



**Advancing Climate Compatible Development (CCD) for
Food Security through the Implementation of National
Climate Change Strategies, CDKN**

**Honduras Case Study on the National
Strategy on Climate Change and
Agriculture/Food Security**

Fundación Vida

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List of Acronyms

| | |
|-------------------|--|
| ACI | International Cooperation Agencies |
| AMDC | Municipality of Distrito Central (Tegucigalpa) |
| ANAFEA | National Association for Promoting Sustainable Agriculture |
| BCH | Central Bank of Honduras |
| CATHALAC | Water Center for the Humid Tropic in Latin America and the Caribbean |
| CARITAS | Humanitarian Organization of the Catholic Church |
| CATIE | Topical Agronomic Center for Education and Research |
| CCD | Climate Compatible Development |
| CCIC | Climate Change Inter-institutional Committee |
| CCITC | Climate Change Inter-institutional Technical Committee |
| CDKN | Climate Development Knowledge Network |
| CDM | Clean Development Mechanism |
| CDR | Regional Development Council |
| CONADES | National Council for Sustainable Development |
| CONTECNICA | Technical Consulting |
| CONGESA | Environmental Management Consulting |
| COP | Conference of the Parties |
| COPECO | Contingencies Permanent Commission |
| CREDIA | Regional Center for Environmental Information |
| DGAC | Civil Aviation Directorate |
| DGOT | National Land use Planning Directorate |
| DGRH | Water resources General Directorate |
| DNCC | Climate Change National Directorate |
| ECLAC | Economic Commission for Latin America and the Caribbean |
| ERP | Poverty Reduction Strategy |
| ENEE | National Company for Electricity |
| ENOS | El Niño South Oscillation |
| ENSAN | National Food Security and Nutrition Strategy |

| | |
|------------------|---|
| FAO | Food and Agriculture Organization |
| FEPROAH | Honduran Federation of Agro-forestry Producers |
| FIDA | International Fund for Agricultural Development |
| FOPRIDEH | Honduran Federation of Non Governmental Organizations |
| FSAR | San Alonso Rodriguez Foundation |
| GDP | Gross Domestic Product |
| GEF | Global Environment Facility |
| GHG | Greenhouse Gases |
| ICF | National Institute of Forest Conservation and Development, Protected Areas and Wildlife |
| ICADE | Institute for Cooperation and Self development |
| IHCAFE | Honduran Institute for Coffee Sector |
| IHT | Honduran Institute for Tourism |
| IICA | Inter-American Institute for Cooperation on Agriculture |
| INAM | National Institute on Women |
| IPCC | Intergovernmental Panel on Climate Change |
| LULUCF | Land Use, Land Use Change and Forestry |
| NAMA | Nationally Appropriate Mitigation Actions |
| NCCS | National Climate Change Strategy |
| NGO | Non Governmental Organization |
| OXFAM | Oxford Committee for Famine Relief |
| PACTA | Access to Land Program |
| PMDN | Natural Disaster Management Project |
| PFA | Adaptation Fund Project |
| REDD | Reducing Emissions from Deforestation and Forest Degradation |
| SAG | Agriculture and Livestock Ministry |
| SDP/UTSAN | Secretariat of the Presidency/Technical Unit for Food Security and Nutrition |
| SACCN | Sustainable Agriculture and Climate Change Network |
| SANAA | National Service for Water and Sanitation |
| SEFIN | Finance Secretariat |
| SEIP | Interior and Justice Secretariat |



| | |
|---------------|--|
| SEPLAN | Planning and International Cooperation Secretariat |
| SERNA | Natural Resources and Environment Secretariat |
| SRE | Foreign Affairs Secretariat |
| UMH | Metropolitan University of Honduras |
| UNAH | National Autonomous University of Honduras |
| UNDP | United Nations Development Program |
| UNFCCC | United Nations Climate Change Framework Convention |



Executive Summary¹

Honduras is located in a region where the socioeconomic vulnerabilities are aggravated due to its geo-climatic location. According to ECLAC (2008), the region is severely affected by droughts, cyclones and the “El Niño” South Oscillation. During these three past decades, rainfall has had a trend to diminish in the western part of Central America and an increase of temperature between 0.7 and 1 °C has been registered. This situation has a direct impact on agricultural activities and the generation of food for the local population.

The increase in temperature and drought are the most relevant climatic projected threats for national agricultural production, as these weather conditions would generate thermal and water stress in plants. Hence, its productivity would be reduced and threatened. This would put at risk food security, particularly that of the poorest rural and urban population.

One of the many actions that have taken place to deal with the challenge of climate change is the approval of the National Climate Change Strategy (NCCS). This instrument was created as response to a need of having national instrument that would prioritize adaptation processes in Honduras. This instrument also contributed to the compliance of international commitments, which require the member states to make progress on the formulation of instruments that would facilitate national processes on adaptation and mitigation.

The Strategy’s final purpose is to contribute to reduce the country’s climatic vulnerability level, by strengthening the policy framework, as well as strategies and measures for adaptation and mitigation, particularly in regions which are more exposed to extreme climatic events. The strategy was constructed in a participatory manner between 2009 and 2010 by the leadership of SERNA, and a group of public and private institutions that later on would constitute the Climate Change Inter-institutional Committee (CCIC), that functions at a political and technical level.

The NCCS was built on 7 priority sectors and 17 strategic objectives, 15 of which are related to adaptation and two to mitigation. The seven sectors are: (a) water resources, (b) agriculture, soil and food security, (c) forests and biodiversity, (d) costal marine systems, (e) human health, (f) risk management and (g) hydropower. It is important to highlight that the strategy emphasizes the strengthening of “synergy between mitigation

¹ This study is based on publications and documents review, consultations, interviews and surveys applied to multi-sector stakeholders in Honduras, between January and April 2012. The opinions and perceptions presented in the study do not necessarily reflect Fundación Vida views.



and adaptation, to allow a better adjustment of the socio-natural systems facing the impacts of climate change and prevent the adverse effects of response measures”.

Regarding the institutional framework for the strategy implementation, SERNA created CCIC which is comprised by more than 60 institutions that work on issues related to climate change. It is unique in the region because of the large participation of stakeholders. CCIC is divided in specialized sub-committees, one of which is “Agriculture and Food Security”, which was recently created in 2011.

The NCCS is aligned with the Country Vision and Nation’s Plan Law approved recently by the Government, which establishes a route for national development by planning under watershed approach and in a participatory manner. In fact, the Nation’s Plan proposes a territorial structure for the “development process” based on the main watersheds of the country and creates Regional Development Councils with participation of public and private stakeholders of each development region. This would become a fundamental tool for approaching the impacts of climate change, particularly in vulnerable regions.

During the development of this case study, key stakeholders were interviewed and their opinion was that NCCS state of implementation is in its early stages. Several reasons and barriers are appointed for this, such as, the limited institutional empowering at operational level, weakness in knowledge sharing, limited access to financial resources, language, etc. As well, it is considered that public and private institutions need to “internalize” the concept of climate change in order to have a better implementation of the adaptation and mitigation measures, especially those institutions that have to deal with agricultural and food security issues.

Nevertheless, it is a fact that the country is advancing in this critical route. SERNA and the CCIC have established a valuable framework to deal with climate change that has to be potentiated at the local level by the active participation of the Regional Development Councils that were created by the Secretariat of Planning in order to have an effective implementation of the Strategy.



Climate Compatible Development (CCD) in Agriculture – A Case Study from Honduras

For many developing countries ensuring food security remains a key development challenge. There are multiple aspects that constitute food security, from food production to access to markets and the resilience of food systems to external risks. Different sectors play a role, with, of course, agriculture being the most important.

There is a wealth of literature indicating that climate change will have severe negative effects on agriculture and broader factors constituting food security, especially in low-latitude countries (IPCC; 2007; Hoffmann, 2011). This is true even for moderate levels of temperature increase (2°C) and especially in smallholder systems with little adaptive capacity and high vulnerability (Vermeulen et al. 2010). At the same time, agriculture is a key source of greenhouse gas emissions (IPCC 2007; Hoffmann 2011).

Thus, “modern food systems need to be adapted to enhance food security and minimise negative environmental feedbacks” (Ericksen et al. 2010: 115). A transformation of food systems towards more flexible approaches and through lifting the productivity of small-scale farmers can make agriculture become an essential part of the solution and bring about new opportunities for the rural poor (Hoffmann 2011, IFAD 2010).

In this context, Germanwatch and Perspectives are coordinating this project with the objective to conceptually support policymakers and stakeholders in developing countries. The project is financed by the Climate & Development Knowledge Network (CDKN) and exemplarily carried out in cooperation with partners from three low-income and food deficit countries:

1. Fundacion Vida (FV) in Tegucigalpa, Honduras
2. Bangladesh Centre for Advanced Studies (BCAS) in Dhaka, Bangladesh
3. African Centre for Technological Studies (ACTS) in Nairobi, Kenya

The overall aim of the research is to provide conceptual support to policymakers and stakeholders on Climate Compatible Development (CCD) on agriculture and food security issues. Further, the project targets to examine how integrated adaptation and mitigation policies, as well as food security-related strategies, can harness international climate finance in an effective manner. The sub-objectives are:

- Advance the understanding of what CCD means for agricultural policies that aim at ensuring food security of vulnerable populations.



- Advance the understanding of how national climate change strategies can promote CCD in the area of food security, involving both adaptation and mitigation; and
- the development of recommendations for a host country national climate strategy “gatekeeper” to integrate climate funding streams for the agriculture sector in a way that mitigation and adaptation benefits of a given funding opportunities are maximized.

In the initial stage the study team examined the level of an integrated approach to adaptation and mitigation in the area of agriculture and food security through literature review, taking expert’s views, meetings and consultations. The second task of the project are three country case studies to build up an understanding how national climate change strategies can promote CCD in the agricultural sector to promote food security. This will be followed by an assessment on how food security-related elements of national climate change strategies can be harnessed in international climate finance in an effective manner (review and consultations with policy makers and stakeholders). Ultimately, it is intended to disseminate the research results to policymakers and wider stakeholders through holding a national seminar and through the publication of policy briefs.

