOs: For the Earth, Nifular and Camp Khuliston)*



### Abstract

This initiative piloted and refined a tool for assessing vulnerability to climate change and identifying community capacity to adapt, to be used in development projects. It was carried out first in Tajikistan as a part of a climate change adaptation project, targeting vulnerable households headed by women. It has since been replicated in several African countries. The assessment tool has been used to design adaptation strategies for vulnerable women, resulting in increased food security for families in remote communities. Field testing of the assessment process in Niger and Ghana has helped raise field staff and local partner awareness of the gender dimensions of climate change vulnerability. The tool will be key to mainstreaming gender equality and diversity in CARE's Adaptation Learning Program in Africa. Gender and diversity issues will be integrated into all aspects of the program, including climate-resilient livelihoods strategies, disaster risk reduction initiatives, capacity building for local organizations, and advocacy.

## How the initiative links Gender, DRR and Climate Change

The CVCA process is intended to produce climate change adaptation strategies in a way that promotes gender equality and builds resilience. The CVCA tool assesses gendered needs in climate change adaptation, including vulnerability of women to hydrometeorological hazards like floods, droughts, cyclones and changing rainfall patterns. The tool's methodology examines the relationship between climate hazards and key indicators of livelihood security, and also analyzes other factors that increase vulnerability. Field tests of the CVCA in Africa have shown that gender inequality in family responsibilities, control of household assets, and participation in community affairs can increase the vulnerability of women and their families to climate-related hazards. Evidence from Tajikistan shows that involving women in climate-resilient livelihood strategies can increase household adaptive capacity.

## The Initiative

The Climate Vulnerability and Capacity Assessment (CVCA) is a gender-sensitive methodology for participatory learning and action to reduce people's vulnerability to climate change.

Exercises help participants identify and understand the relative vulnerability of different social groups – especially with regard to women – as a basis for designing realistic adaptation activities targeting those who need it most. The methodology also helps participants explore how structural inequalities between social groups can create barriers to effective adaptation.

The CVCA was initially designed under the Adaptation to Climate Change Project in Tajikistan (ACCT) Project, which was implemented by CARE between April 2005 and September 2007.

Building on the assessment framework designed through the ACCT Project, CARE is currently refining and field testing the CVCA methodology in West and Southern Africa. The CVCA methodology will be applied in CARE's Adaptation Learning Program (ALP) which is planned to launch in Ghana, Niger and Mozambique in Fall 2008.

In Tajikistan, CARE worked in three communities in Varzob District, north of Dushanbe. The villages were located in Ziddi, Dekhmalik and Chorbogh Jamoats.

In Africa, field tests have been conducted in two villages in Bawku East District in the Upper East Region of Ghana and in three villages in the Department of Dakoro, Maradi Region in Niger. Testing is also planned for Vilankulos District of Northern Inhambane Province, Mozambique.

The CVCA addresses gender by:

- Providing vulnerable women with a chance to develop and voice their unique concerns
- Analyzing differences in vulnerability between men and women
- Providing information on gender aspects of vulnerability to communicate to local stakeholders, including community leaders, governments, and NGOs
- Allows the design of adaptation strategies that meet women's needs and priorities
- Builds evidence of women's particular vulnerability to climate change and disasters

The key gender issues underpinning the CVCA design, are:

- The particular vulnerability of women to climate change
- Women's role in providing food and water for the family
- The knowledge of environmental change and livelihoods alternatives that women have as a result of their role in the household

- Women's limited power in household and community decision-making processes
- The potential of women to make positive changes in their households and communities which increase their adaptive capacity

Men and women benefit from the CVCA process because gender differences in vulnerability are recognized and communicated to local stakeholders. This also means that adaptation strategies can be designed to meet the needs of the most vulnerable - particularly poor women. Helping women increase their adaptive capacity has lasting benefits for their families and communities.

In Tajikistan, the ACCT Project targeted vulnerable households in the three communities, particularly focusing on households headed by women. 80 households were directly targeted, with 40 per cent of

them headed by women. Project partners included three local NGOs - For the Earth, Nilufar and Camp Khuliston - who provided training and technical support for the implementation of adaptation strategies.

The project also worked closely with the three target Jamoat administrative councils, sharing information and undertaking joint initiatives, including the integration of climate vulnerability issues identified through the CVCA into annual planning processes. Funding for the implementation of this project was provided by the Canadian International Development Agency (CIDA).

The CVCA will be integral to the detailed design of the ALP, which will target a total of nine vulnerable communities in Ghana, Niger, and Mozambique, representing approximately 2,800 households and 16,000 individuals. Gender equality and diversity will be a cross-cutting theme of the program.

