

Annex Nine: Implementation Measures

A. Implementation strategy

The Project will help by reducing vulnerability of climate change induced risks and vulnerabilities, including a food security improvement component, in four provinces of Ecuador, enhancing 50 communities, by encouraging community based adaptation measures for climate change, as well as by developing climate change adaptation plans.

Project components and activities will be implemented on a community basis strategy, through a participatory process, with special attention on women and indigenous people. The knowledge that each of the communities has around their needs, weaknesses, strengths and especially their ancient traditions, will be prioritized to implement the targeted activities. With this focus, the project aims to have a greater impact at the bases, empowering communities to cope with climate change threats. The participatory process will guarantee the participation of at least 40% of women in all the planned activities, as well as on decision making processes.

The implementation strategy will focused its activities to work at community level, in order to reduce vulnerabilities from climate change adverse events that threat communities' welfare. This way the project purposes to achieve a continuous food supply for the targeted population, as well as the recovery of the main ecosystems on the project area. The project strategies will be based on community (CbA) and ecosystem adaptation (EbA) activities. The proposed project approach recognizes the importance of critical ecosystems and agricultural production systems that will support community's food security.

Component 1: Develop awareness, knowledge and capacity at the community level on climate change and food insecurity related risks.

The component will help to integrate adaptation measures in the district development plans; in order to reduce and avoid human and material loses from climate change threats in the targeted vulnerable areas. The project aims to develop capabilities of local level institutions and communities to understand the nature and the possible impacts of climate change risks in the MCRJ y GPP and their effects, on human and economic development in all sectors (agriculture, livestock, mining, forestry).

All this adaptation measures will be focused on a food security improvement approach thru participatory methodologies. Component 1 will encompass the following outputs:

Output 1.1: Communities in targeted cantons trained in climate change threats and adaptation measures which reduce vulnerability, in particular related to food security

Indicative activities under Output 1.1 will include:

- 1.1.1 Develop one adaptation plan for each of the 50 targeted communities.
- 1.1.2 Establish a training program on climate change threats and adaptation measures related to food insecurity at community level.
- 1.1.3 Organize workshops and seminars for communities in the targeted cantons on climate change threats.
- 1.1.4 Organize workshops and seminars for central, provincial and local authorities on climate change threats.
- 1.1.5 Implement an adaptation training program with food security and gender considerations.
- 1.1.6 Disseminate climate risk information at community level, with special attention on schools.

Output 1.2: Targeted communities participate in adaptation and risk reduction awareness activities.

Indicative activities under Output 1.2 will include:

- 1.2.1 Develop two awareness campaigns to inform local official and communities of the climate change threats.
- 1.2.2 Establish a communitarian participatory process for the adaptation plans development, with at least 40% of women participation.
- 1.2.3 Establish cooperative links between all involved parties on climate change adaptation on the targeted areas to support the activities implementation at the community level. (GPP, MAGAP, MAE, MCRJ, WFP).
- 1.2.4 Organize workshops at provincial and district level to disseminate climate change risk information.

Output 1.3: Food security and gender considerations integrated in all adaptation training programs

Indicative activities under Output 1.3 will include:

- 1.3.1 Develop a food security training program, including gender considerations.

1.3.2 Organize workshops and seminar for communities on food security.

Output 1.4: Canton and community adaptation plans developed to reduce vulnerabilities to climate change induced food insecurity in targeted areas

Indicative activities under Output 1.4 will include:

1.4.1 Develop 50 community adaptation plans.

Output 1.5: Community participation in processes to develop adaptation plans in targeted cantons

Indicative activities under Output 1.5 will include:

1.5.1 Design a participatory process to be included in all the project activities.

Output 1.6: Agreements developed and signed among targeted cantons, GPP or MCRJ, MAE and WFP to implement adaptation actions

Indicative activities under Output 1.6 will include:

1.6.1 Organize meetings among cantons and involved institutions dealing with climate change issues in the targeted project area to sign letters of interest.

Output 1.7: Community early warning system designed, implemented and maintained

1.7.1 Design and implement early warning systems to enable the dissemination of the main threats for each of the targeted areas.