Honduras Case Study on the National Strategy on Climate Change and Agriculture/Food Security²

I. National Climate Change Strategy and the State of Implementation

1.1. Overview of Honduras

Honduras is located in central-northern part of Central America, bordering Guatemala and the Atlantic Ocean (“Caribbean Sea”) in the North, and El Salvador, Nicaragua and the Pacific Ocean in the South. The country is located between 16° 23’N and 13° 45’N and 83° 12’W and 89° 12’W.

The socio-economic vulnerabilities of Central America are aggravated due to the region's geographic location and by being a bridge between North and South America and bordered by two oceanic systems with their respective climatic processes. The region is frequently affected by severe droughts, cyclones as well as by the El Niño South-Oscillation (ENOS). During these last three decades rainfall patterns have decreased, particularly in the western regions of Central America. Moreover, an increase in temperature of 0,7 °C to 1 °C has been registered. As the main economic activity, namely agriculture, is very dependent on stable climate conditions; climate change will have a significant and most likely negative effect on the country's economy.³

Honduras has an area of 112.492 sq.km. From a structural point of view it is possible to divide Honduras in three geographical regions: the Caribbean part in the north and east of the country, the pacific region in the south of the country and the interior part in between.

The climate is humid and hot in the Caribbean region with annual precipitation being higher than 2000 mm and with a little or no dry season. In contrast, the pacific region has

² This study is based on publications and documents review, consultations, interviews and surveys applied to multi-sector stakeholders in Honduras, between January and April 2012. The opinions and perceptions presented in the study do not necessarily reflect Fundación Vida views.

³ Economics of Climate Change in Central America, Lennox, J. ECLAC 2008, page 3

a well-marked dry season and precipitation patterns of over 1500 mm per year. During the astronomical winter temperatures are always above 26 °C. The interior part generally experiences milder temperatures and precipitation ranges from 800 and 2000 mm per annum.

Figure 1: Map showing the location of Honduras in Central America.



Source: Multidimensional Integral Assessment for the National Land Use Plan, SEIP, 2008

The main characteristics of the country can be summarized as follows:

1. The geomorphology of the country is extremely rugged; 65% of the region is mountainous and irregular.
2. 80% of the country's watersheds (basins) are flowing into the Caribbean Sea, forming the country's main rivers.
3. The valleys, without the coastal or tectonic ones are scarce. In fact they cover the greatest part of agricultural production.
4. Almost 90% of the country is land suitable for forestry (not agriculture).
5. A great part of the soils are poor, except for the few fertile valleys. Naturally, this leads to low agricultural achievements, explaining the main factor of rural poverty.⁴
6. Agricultural production accounts for more than 60% of the Honduran GDP.

⁴ Conclusion of PhD Thesis: "Analysis of Poverty in Dry Tropic of Central America", Fernández, J., 2009



7. The balance of trade shows a great deficit. The exports of coffee, shrimp, plantains, gold, palm oil, fruits, lobster and wood only add up to US\$ 2000 million (cf. f.o.b. 2006 BCH).
8. For 2010 the GDP per capita is estimated at 2.793 dollars.
9. The country has a weak infrastructure and limited technological equipment, which explains the lack of economic competitiveness of the economy.
10. Honduras is located in the corridor of tropical cyclones which often leads to heavy rains, landslides and flooding.

In 1998 Honduras was affected by “Mitch”, a very strong and powerful Hurricane; 80% to 90% of the productive system (incl. infrastructure, human lives, housing units, agricultural soils, etc.) was severely damaged, taking back the country's development process by almost 50 years. Besides, there were more than 6,500 deaths due to flooding and landslides. Although being a significant tragedy, this event was soon politically referred to as an opportunity to completely "rebuild" the country. However, to date, we can say that there have not been any significant advances on the improvement of infrastructure and production systems, and many housing units were resettled in the same vulnerable areas.

In response to the hurricane, the international community (UNDP, World Bank, among others.) set up the National Disaster Management Program (a US\$ 10.9 Million program), that was delivered to the 81 most vulnerable municipalities of Honduras. Its aim was to identify hazardous areas, to strengthen capacity building processes, develop land use plans and organize communication channels. Yet, only little work was done in the field of climate change mitigation and adaptation. Unfortunately, 10 years later a survey revealed that only 5 % of the 81 municipalities maintained risk management instruments within their technical units.

1.2. National Climate Change Strategy background

The Honduran National Climate Change Strategy (NCCS) was created in compliance with international commitments acquired under the United Nations Framework Convention on Climate Change (UNFCCC). Particularly, they require the member states to advance on the formulation of instruments which facilitate the national processes of climate change adaptation and mitigation.

In 2009 and 2010 the NCCS was developed in a participative and inter-sectorial process led by the Natural Resources and Environment Secretariat (SERNA), serving as the



National Focal Point for the UNFCCC and as National Designated Authority (DNA) of the Kyoto Protocol, through the National Unit of Climate Change (which was subsequently lifted to the condition of Directorship) and with the participation of members of the Climate Change Inter-Institutional Committee (CCIC).

The CCIC is a political and technical dialogue platform that advises the National Government, specially the National Climate Change Directorate, that includes representatives of the main ministries (incl. Natural Resources and Environment Secretariat, Agriculture and Livestock Secretariat, National Institute of Forest Conservation, Public Works Secretariat, National Service for Water and Sanitation, etc), several national and international universities as well as more than 40 civil society organizations.

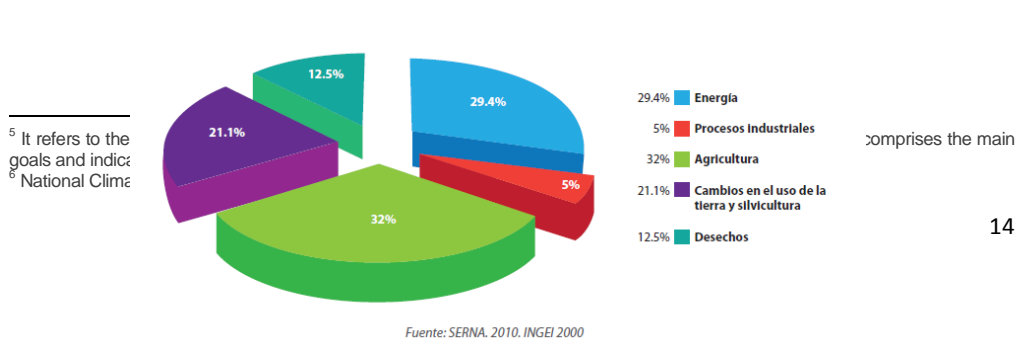
“The NCCS is part of the general planning process of the Honduran nation. In fact, the strategy's context, its purpose, focus, scope and contents are articulated in a coherent manner with the Nation's Plan (2010-2022) and the Vision of Country (2010-2038)⁵. Moreover, the NCCS responds to three strategic guidelines:

- No. 7, which refers to regional development, natural resources and environment
- No. 11, which relates to adaptation and mitigation of the climate change
- No. 12, which focuses on risk management and the early recovery of damages and losses due to disasters”.⁶

The overall objective of the NCCS is to reduce the country's vulnerability to climate change (including social and economical aspects) and to strengthen the framework of policies, strategies and measures for adaptation and mitigation, particularly in the most climate change prone regions.

The Second National Greenhouse Gases Inventory for Honduras (base year 2000), shows that the agricultural sector and its related activities accounted for approximately 32% of total emissions (Figure 2). In return it means that it is a suitable sector for potential mitigation activities.

Figure 2: Sectors contribution to Honduras’ GHG emissions, 2000.



⁵ It refers to the goals and indicators of the National Climate Change Strategy.

“The results of the vulnerability and impact assessments were used as a basis for defining the objectives, strategic guidelines as well as some adaptation and mitigation measures of the NCCS. Moreover, the results of climate change scenarios that were developed for the regional (CATHALAC, 2008) and global (IPCC, 2007) level were included into the conceptual framework of the NCCS (Argeñal, 2010)”.⁷

The NCCS has 17 strategic objectives, 15 of whom are related to adaptation and two to mitigation. Further, the strategy was built around seven priority sectors, which were established through sectorial and regional consultations with national experts. Those seven areas are: (1) water resources, (2) agriculture, soil and food security, (3) forests and biodiversity, (4) coastal marine systems, (5) human health, (6) risk management, and (7) hydropower. Under adaptation-related objectives the priority sector 2 has three strategic objectives:

1. Facilitate climate change adaptation for farmers, improving the resilience of crops and pastures to thermal and water stress, and preventing or reducing the incidence of pests and diseases caused by climate change.
2. Prevent erosion, loss of productivity and eventual desertification of soils, considering the effects of climate change
3. Preserve and improve the nutritional quality and contribute to the population's food security.

Under mitigation-related objectives all seven priority sectors have the following strategic objectives:

1. Reduce and limit the emissions of GHG to strengthen the socio-economic and environmental sustainability at national level.
2. Prevent erosion, loss of productivity and eventual desertification of soils, which could increase the causes and effects of climate change.

⁷ Ibid., page 19



The main action guidelines and objectives of the NCCS Action Plan are summarized in Table 1:

Table 1, Lines of work and Objectives of the NCCS Action Plan

| | Lines of action | Objectives |
|----------|--|---|
| 1 | Creation and strengthening of institutional and human capacities | Facilitate the development and improvement of institutional, scientific, legal, technological, managerial, organizational and economic capacities, for effective and adequate planning and action. |
| 2 | Strengthening the inter-institutional planning and coordinating spaces | Assure an integrated climate change approach in planning, implementing and follow-up of policies, plans, programs and projects of the central and municipal public agenda. |
| 3 | Strengthening the spaces of inter-sectorial consulting | Improve the effectiveness of participation of key actors within the different phases of planning and implementing climate change related public policies. |
| 4 | Synergic planning of adaptation and mitigation | Assure the articulation and coherence of adaptation and mitigation strategies within the strategic objectives and policy guidelines. |
| 5 | International cooperation and financial mechanisms | Make timely and effective use of the opportunities for obtaining technical and financial resources at the international, regional and national level, to carry out adaptation and mitigation measures |

The National Climate Change Strategy, the Country Vision and Nation's Plan Law

It is important to highlight that the NCCS is coherent with the Country Vision and Nation's Plan that were recently approved by the current government. The Nation's Plan 2010-2022 concentrates on the following four objectives of the Country Vision:

1. A Honduras with no extreme poverty, educated and healthy, with a social provision system.
2. A Honduras which is safe and built on a democratic system.
3. A Honduras which is productive, generates opportunities and worthy employments and which makes use of its natural resources in a sustainable manner and at the same time reduces environmental vulnerability.
4. A modern state, responsible, efficient and competitive.