## The Good Practice

The CVCA is a good practice because it applies a climate 'lens' to livelihoods analysis, and incorporates analysis of the underlying causes of vulnerability. The initiative also links community knowledge to scientific data on climate change, and allows analysis of differential vulnerability within communities. It focuses not only on vulnerability, but also on existing adaptive capacity, and helps communicate climate change risks to local stakeholders.

Key factors for success were:

- Field staff with strong community facilitation skills
- Availability of background data
- Engagement of local institutions (government and NGOs)

Some of the innovative elements of this initiative were that it adopted a holistic approach to analyzing climate change vulnerability, examining livelihoods, hazards, gender, and underlying causes of vulnerability, and linking community knowledge to climate science.



The CVCA can be used to:

- Design targeted adaptation programs to reduce vulnerability to climate change
- Mainstream climate change into other relevant programs (agriculture, water, livelihoods) to ensure that they are contributing to adaptive capacity
- Build evidence for advocacy by using community-level information on the impacts of climate change on vulnerable people

## Lesson(s) Learned

- Training in the methodology should incorporate field-based exercises. This is essential for staff to really understand the approach.
- Facilitators need a combination of community facilitation skills and a solid understanding of climate change issues.
- The project's results should be analyzed by a multidisciplinary team.

This initiative can be improved by better integrating communication of climate change information and data to communities in the field. If resources are available, it is also helpful to subdivide the gender groups by age, livelihoods strategies and/or ethnicity to further break down axes of vulnerability.

## Impacts & Results

In Tajikistan, the results of the assessment were used to design adaptation strategies that targeted vulnerable women, with positive results including increased food security for families in remote communities.

Field testing of the assessment process in Niger and Ghana raised field staff and local partner awareness of the gender dimensions of climate change vulnerability.

Assessment results will provide a basis for mainstreaming gender equality and diversity in the ALP Program. Gender and diversity issues will be integrated into all aspects of the program, including climate-resilient livelihoods strategies, disaster risk reduction initiatives, capacity building for local organizations, and advocacy.

## The Challenges

Some of the challenges included:

- The lack of scaled-down climate information. The CVCA is designed to overcome this challenge by linking local-level knowledge and observations with broader climate data and trends.
- The issues involved in making climate change information relevant and useful for local stakeholders. Because the CVCA starts with peoples' existing knowledge, it creates openings for communicating scientific information about climate change and to link this information to people's experiences.
- Translating concepts (vulnerability, hazards, livelihoods) into local languages. Preparation is the key to overcoming challenges of translation and communication of concepts. It is important that facilitators discuss and come to a common understanding of how concepts will be explained during field exercises.



### Potential for Replication

The CVCA process can be used to better understand vulnerability to climate change in any community. The methodology can be used for targeted adaptation initiatives, or to mainstream climate change adaptation issues into livelihoods programs. CARE is currently refining the methodology based on field tests, and planning a publication for release at the UNFCCC Conference of the Parties (CoP14) in Poland, December 2008.

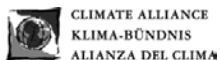
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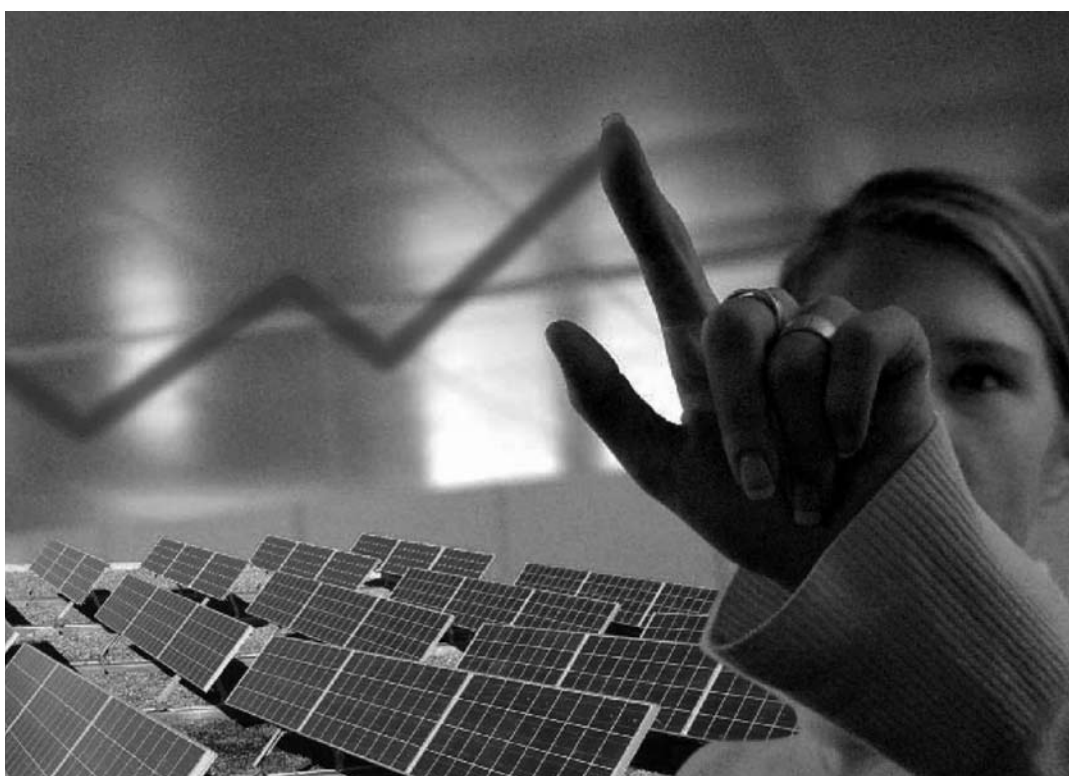
# Europe Region