1.7.2 Install 50 EWS with the necessary technical elements to make it fully functional

1.7.3 Training for all the necessary personnel to operate and maintenance the 50 EWS.

Output 1.6: Monitoring system in place to track climate events in targeted cantons

Indicative activities under Output 1.6 will include:

1.6.1 Design a monitoring system to track main climate change events.

1.6.2 Implement of the monitoring system

1.6.3 Training on the monitoring system operation.

Component 2: Strengthen adaptive capacity to respond to the impacts of climate change, including variability in targeted cantons in Pichincha Province and MCRJ.

The resources will be used to implement concrete adaptation actions at the community level, with the aim to reduce vulnerabilities facing climate change threats. These actions will be focused on the construction or maintenance of physical assets for a greater resilience facing climate change events, as well as activities that will maintain or restore the ecosystems in order to mitigate on going climate change adverse effects.

Actions regarding physical and natural resources assets to improve adaptive capacity and reduce vulnerabilities, at the communitarian level, will include an incentives strategy. The incentive strategy that will be used as a pilot initiative for this kind of project is the use of cash and/or vouchers for each of the assets to be constructed, developed or maintained. A previous analysis to identify the best mechanism to be implemented at community level, based on WFP's past experiences and communitarian needs.

Component 2 will encompass the following outputs:

Output 2.1: Concrete adaptation measures based on community adaptation plans are designed

Indicative activities under output 2.1 will include:

2.1.1 Establish criteria for the potential adaptation measures for natural resources and physical assets in consultation with community members and local governments.

2.1.2 Implement discussion or focus groups at community level, to establish the activities to be implemented through a participatory process.

Output 2.2 Physical assets created, improved or maintained.

Indicative activities under output 2.2 will include:

2.2.1 Construct appropriate physical assets. At least three in each targeted communities employing volunteer action

Output 2.3 Natural resources assets created, improved or maintained.

Indicative activities under output 2.3 will include:

2.3.1 Construct appropriate natural resources assets. At least three in each targeted communities employing volunteer action.

Output 2.4 Identification of adaptation technology requirements.

Indicative activities under output 2.4 will include:

2.4.1 Establish working groups with main involved actors to prioritize requirements.

2.4.2 Design/purchase of required technological tools.

2.4.3 Train on the use of the acquired technological tools.

Output 2.5 Implementation strategy includes approach for the use of incentives

Indicative activities under output 2.5 will include:

2.5.1 Analysis on the best incentive strategy to be implemented.

2.5.2 Design of the most accurate mechanism for incentives delivery.

2.5.3 Delivery of the incentive to all the participants on the construction of physical or natural resources assets.

Output 2.6 Community participation, in particular of women, guide decision making processes for project execution

Indicative activities under output 2.6 will include:

Output 2.7 Communities share success stories and lessons learned

Indicative activities under output 2.7 will include:

2.7.1 Disseminate main lessons learned and findings from the project, through key stakeholders.

2.7.2 Document success stories and lessons learned.

2.7.3 Organize meetings with other communities that were not target for this project, interested on adaptation to climate change.

B. Terms of Reference National Project Director

NATIONAL PROJECT DIRECTOR:

Enhancing resilience of communities to the adverse effects of climate change on food security, in Pichincha Province and the Jubones River basin

INTRODUCTION

Ministry of Environment in coordination with Ministry of Agriculture, Livestock, Aquaculture and Fisheries, Commonwealth of the River Jubones Basin, Provincial Government of Pichincha; with the Climate Change Adaptation Fund and PMA support will execute a project called — Enhancing resilience of communities to the adverse effects of climate change on food security, in Pichincha Province and the Jubones River basin. The targeted areas predominately experience high to very high level of food insecurity. As well, communities are affected by climate threats, reoccurring natural disasters and lack of preparedness at local level to deal with climate threats.

Given the climate threats faced by the targeted provinces and cantons, including glacial melt reduced precipitation and more frequent droughts, and the anticipated effects on food security, the project will adopt a two pronged strategy: community based adaptation (CbA) and ecosystem-based adaptation (EbA). The climate change adaptation project will concentrate its resources in two watersheds covering four provinces (Pichincha, Azuay, Loja and El Oro).

The **overall goal** of the proposed project is to *reduce vulnerability and food insecurity of communities and ecosystems, related to the adverse effects of climate change, in the most vulnerable cantons of Pichincha Province and the basin of the river Jubones.*

The proposed project includes two components: Develop awareness and knowledge capacity at the community level on climate change and food insecurity related risks; and increase adaptive capacity and reduce recurrent risks of climate variability at the community level. The objectives of the projects are to increase knowledge to manage climate change risks affecting food security in targeted cantons in Pichincha Province and in the basin of river Jubones; and to strengthen adaptive capacity of highly food insecure communities to respond to the impacts of climate change, including variability in targeted cantons in the Pichincha Province and MCRJ.