Moreover the Nation's Plan proposes a new territorial structure for the “development process” based on the main watersheds of the country. It intends to form Regional Development Councils (CDR) that are supported by public and private stakeholder of each region (see Figure 3). Ultimately, this will become a fundamental tool for approaching climate change, particularly in the regions that have a greater level of socio-environmental vulnerability.

Figure 3. Nation’s Plan Development Regions



Source; DGOT, SEPLAN 2011.

The development of those CDR's is still in an early stage but they have a large potential for planning and implementing the Nation's Plan. CDR's are seen as important public-private platforms for managing the territorial development towards facing climate change.

There are various indicators in the Nation's Plan that fit together with guidelines and strategies of the NCCS, particularly regarding the agriculture and food security aspects. These are outlined in the following table.

Table 2.-Objectives (Goals) and Indicators of the Nation's Plan related with NCCS sectors

| No. | Summary of Objective (Goal) | Indicator of the Nation's Plan |
|-----|-----------------------------|--------------------------------|
|-----|-----------------------------|--------------------------------|

| NCCS Sector: Agriculture, soils and food security | | |
|--|--|--|
| 1 | Increase the area coverage under irrigation by 50%. | Hectares of land with coverage area under irrigation. |
| 2 | Increase soil conservation and agro-forestry by 80% in hilly areas. | Percentage of area under soil conservation practices and agro-forestry. |
| 3 | Transform 70% of agro-forestry exploitations in sustainable production systems. | Percentage of productive initiatives under sustainable production systems. |
| NCCS Sector: Forests and Biodiversity | | |
| 4 | Ensure that 39 areas are protected through audited management plans to assure conservation and biodiversity. | Priority areas protected with audited management plans. |
| 5 | Reforestation of 57000 hectares per year | Number of reforested hectares |

Source: NCCS Action Plan (The NCCS Action Plan is in process of being fully approved by the Government)

The purpose of the Nation's Plan is to advance development in a sustainable manner, reflecting the natural resources and the territorial vulnerability of the country. To achieve this, the NCCS Action Plan needs to be implemented in an effective and successful manner.

1.3. State of Implementation

An important outcome of the survey and the workshops held for the case study (see Annexes 1 and 2) was that key stakeholder did not yet see the NCCS implementation as satisfactory. Particularly this is due, to limited institutional empowering, weakness in knowledge sharing, limited access to financial resources as well as a confusing complexity on project formulation procedures.

Nevertheless, the country is advancing on this critical route as several processes of the Action Plan are being delivered by the government, technically and financially supported by development partners as well as non-governmental organizations. As a result of this effort, the Natural Resources and Environment Secretariat (SERNA) through its climate change responsible branch, namely the National Climate Change Direction, received funding from the Adaptation Fund. The project "Facing climate risk in water resources in Honduras: Improving Resilience capacities and reducing vulnerability in poor urban areas" is implemented by UNDP and executed through SERNA jointly with other Government institutional counterparts. This was the second project approved by the Adaptation Fund Board. The project is based on the objectives of the National Strategy and its Action Plan, and it is being guided by the Climate Change Inter-Institutional Committee (CCIC). Its three

(3) project component or main outputs, and its respective sub products and activities are described below:

Table 3. Project: Facing climate risk in water resources in Honduras: Improving Resilience capacities and reducing vulnerability in poor urban areas

| Output 1: To harness climate change adaptation with the national development planning process. (US\$ 1,358,500) | Activities |
|---|---|
| 1.1 Integrating climate change risks with the water and national planning legislation (US\$ 183,000) | <ul style="list-style-type: none"> • 4 Regional development plans, with adaptation and mitigation measures identified (Nation's Plan Development Regions 12, 13, 4 and 5) |
| 1.2 Capacity building process for the new Water Authority and the Planning and Cooperation Ministry (US\$ 19,890) | <ul style="list-style-type: none"> • 4 Regional Development Councils with Climate Change Committee established • 3 Watershed Councils organized and harnessed to the Region • Operative plan for the Water Resources Direction with climate change actions included |
| 1.3. Meteorological national network and the quality and quantity of data improved (US\$902,200) | <ul style="list-style-type: none"> • Installation of the Meteorological National Network • Equipment and furnishing of a data center • Training to data management personal |
| 1.4 Tools and data available for climate risk assessment on institutions working on planning, river basin management, agricultural practices, infrastructural development and floods as well as land sliding management (US\$ 123,718) | <ul style="list-style-type: none"> • National Information System website • Sectoral information Systems improved |
| | |
| Output 2: Development of pilot actions in vulnerable neighborhoods in Tegucigalpa (US\$ 2,950,000) | Activities |
| 2.1. Water provision services sustained among land use planning processes on the green belt around Tegucigalpa (US\$ 340,178) | ICF and SANAA: <ul style="list-style-type: none"> • Adaptation and mitigation to climate change harnessed on to the watersheds and protected areas regulations • Management Plan for the Rio del Hombre Watershed Management of the Sub Watershed of the Rio del Hombre prepared • 20 micro watersheds with regulation charter approved (10,000.00 hectares) • Management Plan for the La Tigra and Uyuca Protected Areas. |
| 2.2 Financial mechanisms assisting in the water provision management process (US\$15,000) | ICF and SANAA <ul style="list-style-type: none"> • Environmental services payments established on the watersheds |



Source: Honduran Adaptation Fund Project. SERNA-UNDP, 2010

There are several other projects related to climate change adaptation and mitigation, most of them in the field of risk management, water harvesting, renewable energy, sustainable agriculture, watersheds and land use planning. Although most of them have not been developed in the context of the NCCS, their outputs aim the same objectives.

1.4. Institutional Framework

In order to create synergies SERNA has started a course of action to merge public and private institutions under a climate change adaptation process, thus created the Climate Change National Directorship (DNCC) and the CCIC as a permanent consulting forum at the national level. The CCIC functions in two levels, a Political one (in which Ministers, University and NGO Directors gather) and a technical level (Climate Change Inter-institutional Technical Committee, CCITC, in which technicians are assigned by their high level chief to participate). The CCIC is a direct advisor for the President on climate change and CCITC advises the CCIC. It is a unique dialogue platform in the Central American region.

As part of this CCIC, there is a Sub-Committee on Agriculture and Food Security that is headed by the Agriculture and Livestock Secretariat. This Sub-committee is starting to work on introducing climate change adaptation to agriculture. One of the initiatives below the Sub-committee is the Sustainable Agriculture and Climate Change Network (SACCN) which aims to increase the knowledge on how climate change will affect agriculture as well as to define how to deal with those impacts. It is directly responsible for approaching the issues associated with the CCD project, particularly those that involve food security, soils and agriculture.

Graphic 1 illustrates the structure of the ministries and provides insights into the general institutional system and hierarchy lines between the main stakeholders.

Graphic 1: General Institutional Structure

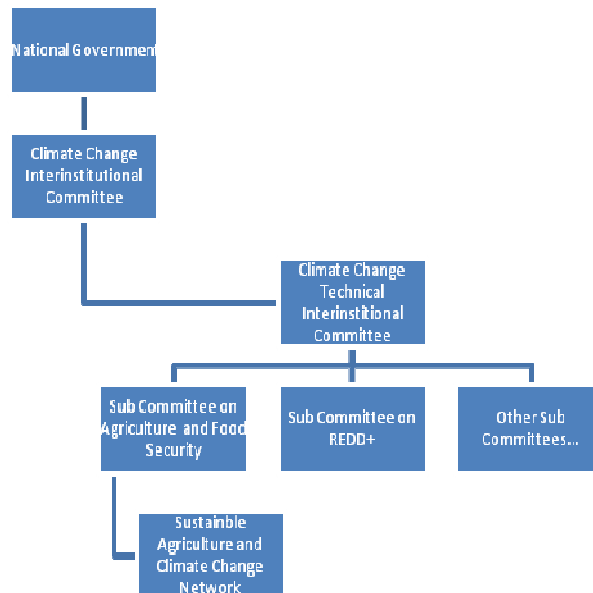


Table 4 illustrates the members of the CCIC, in which SERNA serves as the secretariat and is headed by the Presidential Secretariat.

Table 4. The Climate Change Inter-institutional Committee (CCIC)

| N | Institution |
|-----|--|
| 1. | Presidential Secretariat |
| 2. | Natural Resources and Environment Secretariat (SERNA) |
| 3. | Education Secretariat |
| 4. | Permanent Contingency Commission (COPECO) |
| 5. | Secretariat of Foreign Affairs (SRE) |
| 6. | Fire Department |
| 7. | Finance Secretariat (SEFIN) |
| 8. | Secretariat of Agriculture and Livestock (SAG) |
| 9. | Secretariat of Public Works, Transportation and Housing (SOPTRAVI) |
| | Secretariat of Development |
| 10. | Secretariat of the Interior and Population |
| 11. | National Aqueducts and Sewage Service (SANAA) |
| 12. | Honduran Tourism Institute (IHT) |
| 13. | National Congress |
| 14. | Civil Aviation Directorate (DGAC) |
| 15. | Secretariat of Health |
| 16. | Secretariat of Industry and Commerce (SIC) |
| 17. | Secretariat of Planning and International Cooperation (SEPLAN) |
| 18. | Attorney General of the Environment |



| | |
|-----|--|
| 19. | National Council for Sustainable Development (CONADES) |
| 20. | Electricity Company (ENEE) |
| 21. | Mayor's Office in the Central District (AMDC) |
| 22. | National Institute for Conservation and Forest Development, Protected Areas and Wildlife (ICF) |
| 23. | National Women Institute (INAM) |
| 24. | National University of Honduras (UNAH) |
| 25. | Metropolitan University of Honduras (UMH) |
| 26. | Honduran Civil Engineers Association (CICH) |
| 27. | Biologists Association |
| 28. | Project Aldea Global |
| 29. | Honduran Federation of Agro-forestry Producers (FEPROAH) |
| 30. | Federation of Non Government Organizations for the Development of Honduras (FOPRIDEH) |
| 31. | Institute for Cooperation and Self-Development (ICADE) |
| 32. | Fundación Hondureña de Ambiente y Desarrollo Vida |
| 33. | United Nations Development Program |
| 34. | German Cooperation Agency |
| 35. | Rainforest Alliance |
| 36. | Honduran Chamber of Private Enterprise |
| 37. | Climate Change Foundation |
| 38. | Inter-american Institute of Agricultural Sciences (IICA) |
| 39. | OXFAM |

Source: Climate Change National Directorate database

1.5. Political will

As mentioned earlier the implementation phase of the NCCS is still in its beginning and needs continuous empowerment by public institutions. In fact, some important coordination tasks are still pending within the high level political willingness.