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## Climate for change: gender equality in climate change policies

*The Climate Alliance of European Cities  
(In partnership with European Commission and Federal Ministry for Family,  
Seniors, Women and Youth of Germany)*



### Abstract

The 'Climate for Change' Toolkit supports local authorities in pro-women workforce policy in all fields of work relevant to climate protection. The goal of the tool is to increase the proportion of women in executive positions with responsibility for climate change policies and programmes.

## How the initiative links Gender, DRR and Climate Change

The initiative is focused closely on increasing the proportion of women at decision-maker level in European local body administrations involved in climate change issues. The Toolkit is applicable across all areas of government work, and should have particular pertinence for local and national disaster management bodies, and all organizations that must deal with climate change adaptation to increasingly intense and frequent natural hazards.

## The Initiative

The project aimed to improve the participation of women in decision making processes related to climate policies, with an emphasis on the local level. It analysed instruments and policies that were being applied by several local authorities in Europe, and based on this regional review of best practice, worked with experts to produce the 'Climate for Change' Toolkit. The Toolkit contains data, facts and arguments, specific tools for the promotion of women in management and executive positions, a gender check, and awareness raising materials like leaflets and posters.

The process of developing the toolkit was:

- Carrying out national surveys of framework conditions
- Research of the situation at decision-maker level
- Analysis of the current situation in the partner cities
- Interviews with relevant staff and experts
- Identification of good practices
- Analysis of EU funding programmes
- Conception of tool kit
- Creation of an expert data base
- Compilation of toolkit
- Work with press and media
- Dissemination of results.

The Toolkit was completed in February 2005, and was provided to around 2000 public authorities. The project was implemented in a total of 10 partner cities in Europe (Berlin, Dresden, Ferrara, Frankfurt am Main, Genova, Lahti, Malmö, Munich, Naples, Venice) Apart from the 10 partner cities, Climate Alliance implemented the project together with genanet, the German focal point for Gender & Sustainability. The project was funded by the European Commission within DG Employment and Social Affairs' Gender Equality Programme and by the Federal Ministry for Family, Seniors, Women and Youth of Germany.

## The Good Practice

The Climate for Change project was the first wide-scale effort in Europe to start a discussion in the environment departments of public authorities on the problem of having climate change policies and programmes that were only designed by one gender.

The preliminary focus was on raising awareness, and on the promotion of women to more senior positions in climate change decision making. All partners were willing to continue the initiative with a project dedicated to the actual design of local climate change policies with a gender perspective, but unfortunately the project was not successful in finding funding.

## Lesson(s) Learned

- Much more research has to be done on gender specific approaches to climate change and even more in adaptation of climate change policies in order to promote gender equality as a fundamental contribution to sustainable development.
- There were some problems in providing concrete examples for the need of gender equality in local climate change policies in Europe. Improved initiatives should focus on topics within the overall theme but with a limited scope in order to address exactly the relevant persons and bodies in charge and to achieve very concrete results which can serve as evidence.

### Impacts & Results

The project kicked off discussion of the need for gender perspectives in public administrations dealing with climate change. Male executives in the partner cities in particular, became sensitized to the need for gender equality in public authorities, and the impact of a lack of gender perspectives on the design of local policies.

### The Challenges

A major challenge was engaging the (male) executives in the partner cities to be actively involved in the project. Fortunately, with the project's very motivated (female) staff and with the help of a well illustrated presentation of gender aspects in local climate change policies, the project was able to overcome this challenge.

### Potential for Replication

This project is easily applied to all technology dominated topics within public administrations in Europe.

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See the toolkit website: <http://www.climateforchange.net/54.html>

## Annex 1

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## Good Practices and Lessons Learned

Networks

- Climate - L Listserv - The International Institute for Sustainable Development (iisd)
- The Global Network of NGOs for Disaster Risk Reduction
- Genre en Action
- Gendercc- Women for Climate Justice
- Gender and Disaster Network
- UNDP Gender Network
- WEDO Listserv - Women's Environment and Development Organization



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