These components will be implemented at community level under the leadership of the MAE and in coordination with the MAGAP, through two management authorities. The first, under direct manage of the MCRJ and the second, under the Pichincha Provincial Government.

II. OBJECTIVE OF THE CONSULTING SERVICES

Guide the implementation of the Project "Reduction of risks and vulnerability from floods and droughts in the Estero Real River watershedll achieving the proposed outcomes, under the guidance of the Project Coordination Committee (PCC).

III. CONSULTING SERVICES' SCOPE AND DURATION

The consulting services will be undertaken in the project's area of influence, for a four year period, subject to the administrative reviews of the MARENA Climate Change Directorate.

IV. FUNCTIONS

Concretely, the Project Coordinator should:

- Prepare annual work plans and budgets.
- Coordinate with local government and non-governmental institutions linked to project development.
- Coordinate and manage project implementation, including monitoring and communications, as well as supervision of expert teams and the integration of micro and sub-watershed management structures.
- Direct the project technical team.
- Coordinate implementation of the specific activities and tasks described in the project's annual operational plans (AOP) with the technical team and other relevant stakeholders.
- Create coordination mechanisms in the different levels of work and generate synergies among different participants as well as among diverse activities, products and results.
- Facilitate compliance with the activities and schedules established in the AOP.
- Facilitate conflict resolution among stakeholders and resolve obstacles in the way of timely efficient implementation of activities and achievement of outcomes.
- Prepare a specific project communications and public information plan under the guidance of the PCC.
- Submit regular reports.
- Others, as set forth in the Project Document

VI. CONSULTANT'S PROFILE

University graduate in anthropology, sociology, social psychology, adult education or agronomy with experience in the introduction of climate change in adaptive watershed management.

Demonstrated experience in promoting processes of social and organizational change in Ecuadorian public administration at the national, and particularly, at the municipal level.

The following will be positively valued:

- Knowledge and/or experience in projects with a watershed approach
- Experience in adaptive agro-ecological practices
- Knowledge of municipal management and territorial organization
- Experience in preparing educational programs
- Awareness of climate change issues

For performance of functions, the person must meet the following requirements:

- Ease of expression in Spanish
- Social skills and ease in dealing with people

- High achievement motivation
- Willingness and flexibility to work with few resources and under pressure
- Awareness of development cooperation issues
- An integrating and proactive personality
- Capacity for teamwork as a team, including coordination, consensus building and establishment of inter-personal and inter-institutional relations, including international cooperation institutions, ministries, local governments, other organizations and stakeholders in the area of interest of the project
- Integrity, responsibility, initiative, a respectful approach to human rights
- Exclusive dedication

VI. FEES

The manner of payment will be monthly, for an amount of equivalent to.....

C. Role Stakeholders

Stakeholder	Main Responsibility Area	Specific Role
Ministry of Environment (MAE)	It is the governing body responsible for the formulating and implementation of strategies of adaptation and mitigation to climate change as a State policy. MAE is responsible for coordination and inter-agency coordination and implementation of actions and measures of awareness and education on the issue of climate change. MAE through the Under Secretary of Climate Change is responsible for the inter-institutional and inter-agency coordination to implement actions and measures oriented to education and awareness on the issue of climate change.	Management Team Leader and National Executing Institution. In addition, local execution team support through a Local Office in each targeted area.
Ministry of Agriculture, Livestock, Aquaculture and Fisheries (MAGAP)	It is responsible for the country's agricultural policies, including the management, regulation and training of agriculture, agro-forestry and agro-industrial sector.	Management Team Support and Local Execution Team Support through a local office in each targeted area
National Institute of Agricultural Research (INIAP)	INIAP generates technological information to increase national agricultural productivity. The Institute maintains a strong commitment with food security and competitive agricultural production, to face the challenges of globalization.	Technical Assistance for Management and Local Teams
Secretary National of Water (SENAGUA)	It is responsible of lead a comprehensive and integrated watershed management in the country through policies, standards, and evaluation activities to generate an efficient decentralized management of water use and exploitation.	Advisory for Management Team
National Institute for Meteorology and Hydrology of Ecuador (INAMHI)	It regulates the national hydro-meteorological sector. It has a key role in climate affairs in Ecuador, with a network of monitoring stations and overall supervision of official forecasting. It has the obligation to provide vital information on climate and water resources for the past, present and future.	Management Team Support