The institutional framework exposed above has a large potential. Almost all of the public and private institutions that have a bond with natural resources (users and conservation advocates) and climate change issues are registered. Yet, it is our observation that the implementation of actual measures on the ground is still weak and needs improvement. Nonetheless, there are some interventions at the local and regional level that are financially and technically supported by SERNA, a couple of NGOs as well as by some international institutions such as FAO, FIDA, PNUD and IICA.

1.6. The NCCS Action Plan

As outlined earlier the NCCS can only be successful if an action plan is developed in a way that guides the public and private actors in a practical manner. "For the preparation of the NCCS Action Plan, it was necessary to analyze the NCCS guidelines, potential climate



change adaptation and mitigation activities as well as the results of a national workshop, carried out in October 2010. In fact, the prioritization of sectorial measures, which are to solve environmental vulnerability problems, were developed during this national workshop.”⁸ “Besides, measures for institutional strengthening have been identified, deriving from an analysis of the NCCS.”⁹

The main result of the plan is a package of 29 measures; 18 are sectorial measures and 11 are institutional strengthening measures. Ultimately, they were proposed within the framework of the National Workshop and outlined in relation to the sectors associated with food security. The measures that relate to the main climate impacts are shown in Table 5.

Table 5. Prioritized measures to cope up with climate change

| No. | Sectors | Prioritized Impact | Prioritized Measure to Solve It (adaptation or mitigation) |
|-----|--------------------------------------|--|---|
| 1 | Agriculture, soils and food security | Climate change will expand the incidence of plagues, diseases, bush fires and hydrological stress of crops due to the changes of precipitation patterns. | Practice modification (cultivated species) and calendar of crops (adaptation). Substitution of agricultural unsustainable practices for the use of the <i>Quesungual</i> Agro-Forestry System and other sustainable agro-forestry systems (mitigation). |
| 2 | Forests and biodiversity | Climate change will reduce the forests’ capacity of providing ecosystem services. | Maintain the vegetative growth (such as eco-systemic service) of the forest (adaptation). Maintenance of protected or unprotected natural areas which promotes handling and restoration of <i>mangroves</i> , reforestation of micro watersheds which produce water and the forests fire prevention and control (mitigation). |
| 3 | Water resources | Climate change will increase the risks of droughts due to soil erosion, the reduction of precipitation and the clogging of the riverbeds. | Raise national awareness in all the users on the need of preserving water (adaptation). Reforestation of recharge zones of aquifers (mitigation). |

Source: NCCS Action Plan. See Annex 2 for details of concrete actions corresponding to the proposed measures in the Action Plan.

⁸ CONTECNICA, NCCS Action Plan, 2010.

⁹ Ibid



To support the institutionalization and visualization of the NCCS, the following aspects are to be taken into consideration:

- 1) A consolidated institutional platform
- 2) Greater knowledge of scientific-technical tools
- 3) Financial strategy
- 4) Legal complementary instruments that are duly applied with effective feedback
- 5) Procedural instruments for follow-up and evaluation of the programs and plans.
- 6) Instruments with sufficient technical, political and legal resources are needed to support social participation
- 7) Common political vision that will allow the harness of climate change.

The following institutions were identified to have a direct or indirect role for implementing the NCCS's Action Plan:

- The central government through the Secretariats, decentralized institutions and other divisions, that are related with the issue
- Municipal governments
- Research and educational institutions (such as Universities)
- National and international development foundations and NGOs.
- Official bi- and multilateral cooperation agencies with a development focus
- Private business and its group organization
- Local development boards, water boards, agriculture organizations, resource users, etc.
- Private development organizations

“The paragraphs above clearly indicate that there is a huge variety of institutions participating in the climate change process. Within the framework of the national workshop a deliberation on the operation of the NCCS was proposed. Particularly, it stresses the following aspects:

- Identification of possible obstacles which may hinder the development of more fluid and expedite coordination between institutions. Those obstacles should then be eliminated to allow a joint and effective action towards the achievement of the NCCS' objectives.
- Analysis of conditions that inhibit the institutional learning processes to subsequently identify methods to adapt to changing and complex scenarios. Build up capacities to stimulate creative solutions to the climate change dilemmas.”¹⁰

¹⁰ Ibid, page 20



In relation to the main aspects of this project (incl. the integrative approach of adaptation and mitigation and the process of accessing climate funds and streams) the NCCS Action Plan proposes to prioritize the measures and actions as shown in Table 6 and Table 7.

Table 6: Synergetic Approach on Adaptation and Mitigation

| | Actions and Measures |
|---|---|
| Development of a National Policy Framework on Climate Change and its execution tools | <ul style="list-style-type: none"> • To institutionalize and disclose the NCCS • To develop and disclose the NCCS Action Plan • To develop a Framework Policy on Climate Change • To develop a National Strategy on REDD+, and its Action Plan as well as NAPs to harness adaptation measures |

Source, NCCS Action Plan, 2011

Table 7: International Cooperation and Financial Mechanisms

| | Actions and measures |
|---|---|
| Development of management tools to ease the access to financial resources to deploy in the NCCS, its action plan as well as in the Framework Policy of Climate Change. | <ul style="list-style-type: none"> • To develop a fund raising plan around the NCCS and the Action Plan priorities • To participate in the definition process of the Regional Climate Fund, including loss and damages trade offs • To build an official mechanism to articulate public and private stakeholder efforts in accessing the climate funds • To build a mechanism on fundraising for adaptation, similar to the CDM national projects |
| Development of fund raising campaigns for the immediate execution of actions and to institutionalize the NCCS Action Plan as well as the Framework Policy of Climate Change. | <ul style="list-style-type: none"> • To develop a fundraising plan and empower national capacities to face climate change by integrating synergy efforts with environmental stakeholder • To manage financial resources from the Climate Fund, the Adaptation Fund, and bi- and multilateral funds targeted to the adaptation measures and NAMAs in the NCCS Framework. |

Source, NCCS Action Plan, 2011



II. Aspects related to Food Security in the NCCS

2.1. Background (Production and access, food market and prices, poverty level and ability of the poor, food deficit, etc.)

In 2006 the National Policy for Nutrition and Food Security was formulated under the framework of the National Poverty Reduction Strategy (ERP). The purpose was to reduce the citizens' poverty to an acceptable level and to simultaneously eradicate child malnutrition. The ERP provides a package of global goals to be achieved before 2015, two of which are directly related to food security and nutrition:

1. To reduce poverty and extreme poverty by 24%
2. To reduce malnutrition for children under 5 years by 20%

Other related instruments such as the National (sectorial) Policy for Agriculture and Rural Welfare is oriented to empower competitiveness and exports, to improve agricultural products safety and sanitation, to promote productivity as well as to develop a local producer agricultural policy.

As mentioned earlier, the structural food vulnerability areas are located in the south-west part of Honduras (Departments of Lempira, Intibucá, Copán, La Paz, Valle, Choluteca, El Paraíso and Francisco Morazán). Interestingly, those areas directly correspond with the prioritized areas of the National Poverty Reduction Strategy. In 2006, Honduras had the second highest malnutrition rate of children under age of 5 in Central America and this indicator does not seem to have improved within the last years. Yet, it is to note that the last 15 years show some improvement in the chronic malnutrition levels: the rate of people suffering from malnutrition has decreased to around 36 % (National Strategy for Nutrition and Food Security, ENSAN; 2010).

According to ENSAN, the main factors that determine food security in Honduras are:

1. Decreasing attention given to agriculture with national economy development plans
2. Rise of food and basic basket prices
3. Work power and employment status
4. Public programs supporting food security experiences

| Today food insecurity affects 1 of 5 children under the age of 5 in the country. Particularly, families living in extreme poverty are most affected. One of the major reasons is the lack



of knowledge on healthy nutritional diets and inadequate feeding practices of mothers. Further, poor households often also face high unemployment rates, low productivity levels and precariousness of the rural job market.

In the context of the National Food Security and Nutrition Strategy (ENSAN), preliminary calculations show that in 2010 around US\$ 1,657.86 million were addressed for actions delivering food security and nutrition in the country. While the government provided 52 % of the funding, the international community covered 48 %. The funding was distributed among four factors as follows:

| | | | |
|----------|---------------------|------------------|------|
| Factor 1 | Availability | US\$ 604.22 MM | 40% |
| Factor 2 | Access | US\$ 502.90 MM | 24% |
| Factor 3 | Use and Consumption | US\$ 183.65 MM | 13% |
| Factor 4 | Stability | US\$ 367.06 MM | 23% |
| Total | | US\$ 1,657.86 MM | 100% |

Source: National Food Security and Nutrition Strategy, 2010

2.2. Approach of Food Security in the NCCS (Agriculture, Soil and Food Security Sector)

“The increase of temperatures and droughts are the most relevant climatic threats projected for country’s agricultural production. These weather conditions would generate thermal and water stress in plants, directly reducing their productivity. As mentioned earlier, this will increase the risk of food security, particularly in poorest rural and urban populations. Heat waves, rain, high winds and floods will cause more stress and crop losses potentially causing physical destruction. Besides, the reduced levels of soil moisture will facilitate the erosion and eventually initiate desertification processes.”¹¹

Climate change will also affect the incidence and frequency of pests and crop diseases. It should be noted that while the different species of pests and diseases will easily adapt to new climate conditions, plants will become more susceptible to environmental changes.

In this context, the NCCS aims to facilitate climate change adaptation for farmers, improving the resilience of crops and pastures to thermal and water stress, and preventing or reducing the incidence of pests and diseases caused by climate change. As well, it has the target of preserving and improving the nutritional quality and contributes to the population's food security. Special emphasis is made on preventing erosion, loss of

¹¹ NCCS, Ibid, page 20



productivity and eventual desertification of soils, considering the effects of climate change, considering that this would affect food security for the poor.

As stated earlier, the Sub-Committee on Agriculture and Food Security especially through the Sustainable Agriculture and Climate Change Network (SACCN) provide major opportunities for developing synergies and compensations in the sector. Some of the stakeholders and their principal fields of scope are shown in Table 8.

Table 8, Sustainable Agriculture and Climate Change Network (SACCN) Stakeholders

| Institution | Fields of scope |
|-----------------------|---|
| FAO | Implementation of: <ol style="list-style-type: none"> 1. Agro forestry systems 2. Forestry and livestock combined systems 3. Construction of small scale water storage structures to be used in mini irrigation 4. Irrigation systems using renewable energies 5. Suburban vegetable gardens in marginal and high-risk neighborhoods 6. Improved seeds and short cycles. 7. Improvement across the agricultural value chain of basic grains 8. Ultra low pressure drip irrigation systems for water economy 9. Hydro-energy for agricultural activities 10. Access to land and agricultural markets |
| Fundación Vida | <ol style="list-style-type: none"> 1. Focalized in the Trans-boundaries (Honduras-El Salvador) Goascorán river basin, at present new local enterprises are being created in the areas of silviculture, poultry and swine production, applying sustainable agricultural practices. 2. Currently a project is being developed with the objective of elevate the food security issue into the Climate Change National Strategy. 3. Implementation of projects on adaptation to climate change with focus on water and agriculture. 4. Members of an international network of civil society organizations seek to propitiate coherent processes in regard to climate change adaptation worldwide (Adaptation Fund NGO Network). 5. Studies on carbon storage in forests of Honduras 6. Photovoltaic energy projects. 7. Land planning projects 8. Member of the CCITC |
| OXFAM QUEBEC | <ol style="list-style-type: none"> 1. Conducted studies and investigations on small scale agriculture and the impacts of climate change with emphasis on the rural areas and peasant women. 2. Upholds incidence processes in the adaptation to climate change subject with emphasis in the support to small scale farmers and greater investment in small scale agriculture. 3. Member of the campaign "Let's get to the point" ("<i>Vamos al Grano</i>") constituted by diverse farmer organizations and NGO's which demand changes in the agriculture of Honduras. At the regional level the campaign "GROW" ("<i>CRECE</i>") has the climate change theme and its impact on agriculture and food security as a primary axis point. |

| | |
|---|---|
| <p>Ecológica (NGO), Olancho</p> | <p>Intensifying the production and productivity of 101 pilot livestock breeders with Appropriate Valley Agriculture (AVA) and Appropriate Slope Agriculture (ASA) for stockbreeding in the Middle Patuca Valley and in Juticalpa San Francisco de Becerra:</p> <ol style="list-style-type: none"> 1. Well opening for hand pump irrigation of micro plots that, demonstratively, incorporates the water for irrigation into the productive process. Besides the projects is promoting the formation and training processes to generate an awareness of the value of water use (and the value of forests from which water descends). 2. Stimulate adaptation to climate change through agro forestry systems trees that increase the livestock density. Providing information to livestock breeders how to vertically intensify production without extending the surface of extensive pastures, eliminating the harmful practices of slash and burn agriculture. 3. Form the conscience of the need for change, to combat the impacts for climate change. |
| <p>Popol Nah Tun Foundation (Tocoa, Colón)</p> | <ol style="list-style-type: none"> 1. Organic agriculture 2. Crop diversification and integration 3. Soil conservation 4. Farmers training 5. Integrated pest management 6. Solid waste management 7. Installation of micro-irrigation in the plots <p>All processes involve the agro-ecological approach and under a methodology of integrated agro-ecological farms.</p> |
| <p>Ministry of Agriculture and Livestock (SAG, in Spanish)</p> | <ol style="list-style-type: none"> 1. Set up of the Basic Seed Rehabilitation Unit 2. Implementation of water harvesting projects in dry hills 3. Crop diversification in dry hills: banana, vegetables, maize-corn, guava 4. Micro irrigation projects 5. Dissemination of agro-silvopastoral systems 6. Release of fortified maize varieties 7. Implementation of good agricultural practices in domestic consumption and exportation crops |
| <p>Honduran Coffee Institute (IHCAFE, in Spanish)</p> | <p>With the creation of the Agro-Forestry and Environment Program it promotes and encourages holders of forest plantations (incl. coffee farms) to set up areas for recovery for the areas that were deforested by farmers.</p> <p>Work is being made on the base climate for PES on coffee farms associated with plantations. Currently they are developing an adaptation strategy for the coffee sector.</p> |
| <p>Ministry of Foreign Affairs</p> | <p>Since June 2010 the ministry has been part of the Country's Negotiation Group (CNG) and the Country's National Strategy (CNS) assisting also to Tianjin, China to the pre-COP (Conference of the Parties to the United Nations Framework Convention on Climate Change) participating as a delegate in the Adaptability Committee.</p> |
| <p>Water and sewer service (SANAA, in Spanish)</p> | <p>At present work is being done in the certification of the RAS norm in coordination with CATIE, ICADE and Helvetas. It is intended to support farmers to modify not only their farming practices, but their whole life pattern in a protected area. It is also intended to achieve an amicable interaction in protected hills.</p> |
| <p>ANAFAE</p> | <ol style="list-style-type: none"> 1. Promote a model of alternative agriculture (agro ecology) based on the use of local resources (elimination of chemical fertilizers and pesticides) |

| | |
|--|---|
| | <ol style="list-style-type: none"> 2. Saving, management and improvement of native and indigenous seeds 3. Productive diversification with various local chemical resources (trees for fruit, timber, medicine and food production) 4. Training of agro ecological producers 5. Product processing 6. Sustainable livestock (minor species) 7. Development of local markets |
| San Alonso Rodríguez Foundation (F.S.A.R.,) | <ol style="list-style-type: none"> 1. The establishment of plots with organic agriculture is being promoted. 2. Micro-irrigation has been provided to more than 200 producers of Colon. 3. The use of new and improved stoves is being promoted. 4. Farmers are being encouraged to use organic fertilizers. 5. There is a pilot project on constructing houses through the use and local renewable materials (e.g. bamboo, earth and sand). |
| Ministry of Planning and International Cooperation (SEPLAN, in Spanish) | <ol style="list-style-type: none"> 1. Work is being done on regulating Municipal Development Plans focusing on land use planning that may change through climate change. 2. There is a proposal to elaborate livelihood recovery and local economic development through studies or technical folders that seek for productive alternatives considering climate change. 3. As part of the program Economic Development and Livelihood Recovery small shrimp entrepreneurs were financially supported. As a result they can now lend 10% of their infrastructure and thus minimize climate change damages. 4. At present work is being done on regulating Municipal Development Plans focusing on land use planning to include potential risk management changes. |
| International Cooperation Agencies (ACI) | A group of 26 international NGOs that deal with the issue of food security has been formed to coordinate the activities between different agencies and to provide coordinated support to local NGO partners. |
| Climate Change Foundation | <ol style="list-style-type: none"> 1. Providing training and sensitization on the issue of climate change to agro-export companies. 2. The College of Civil Engineers of Honduras is assessing the country's infrastructure as part of its climate change adaptation project. |
| Fundación CREDIA | An independent consultancy is trying to bridge scientific and local knowledge of climate change within the Honduran Caribbean Biological Corridor. |
| Natural Resources and Environment Secretariat | The National Focal Point for the UNFCCC and as National Designated Authority (DNA) of the Kyoto Protocol, through the National Unit of Climate Change (which was subsequently lifted to the condition of Directorship). It is the head of the Climate Change Inter-Institutional Committee (CCIC) and facilitates the functioning of the sub-Committees. |

Source: Sustainable Agriculture and Climate Change Network

2.3. Aspects related to Mitigation

While the NCCS proposes a number of climate change adaptation measures, there are also some aspects related to mitigation. For example, it mentions the reduction and limitation

of GHG emissions, particularly in the field of agriculture and food security. Further the NCCS promotes renewable energy and energy efficiency, taking advantage of agricultural methane production in biomass energy initiatives. Besides, the removal of CO₂ through the strengthening of sinks in the Land Use, Land Use Change and Forestry (LULUCF) sector is promoted. Furthermore the strategy emphasizes to strengthen “synergies between mitigation and adaptation measures and to allow a better adjustment of the socio-natural systems facing the impacts of climate change and prevent adverse effects of response measures.”¹² Table 9 illustrates some more examples of mitigation objectives.

Table 9, Strategic Objectives and lines of action for Mitigation

| NCCS Sector– Soils, Agriculture and Food Security | |
|--|--|
| Strategic Objectives for Mitigation | Main Guidelines |
| 16. Reduce and limit GHG emissions, to voluntarily contribute to mitigating climate change and strengthen collateral socio-economic and environmental processes. | 16.1 Promote the reduction of CO ₂ emissions coming from fossil fuels and the reduction of other GB associated (CH ₄ , NO _x and SF ₆) by promoting and adopting renewable sources of energy, energy conservation and energy efficiency. |
| | 16.2 Promote the reduction of methane emissions (CH ₄) resulting from waste and the agricultural sector by using it for energetic initiatives. |
| | 16.3 Promote the reduction of nitrous oxide (N ₂ O) originating from the agricultural sector. |
| | 16.4 Facilitate initiatives oriented towards the removal of carbon dioxide (CO ₂) from the atmosphere with actions that strengthen the absorption drains in the LULUCF sector. |
| | 16.5 Promote the reduction of carbon dioxide (CO ₂) from the transport sector. |
| 17. Strengthen the synergy between mitigation and adaptation measures to allow a better adjustment of the socio-natural systems to the impacts of climate change and prevent the adverse effects of response measures. | 17-1 Improve biodiversity, the provisioning of water, risk reduction strategies and soil conservation through the conservation of ecosystems, the restoration of degraded areas as well as through the reduction of deforestation and degradation. |

¹² NCCS, Ibid, page27

| | |
|--|--|
| | 17.2 Prioritize initiatives that contribute to the reduction of GHG emissions and that at the same time reduce the contamination levels with substances, which may harm human health and the ecosystems. |
|--|--|

Source: NCCS, 2010

Nevertheless, the NCCS does not point out that to strengthen synergy effects there is a strong need of applying an ecosystem-based approach and change the country's land use planning and management. In other words, that means that during the (land-use) planning process the government has not taken the biophysical characteristics of the different regions and its linkages to the local population into account. Unfortunately, this has also not been facilitated through key stakeholders involved in the strategy implementation.