National Secretary Risk Management (SNGR)	It governs and regulates the national system of risk management in Ecuador, in order to strengthen capacities of the country to face emergencies or disasters.	Advisory for Management Team
Technical Secretariat for International Cooperation (SETECI)	SETECI is responsible for the international cooperation management and belongs to the International Cooperation Ecuadorian System (SECI). It is a decentralized public entity, attached to SENPLADES. It coordinates the international cooperation between governments.	Management Team member
Development Council for nationalities of Ecuador (CODENPE)	It is projected as a technical institution that aims to establish a real and effective democratization process of the state, through permanent and responsible communitarian participation.	Management Team Support
Commonwealth of the basin of the River Jubones (MCRJ)	It is formed by local, provincial and municipal governments in the provinces of Azuay, Loja and El Oro. This Commonwealth looks for the management of water resources to ensure this resource for present and future generations.	Local Executing Institution
Provincial Government of Pichincha (GPP)	It established programmatic priorities in the National Plan 2009-2014, including poverty reduction, food security and ensuring that families have access to food and improved quality of living through, inter alia, enhanced environmental quality. It also set goals related to integrated water management to ensure availability and universal access to water.	Local Executing Institution
Planning and Development National Secretary (SENPLADES)	It is responsible of manage and coordinate Participatory Planning National System as a means of development at the sectorial and territorial level. It establishes strategic objectives and policies, grounded in processing, research, training, monitoring and evaluation to guide public investment.	Advisory for Management Team

D. Planning and Legal Land Use Framework of Ecuador

The Ecuadorian Government promotes under its legal framework proper land use and management through environmentally friendly agricultural practices, resources and water conservation, biodiversity, thus improving food security for Ecuadorians.

The proposed project will adhere to the articles of the framework as presented below and ensure that the project promotes the provisions and rights guaranteed under the following frameworks:

1. Regarding land use planning activities, the Ecuadorian framework states as follows:

Section Three of the Constitution refers to Natural Heritage and Ecosystems, the following articles described the commitment by the state to protect and conserve soil.

Article 405. - The Protected Areas National System will ensure biodiversity conservation and maintenance of ecological functions. The system will be integrated by the state subsystems, autonomous decentralized, community and private, and its governance and regulation will be exercised by the state. The State shall provide financial resources necessary for the financial sustainability of the system and encourage participation of communities, peoples and nations who have ancestrally inhabited protected areas administration and management. Natural persons or legal foreign entities may not acquire land titles or concessions in the areas of national security or in protected areas, in accordance with the law.

Article 406 .- The State shall regulate the conservation, management and sustainable use, recovery, and domain constraints of fragile and threatened ecosystems, among others, the moors, swamps, cloud forests, wet and dry tropical forests and mangroves, marine and coastal ecosystems.

Article 409 .- It is of public interest and national priority , the conservation of soil, specially its fertile topsoil. State will establish a regulatory framework for protection and sustainable use to prevent their degradation, specially caused by pollution, desertification and erosion.

In areas affected by land degradation and desertification, State shall develop and encourage forestation, reforestation and re vegetation to avoid monoculture and preferably use, preferably native species adapted to the area.

Article 410 .- The State shall provide to farmers and communities rural support for conservation and restoration of soils as well as development of agricultural practices that protect and promote food sovereignty.

Article 414 .- The State shall take appropriate and crossbars mitigation of climate change by limiting greenhouse emissions gases, deforestation and Atmospheric pollution, it will take measures for the conservation of forests and vegetation, and protect the population at risk.

Chapter II of the **Agricultural Development Law**, states that the responsibility that the Ministry of Agriculture has on soil management and agricultural practices, determines the relationship between agriculture and ecosystem conservation to achieve sustainability, thus ensuring quality food for the population.

Art. 17. - USE OF LAND. - The Ministry of Agriculture formulated a plan of use, management and zoning of the land. The State shall encourage the implementation of these plans and ensure compliance.