2.4. Aspects related to Adaptation

In relation to adaptation, the NCCS mainly focuses on “improving the resilience of crops and pastures to thermal and water stress”¹³. Further, its objective is to “prevent erosion, loss of productivity and the eventual desertification of soils”¹⁴ as well as to improve the nutritional quality in regard to the population's food security needs. Table 10 points out some more strategic objectives. It is our view that practical measures and guidelines should be included as an integral part of a multi-sectorial land use plan framework, which has to be discussed with all key actors involved in the NCCS.

Table 10, Strategic Objectives and lines of action for Adaptation

| NCCS Sector – Soils, Agriculture and Food Security | |
|--|---|
| Strategic Objectives for Adaptation | Main worklines |
| 4. Support farmers through facilitating climate change adaptation practices, improve crop and pastures resilience to thermal and water stress, and prevent or reduce plague incidence and diseases caused by climate change. | 4.1 Promote the adoption of crops that are more tolerant to climate changes. |
| | 4.2 Promote the adoption of systems, technologies and good sustainable agricultural practices, incorporating improvements in productivity and efficiency in agricultural systems. |

¹³ NCCS, Ibid

¹⁴ NCCS, Ibid, page 26



| | |
|--|--|
| | 4.3 Promote the adoption and implementation of sustainable practices and integrated practices for handling plagues, diseases and bushes in agricultural systems. |
| 5. Avoid erosion, loss of productivity and eventual desertification of soils, considering the effects of climate change. | 5.1 Promote the restoration and integrated management of agricultural soils to preserve their structure and fertility, especially on hillside farming. |
| 6. Preserve and improve the nutritional quality and contribute to food security of the population under climate change conditions. | 6.1 Promote measures that help to avoid the increase of nutritional deficits of the population, making emphasis on children, pregnant women and older persons. |

Source: NCCS, 2010

III. Identification of Synergies and Potential Trade offs

As noted earlier, the majority of public and private stakeholders that were interviewed in the framework of this study agree that the CCITC constitutes a fundamental instrument for the generation synergies to integrally approach the socio-environmental vulnerability reduction and emissions limitation processes. However, the agreements and political guidelines that arise from this technical institution are not yet able to permeate towards the high level decision makers, nor have come down to the territorial development plans (regional and local).

An important step in the path of concretizing NCCS measures is the integration of various sub-committees related to the different sectors included in the strategy. Among them is the Sub Committee Agriculture and Food Security, whose members have been consulted by different ways (surveys, workshops, focal groups) in the framework of this case study as well. This Sub Committee is led by the Agriculture and Livestock Secretariat.

On the other hand there are local experiences of basic synergetic actions in the country. For instance, there are two or more actors from NGOs and international cooperation agents (e.g. OXFAM, Fundación Vida, CARE, FAO) that were active in the south and western regions of the country. A complete record of all sustainable agricultural practices that were achieved is being prepared by the FAO and could be attached to this case study within the next months.

There is also a set of disperse actions, which were developed prior to the NCCS. Although they mostly comply with the strategies objectives they are not neither recorded



(registered) nor accounted as official support of its compliance in the Framework of National Communications.

IV. Barriers and Potentials to utilize the synergies and promote the required actions

The interrelation of sectorial stakeholders (national government, local governments, NGOs, cooperation agencies, private enterprises and local communities) that are involved in food security actions and processes shows several weaknesses in coordination. Particularly the head institutions are facing difficulties to take advantage of the synergies that are produced through the various programs and projects in the country.

Our interviews with stakeholders also revealed the weakness of the sectorial alignment to comply with the objectives and goals of including food security as a determining factor in programs and projects. Moreover, stakeholders think that the relation between food security and the need for a territorially approach (not an institutional one) to climate change ranges from low to very low.

Below there are more findings that were collected during the development of this study.

4.1. Institutional Barriers

Based on consultations, interviews and surveys carried out for this study, the following institutional barriers have been identified:

- The governmental structure is not yet ready to approach the topic. Unfortunately there is only limited institutional leadership on environmental issues, which sets back the construction of a common vision and platform.
- The head institutions and those of interest have not yet incorporated the NCCS and its Action Plan to an acceptable level. Many efforts are carried out in an isolated and uncommunicative manner reducing the impact of actions.
- Many key stakeholder and institutions have not adequately integrated the issue of climate change adaptation into their strategic and operational plans. Moreover, there is a clear indifference of some institutions to adopt the topic.
- Some stakeholder claim that the NCCS was not developed in a participatory process, transaction or consensus. Naturally this reduces the level of empowerment and recognition.



4.2. Knowledge Barriers

Among the knowledge barriers regarding this issue, the following have been identified as important:

- There is a lack of access to accurate information on the impacts of climate change, particularly on agriculture and food security by the public and the institutional personnel. This limits the knowledge of the population as well as of private and public institutions.
- There is a lack of training of members of CCITC key institutions (internal) on climate change. Besides, there is an only scarce institutional training and education action to vulnerable populations (external).
- There is a lack of a standardized means to re-collect and disseminate information within each institution, which would guarantee the systematization, management and dissemination of acquired knowledge.
- Local specialists mainly work for international cooperation projects and programs or in private efforts, reducing the capacity of response at the government level.
- Universities are just starting to create formal processes for educating specialists on climate change adaptation and food security.
- Interviewees highlight the technical difficulties of developing program and project proposals to access funds for adaptation to climate change.
- Language is also a limiting factor when it comes to formulating proposals. Often potential is the language barrier it limits the access to international funds.

4.3. Financial Barriers

The main barrier identified is the lack of financial sources for the generation of programs and project proposals for accessing funds for climate change adaptation.

- There is little institutional support or accompaniment for managing and acquiring financial resources in the field of climate change adaptation. Besides, accessing funds for climate change adaptation programs or projects takes long time, which may difficult the process of rising funds.



- There are not financial opportunities from donors on financing long-term research projects.
- While the majority of current financial sources are focused on mitigation actions, only some are on adaptation and even less focus on the integral approach. Moreover, there are inadequate project interventions (fragmented, not-aligned, and anarchic), which increase the cost of adaptation and mitigation.

4.4. Socio-Environmental Barriers

Among the socio-economic barriers that were identifies, are:

- Cultural barrier in the application of new production techniques by local farmers. Often, those new practices and procedures are not near to cultural or traditional knowledge and are therefore difficult to apply, maintain and monitor.
- There is a lack of technical assistance and follow up on actions. Moreover, it is considered that there is a limited understanding from social and institutional stakeholders on the country's commitment to carry out mitigation and adaptation measures.
- Many theoretical-scientific concepts are not fully understood by social actors. Often, the message has moved to a linguistic and technical level which is very difficult to understand by citizens.

V. Potential Approaches for the use of synergies

5.1. Institutional Approach in Honduras

At the national level there are two institutions in charge of climate change in general as well as agricultural and food security issues in particular: i) the Climate Change Inter-institutional Committee (CCIC) and ii) its Sub-Committee on Agriculture and Food Security, specially trough the Sustainable Agriculture and Climate Change Network (SACCN). Most of their work is being done at the national level, promoting dialogue, coordination, research and dissemination of information, as well as fund raising.



On the other hand, in the context of the “landing” process of the Country Vision and National Plan Law, CDR's have a wide range of negotiation platforms and are involved in the regional planning and budgeting process, one of the topics is agriculture and food security. It seems the CDR's could become an institutional shelf for national, international as well as public and private stakeholder to introduce, discuss and approve CCD initiatives on the regional level.

The CDR could become a hinge: on one hand bringing together and trying to harness the local (community) with the national (political) level, and on the other hand articulating, the issues of agriculture and food security through negotiation platforms.

In the meantime the Adaptation Fund Project and the Subcommittee on Agriculture and Food Security are starting to insert climate change and vulnerability issues in the regional and local planning processes. This means that the goals and practices of the Subcommittee on Agriculture and Food Security could be regionalized and integrated into the CDR operational structure (into its basic sectorial units and into the regional negotiation platforms). This would allow the lobby process to advance and simultaneously empower decision makers on the regional level.

In order to adequately address climate change in a sustainable manner the Subcommittee and CCITC require a harmonization initiative that brings together at least:

1. The Country Vision and National Plan Law
2. The National Climate Change Strategy and its Action Plan
3. The National Food Security and Nutrition Strategy
4. The Land Use Planning Law
5. The National Forestry Law
6. The Water and Sanitation Framework Law

To succeed all Subcommittee stakeholder (national and international) need to be involved from the beginning on. Moreover, experts and officers that are directly related with CCITC and its legal and strategy frameworks should be participating as well.

Also, in order to find a national path that combines the basic pending tasks of development with the CCD tasks, the government needs to continue its sectorial strategic actions and at the same time develop a vision that strengthens local, regional and national governance.



As Honduras is a developing country the stakeholder governance platform needs to be complex and creative. As mentioned earlier, current synergies do not go beyond the technical scenarios of the Subcommittee and the CCITC. This means that in order to go further, the social and political platform has to focus its options on territorial (regional and local) actions, where successful synergies can be achieved. As this requires the CDR's and its sectorial dialogue platforms to get involved it should be considered as a sustainable development and transversal issue.

This knowledge, institutional, legal and operational suggestions appear to be an affordable option for integrating agricultural and food security measures into the NCCS and its action plan.

5.2. How to exceed the reduction of funds?

In addition to the shortages of funding for environmental issues in Honduras, the increasing trim places climate change matters in a very challenging position, particularly in terms of capacity building in the field of climate governance. Therefore it is urgent and necessary to integrate regional development plans and budgets into existing or planned programs and projects. Further, to harmonize participating stakeholder in the closest stage of a climate compatible development path, a governance strengthening initiative should be included. In this context the processes developed by national and international NGOs and other institutions should be of particular interest. Most of them are committed to management research, projects, planning and the implementation of sustainable agricultural practices that are compatible to climate change, looking at the most vulnerable regions of the country (see Table 8).

In order to start consolidating socio-political platforms for managing sustainable development that do not depend on exogenous cooperation, donation or investment it is important to mobilize endogenous and self owned capital of the country's regions, particularly focusing on social and institutional capacities, including physical and natural capital as well as traditional practices that last in rural, agrarian and forestall communities.

Further, it is important to stress that the Country's Vision and Nation's Plan Law proposed the rule that any process or project that builds on any kind of national or international funding has to go through a regional discussion and approving process. This means that the Regional Development Plan and its budget will be the only one to be approved by the



Finance Ministry and National Congress. This is an opportunity to advance the implementation of CCD approach in the country.

There is also the need to have a trust of financial resources, which operate as “seed capital” for the development of fast start projects to motivate institutional, political and social actors to participate.

Furthermore the CDR's, the sectorial discussion platforms (i.e. agriculture and food security) and its Regional Development Plan (regional budget) are the expediting tools for CCD initiatives that are to be considered by decision makers. The Adaptation Fund Project is already supporting the strengthening of the CDRs on climate change through the identification of adaptation and mitigation measures in four regions of the country, as well as creating institution capacities as well at the CDR level.

VI. Conclusions

It is a fact that the country is advancing on dealing with climate change. SERNA and the CCIC have established National Climate Change Strategy that covers the most important issues regarding adaptation and mitigation, being agriculture and food security one of them. As well, they have created a valuable participatory framework that is a solid advance in terms of planning and establishing dialogue platforms to deal with climate change, and represents a unique way to confront this challenge. As well is a clear basement to build up new strategies that the country could take.

Not ignoring what has been said above, looking at sustainable development issues, Honduras and its institutions have a number of basic development tasks pending. In order to face country's social and environmental vulnerability as a whole, it is basic to advance national strategies for sustainable development. There is a missing mechanism that can close the gap between the enormous potential of the country and the national development strategies and policies, which often do not apply a multi-level and sectorial approach.

It seems that if the country wants to advance economically, socially and politically climate compatible development issues have to be faced as a unique and integral duty by all stakeholders. Hereby, the CCIC stakeholders that are participating in discussion platforms or subcommittees should act on their territorial level, in their development sector and on their own mission, jointly sharing the same climate compatible development vision.



Considering the aspect of knowledge, there is a need for better knowledge sharing and empowerment on climate change issues. Although members of the CCIC and the Sub-Committee on Agriculture and Food Security (specially through SACNN) are actively working on the topic, they need more national information related of the climate change impacts and possible responses from each field or level of duty. Besides, it would be advantageous to train them to better communicate the issue to different stakeholder. Research and capacity building play an important role in the implementation of the NCCS and to report best practices, especially for the agricultural sector and food security.

There is also the need for more accurate variability scenarios and models at the regional and local level, meaning that the country needs to boost its capacity to generate more hydro-meteorological data.

There are several programs and activities in the country that are related to the objectives of the NCCS. Yet, many of them are not identified or reported as part of the strategy tasks because of limited knowledge and engagement among the stakeholder. CCITC needs to involve more stakeholders from the education and training sector, since education in all its approaches and levels is essential to implement the NCCS, and to fulfill article 6 of the UNFCCC.

Finally, we suggest the following two actors to become a suitable “gatekeeper” for potential climate change initiatives: (1) the Technical Secretariat for Planning and International Cooperation (SEPLAN), which is responsible for attracting international funding, and (2) the Natural Resources and Environment Secretariat (SERNA), which is politically and technically in charge of dealing with climate change. As SEPLAN is also responsible for implementing the Nation’s Plan and “land it” at the territorial level, a cooperation with SERNA could be beneficial in more than one way. In this scenario the Nation’s Plan territorial structure and the members of CCIC and Sub-Committee on Agriculture and Food Security would become the operational framework for the CCD actions. Further, the CDR’s would become the governance framework and the Regional Development Plans would become its agenda. Lastly, the sectorial discussion platform (*mesa temática*, in spanish) on agriculture and food security on each region should become the “local gatekeeper” as this would guarantee that the CCD actions and measures from the agricultural and food security sector are included and executed in the framework of the territorial development plans. These “agriculture and food security discussion platform” would become a local branch of the CCITC at each region.

The country has created an advantageous structure for territorial planning and for dealing with climate change. The barriers mentioned above can be overcome with these



instruments and mainly with the real interest expressed by the various participants in the study, to work on adaptation and mitigation. The internal coordination and international cooperation will be also two vital tools to make this happen.



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VIII. Annexes

Annex 1, Stakeholders and first conclusions of the survey carried out on this research project.

As part of the analysis process of the sector stakeholders, a series of interviews and surveys (polls) have been made, in order to identify the barriers and potentials, faced up by management process of food security and adaptation to the climate change.

| No. | Institution | Position | Functionary |
|-----|-------------|--|------------------|
| 1 | SERNA | Climate Change National Directorate | Karen Rico |
| 2 | FAO | Climate Change Specialist | Mirza Castro |
| 3 | SEPLAN | Land Use Planning Directorate | Jorge Quiñonez |
| 4 | UNAH | Vice-presidency for International relations | Lourdes Zelaya |
| 5 | PNUD | Risk Management Program | Noelia Jover |
| 6 | AF Project | National Coordinator | Romeo Bernal |
| 7 | SAG | Sustainable Agriculture and Climate Change Network | Mireya de Mencia |
| 8 | FCC | Executive Director | Suyapa Zelaya |
| 9 | IICA | Climate Change Specialist | Antonio Silva |
| 10 | SDP-UTSAN | Climate Change Specialist | Roberto Caceres |
| 11 | CONGESA | General manager | Manuel Rey |
| 12 | SRE | Special Issues Directorate | Consuelo Mass |

These are the main results of this consultation:

Question No. 1. “How do you consider the current status of implementation of the national strategy for climate change?”

Fifty percent (50%) of the interviewees considered the implementation status of the National Climate Change Strategy-NCCS as positive. 33.34% considered it as satisfactory and 16.66% as null- At the level of comments of relevance. It is important to highlight that SERNA, head entity for the implementation of the National Climate Change Strategy, also has defined the implementation status as poor. The specific comment is: *“An empowerment of the national institutions, whether public or private, related to issues on climate change is not perceived. These include: agriculture – food security – soils, especially public institutions should be responsible for setting implementation guidelines, and none of the others, besides SERNA, have adopted adaptation and/or mitigation measures, identified in the NCCS in the sector mentioned above. It is also worth to*



*highlight that, even though there are 6 project profiles based in selected priority measures by the CCITC, not one of them has been financed.*¹⁵

Question No. 2. “What level of importance and implementation do the strategic axis and action lines related with Agriculture and Climate change, have in the current status of implementation of the strategy?”

Sixty six percent (66%) of the actors interviewed considered the level of importance that the strategic axis and action lines related with agriculture and climate change have as positive. 16% of the actors considered it as satisfactory, and once again the rector entity for implementing environmental policies and natural resources conservation, SERNA, define the relation between agriculture and adaptation to climate change as poor. The statement to highlight in this question is the positive perception that the Food and Agriculture Organization of the United Nations (FAO) has: *“The importance of implementing the strategic axis of agriculture and food security within the NCCS, should be priority for the country, considering the number of vulnerable persons and communities, especially due to availability and access to food, in situations of climate variability, which occurs due to extreme climatic events.”*¹⁶

Question No. 3. “The institution's opinion on the level of empowerment and commitment of the central government, in relation to the National Climate Change Strategy implementation?”

One of the most interesting questions for identifying the existing barriers in the implementation of the National Strategy of Climate Change is the perception that the institutions have on the level of empowerment and the commitment of the central government. Fifty percent (50%) of the institutions define the level of commitment as positive, but the other 50% are of the opinion that their level of commitment is null. The comment to highlight here is the one made by the Natural Resources and Environment Secretariat (SERNA), which defines the level of empowerment and characterizes as poor: *“There is a conscience and interest on the issue of climate change from the rest of the governmental institutions, but there is still a lack of coordination and consensus on how to achieve the effective implementation of the measures, without having the roles and responsibilities (duties) of each institution overlapping, and this gets worse when some institutions seek prominence, leading to an unnecessary and long debate on who and what*

¹⁵ K. Rico, Climate Change Directorate, SERNA, 2012.

¹⁶ M. Castro, Climate Change Specialist, FAO, 2012.



sector should lead (governmental or non- governmental) taking attention from the objective, which is implementing the NCCS.”

Question No. 4. “Do you consider that, the objectives and action guidelines of your institution relate with the operational process of the axis and strategic guidelines of agriculture and food security in the framework of the NCCS?”

Fifty percent (50%) of the actors consider that the objectives and lines of action of their institution are related with the operation of the axis and strategic lines of agriculture and food security in the framework of the NCCS, while 33.34% decided not to answer and 16.66% define that their institutions do not have any relation with the NCCS. Once again, the position from SERNA can be highlighted: *“SERNA as Focal Point at the UNFCCC through the National Directorate of Climate Change (NDCC), is responsible for promoting adaptation and mitigation actions to climate change, with the purpose of reducing the vulnerability of the country. Also, as responsible for overseeing compliance of the commitments assumed by Honduras at the Convention, the institution seeks so that the country makes progress in the implementation of adaptation and mitigation measures in the various sectors, including agriculture, and shall report these experiences at the Convention.”*¹⁷

Question No. 5. “Main barriers identified by your institution for accessing resources on the climate and adaptation funds, particularly in the framework of their objectives and action guidelines”.

The following barriers were identified by the consultation process:

- 1) Lack of technical and professional capacities to identify suitable adaptation/mitigation programs and projects.
- 2) Lack of advisory for development countries how to present (submit) project proposals.
- 3) Lack of capacities and organization in order to develop proposals according to the requirements of existing funds.
- 4) No knowledge on the availability of outlined funds and the procedures how to access them.
- 5) Language is an important barrier in the preparation of proposals for accessing these funds.

¹⁷ K. Rico, Climate Change Directorate, SERNA, 2012.