Art. 18 .- ECOLOGICAL MEASURES .- The Ministry of Agriculture, through its specialized agencies, shall adopt the measures recommended by environmental considerations to ensure rational land use and require that individuals or legal entities engaged in agricultural activities , livestock, forestry or infrastructure that adversely affect soil, to adopt conservation measures and recovery, with appropriate technical and scientific basis, determined by the competent authorities.

Water resources management legal framework

Article 20 .- In order to ensure the best availability of water, The National Water Resources Council will prevent, to the degree possible, the decline of these resources by protecting and developing watersheds and conducting relevant research studies. Concessions and management plans of watershed sources must also consider indigenous and local population use of these resources.

Article 41 .- The water for irrigation may be extracted from the ground, glaciers, springs, natural and artificial channels where there is such a need and to the extent technically determined by the National Water Resources Council.

2. Regarding land tenure conditions, Ecuadorian framework states as follow:

The **Constitution of Ecuador** in chapter IV refers to Community rights, indigenous peoples and nationalities. This chapter discusses the collective rights of indigenous organization forms

Article 57 .- It is recognized and guaranteed to communities, towns and indigenous nationalities, in accordance with the Constitution and the agreements, declarations and other international human rights instruments, the following collective rights:

4. *Imprescriptible retain ownership of their communal lands, which shall be inalienable, indefeasible and indivisible. These lands are exempt from taxes and fees.*
5. *Maintain possession of land and ancestral territories and obtain free award.*
6. *Participate in the use, management and conservation of renewable natural resources found on their lands.*

Chapter IV of the **Agricultural Development Law** states that land tenure is responsibility of the Ministry of Agriculture

Art. 24. - WARRANTY OF PROPERTY. - The State guarantees the ownership of land as stipulated in Articles 267 and 269 of the Constitution. The use of land and labor can be done individually, family, cooperative, associative, communal or corporate self-management, while meeting its social function.

Art. 25 .- SOCIAL FUNCTION .- The land fulfills its social function when it is in production and operation, properly maintained renewable natural resources and protects the ecosystem, ensuring food for all Ecuadorians and generate surpluses for export. The social function should result in elevation and redistribution of income to enable all people share the benefits of wealth and development.

E. Targeted Cantons and Parishes

	Province	Cantons	Hectares	*Population 2001	**Annual Rate 20.77	**Total population 2010
GPP	Pichincha	Cayambe				47469
		Pedro Moncayo				22868
MCRJ	Azuay	Nabón	67318.80	14969	3109.06	18078.06
		Oña	29201.60	3210	666.72	3876.72
		Santa Isabel	52793.70	17911	3720.11	21631.11
		Pucará	38398.60	11188	2323.75	13511.75
		Girón	38101.20	12543	2605.18	15148.18
		San Fernando	13691.20	3932	816.68	4748.68
	Loja	Saraguro	104586.30	27793	5772.61	33565.61
	El Oro	Zaruma	26588.00	23026	4782.50	27808.50
		Chilla	22000.20	2652	550.82	3202.82
		Pasaje	24168.60	61885	12853.51	74738.51
Total			416848.20	179109	37200.94	286646.94

*siise ver. 4.5

*inec, 1990 - 2001

Calculation done by the consultants as Ecuador Official birth rate (20.77)

Pichincha Province	
Cantons	Total Parishes
Cayambe	Cangagua
	Olmedo
	Ascázubi
	Cusubamba
	Otón
	Ayora
Pedro Moncayo	La Esperanza
	Malchinguí
	Tocachi
	Naigachi
	Tabacundo

MCRJ	
Cantons	Total Parishes
Nabón	Nabón
	El Progreso
	Cochapata
Oña	Oña
	Susudel
Santa Isabel	Santa Isabel (Chaguarurco)
	Shaglli
	Abdón Calderón
Pucara	Pucará
	San Rafael
	Zharug
Girón	Girón
	Asunción
	San Gerardo
San Fernando	San Fernando
	Chumblin
Saraguro	Saraguro
	Manú
	San Pablo de Tenta
	San Sebastián de Yuluc
	Urdaneta
	San Antonio de Cumbe
	Selva Alegre
	Lluzhapa
	El Paraiso de Celén
	El Tablón
	Sumaypamba
Cabildo Indígena de Tuncarta	
Zaruma	Zaruma
	Guanazán
	Abañín
	Sinsao
Chilla	Chilla
	Pasaje
Pasaje	Pasaje
	Progreso
	Casacay
	Ushcurrumi
	Caña Quemada
	La Peña