Question No. 6. “In what processes of generation of synergies and compensations your institution participates or aims to participate with relation to the NCCS?”

| | In what processes of generation of synergies and compensation participates or projects to participate your institution with relation to the NCCS? |
|--|---|
| PROJEC FUND FOR ADAPTATION TO CLIMATE CHANGE(AF) | <ol style="list-style-type: none"> 1. Water Fund for Tegucigalpa with TNC, CATIE, “Frente al Agua”, SANAA and ICF. 2. PROCORREDOR , MAREA and PROPARQUE in activities for adaptation to Climate Change |
| NATURAL RESOURCES AND ENVIRONMENT SECRETARIAT (SERNA) | <ol style="list-style-type: none"> 1. Meetings with the Climate Change Inter-institutional Technical Committee for (CCITC) at the political level , as well as at the technical level have continued. This to assure its effective operation as discussion platform in the issue. 2. Additionally to the already established sub committees under the CCITC (REDD, Fund for Adaptation and Air Quality) there has been work done on the creation of sub-committee under the sector soil – agriculture – food security. 3. Working in the preparation of the final document of the Action Plan for the NCCS, for the end of this year, and an Action Plan for Adaptation in the Water Resources Sector. 4. Work was done on the review of the project: National Law for Climate Change. |
| SECRETARIAT OF FOREIGN AFFAIRS | <ol style="list-style-type: none"> 1. The Secretariat is the liaison with the different institutions which are part of the National Country Group on the issue of Climatic Change. 2. Participation in the different work groups on the implementation of the NCCS. 2. Submission of documentation to the International Organizations working on Climate Change. |
| NATIONAL AUTONOMOUS UNIVERSITY OF HONDURAS | <ol style="list-style-type: none"> 1. Mitigation 2. Adaptation 3. Agricultural sector for promoting Food Security. |
| FOUNDATION FOR INITIATIVES FOR CLIMATE CHANGE IN HONDURAS (FOUNDATION CDM OF HONDURAS) | <ol style="list-style-type: none"> 1. We do not feel part of such process, since we have never been invited to the socialization process, nor to provide any opinion / comment to the draft document of such strategy. 2. We consider the result of such strategy was the product of a consultancy, in which various persons have expressed they participated (attended) certain meeting, that they went to the presentation of an “X” document, but that it was not the product of a consensus participation from down to up. 3. We have always expressed that we could be at the service (orders) of SERNA and National Directorate for Climate Change, as national and international trainers, former negotiators of the Kyoto Protocol of the UNFCCC and Observer NGO at the UNFCCC but we have had no response on this. |
| FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS (FAO). | <ol style="list-style-type: none"> 1. In the Agricultural and Food Security issue. 2. Risk Management 3. Forests and Water Resources. FAO has important studies and methodologies approved, especially in the issue of GEI quantification and adaptation measures proposed. |



It is apparent that there is a low level of empowerment of the strategy by some stakeholders. The comment of greater relevance which reflects the position of some interviewees was made by the Foundation for Initiatives for the Climate Change: *“We consider the result of such strategy was the product of a consultancy, in which certain persons have expressed they participated in some (or certain) meeting, that they attended the presentation of an “X” document, but that it was not the result of a participatory bottom up consensus”*.¹⁸

Question No. 7. “Does your institution receive some financing for the development of processes and / or actions related with the agricultural and food security issues of the NCCS.

The result is evident on the answers, that 66% of the actors indicate they DO NOT receive any type of financing for agricultural and food security programs, projects and actions, with relation to mitigation or adaptation to the climate change. Only 34% of the actors indicate that they have received certain type of financing which is specified in the following answers:

- Adaptation to Climate Change Project: The Adaptation Fund Project will support the national meteorological network.
- FAO: Since the Strategy has been only recently implemented (2010) and FAO has been working for a long time on this issue, some successful experiences of the agricultural, forestry and wildlife sector can be used, and provide them with the approach of mitigation and adaptation to climate change. In order to report and adapt them at the national level in the framework of the NCCS.

Question No. 8 “Does your institution concentrate actions in: (1) Mitigation (2) Adaptation or in (3) their integral approach.

Eighty-four percent (84%) of the institutions define that the institutional approach for the development of adaptation to climate change processes and actions, should be integral, considering the multi-dimension of the approach (focus), only 16% define that their intervention is at the adaptation level only. It is worth highlighting the statement made by the National Autonomous University of Honduras (UNAH): *“Work is being done with the inter-governmental program for cooperation climate change, opportunities and challenges*

¹⁸¹⁸ S. Zelaya, General Manager, Foundation for Climate Change Initiatives, 2012.



*of agriculture, to strengthen technical and scientific capacities. We also contribute to the decision making and the design of public policies on the basis of research and formation processes. Currently, work is being made on the project to develop a Master's Degree on Climate Change.*¹⁹

¹⁹ L. Zelaya, International Relations, National University of Honduras, 2012.

Annex 2, Induction and consultation workshops carried out during this research project

Besides the surveys, two workshops and other interviews were carried out during this process. A list of participants in those workshops is presented below.

Workshop 1
Breakfast with decision makers and national Stakeholders on Climate Change issues:
Adaptation Fund Nongovernmental Organization Network and
CDKN-project “Agriculture, Food Security and Climate Compatible Development”
Honduras case Study
November 22 2011

| N. | Institution | Functionary |
|----|------------------------------|----------------------|
| 1 | FAO-HN | Mirza O. Castro |
| 2 | Fundación Vida | Luis M. Maier |
| 3 | Fundación Vida | Jorge Anariba |
| 4 | Fundacion Vida | Isaac Ferrera |
| 5 | PNUD | Juan Ferrando |
| 6 | Proyecto Fondo de Adaptación | Romeo Bernal |
| 7 | SDP/UTSAN | Roberto Cáceres F. |
| 8 | SDP/UTSAN | Carlos Torres |
| 9 | SEFIN | Lourdes Gonzales |
| 10 | SEFIN | Leonardo José Matute |
| 11 | SEPLAN | Ana Cristina Galeano |
| 12 | SERNA/DNCC | Manuel López Luna |

Image 1: First workshop which was held on November 2011.





Workshop 2
Socialization and Consulting
CDKN-project “Agriculture, Food Security and Climate Compatible Development”
Honduras Case Study
March 16 2012

| N. | Institution | Name | Contact |
|----|----------------|-------------------------|--|
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| 5 | DGRH/SAG | Mario Ochoa | marios_8a@yahoo.es |
| 6 | DNCC/SERNA | Sara M. Santos | cambioclimatico.hon@gmail.com |
| 7 | DNCC/SERNA | Manuel López Luna | cambioclimatico.hon@gmail.com |
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| 21 | SEFIN/Climate | Leonardo Matute | leomatute@yahoo.com |
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| 23 | SER | Carlos Romero | romero.carlos339@gmail.com |
| 24 | UNAH | Lourdes Amaya | alamacf@yahoo.com |
| 25 | SDP/UTSAN | Roberto Cáceres | rocabril@yahoo.com |

Image 2: Second workshop which was held on March 2012.



Image 3: Work groups answering a questionnaire regarding food security and climate change



Annex 3, Action Plan Sectoral Measures

| NCCS Sectors | Measures Identified in the National Workshop | Activities for the Implementation of the Measure (includes activities identified in the National Workshop) | Implementation Period | | | | | Responsible |
|--------------------------------------|--|--|-----------------------|------|------|------|------|---|
| | | | 2011 | 2012 | 2013 | 2014 | 2015 | |
| Agriculture, soils and food security | 1.-Selection and/or development of varieties and species of crops resistant to droughts, floods and higher temperatures, and rapid cycles. | Identification of physical and operational conditions of the research centers. | 1 | | | | | SAG |
| | | Establishment and reactivation of the research centers. | 1 | | | | | SAG, Private companies, National Academic Centers, (Universities, FHIA) |
| | | Identification of the research lines associated with droughts and floods. | | 1 | | | | SAG, Private companies, National Academic Centers, (Universities, FHIA) |
| | | Research of landraces and improved adapted to climate changes. | | | 1 | | | SAG, Private companies, National Academic Centers, (Universities, FHIA) |
| | | Certification of the short cycle species that better adapt to climate change. | | | | 1 | | SAG, Private companies, National Academic Centers, (Universities, FHIA) |
| | | Diffusion process of the certified species and technical assistance for the adoption of these species by the participating population. | | | | 1 | 1 | SAG, Private companies, National Academic Centers, (Universities, FHIA) |
| | 2.-Substitution of unsustainable agricultural practices by the use of the Agro-Forestry System (Quesungual and others), Organic Agriculture and agro-ecological systems. | National forum for discussions on the use of sustainable agricultural systems for adapting to climate change and reduce emissions of Gases with Greenhouse Effect. | 1 | | | | | All the actors of the sector |
| | | Publication and diffusion of the sustainable agricultural systems identified in the National Forum. | 1 | | | | | SAG |

| Sectores de la NCCS | Medidas Identificadas en el Taller Nacional | Actividades para la implementar la medida (incluye actividades identificadas en el Taller Nacional) | Período de ejecución | | | | | Responsables |
|--------------------------------------|--|--|----------------------|------|------|------|------|---|
| | | | 2011 | 2012 | 2013 | 2014 | 2015 | |
| Agriculture, soils and food security | 2.- Substitution of unsustainable agricultural practices by the use of the Agro-Forestry System (Quessungual and others), Organic Agriculture and agro-ecological systems. | Institutionalize the agro-productive systems within the technological bonus of the Secretariat of Agriculture and Farming (SAG, acronym in Spanish). | | 1 | | | | SAG |
| | | Financial procedures to strengthen capacities and implement the measure. | | 1 | | | | SAG, SERNA, ICF |
| | | Capacity building for technicians and producers affected by climate change. | | | 1 | | | SAG, SERNA, ICF |
| | | Diffusion of good practices in zones (areas) identified as high impact to droughts and floods. | | | 1 | 1 | 1 | Inter-Institutional Technical Committee for Climate Change (CCITC, acronym in Spanish). |
| | 3.- Irrigation, managing humidity availability in soils and watershed management of sheds providing water. | Analysis of the management conditions and the operational capacities of the National Irrigation and Drainages Directorate (DGRD, acronym in Spanish) of the SAG. | 1 | | | | | SAG |
| | | Strengthening of the DGRD | 1 | | | | | SEFIN |
| | | Updating the situational assessment of irrigation and drainages. | 1 | | | | | SAG |
| | | Preparation of an Action Plan for Irrigation and Drainages related with Climate Change. | | 1 | | | | Inter-Institutional Technical Committee for Climate Change (CCITC, acronym in Spanish). |
| | | Procedures for additional financial resources for the implementation of the Action Plan for Irrigation and Drainages. | | 1 | | | | Inter-Institutional Technical Committee for Climate Change (CCITC, acronym in Spanish). |
| | | Implementation of the Action Plan for Irrigation and Drainages related with Climate Change. | | | 1 | 1 | 1 | SAG |

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