

Submission by El Salvador on adaptation approaches, strategies, practices and technologies for adaptation

Mandate

1. The SBSTA invited Parties and relevant organizations to provide structured submissions, by 15 May 2007, on adaptation approaches, strategies, practices and technologies for adaptation at the regional, national and local levels in different sectors, as well as on experiences, needs and concerns. It requested the secretariat to develop the structure for these submissions and to disseminate it to Parties by 20 January 2007. It further requested the secretariat to compile these submissions into a miscellaneous document to be made available to the SBSTA by its twenty-seventh session (FCCC/SBSTA/2006/L.26, paragraph 44).

Framework

2. One of the results of the GEF-regional project, named *Strengthening capacities for Stage II Adaptation to Climate Change in Central America, México and Cuba*¹, was, in the case of El Salvador, the development of a local adaptation strategy, based on vulnerability assessments and socio-economic and environmental scenarios for current and future climate conditions.
3. The referred adaptation strategy, including 7 actions lines for adaptation and 28 adaptation measures, is developed in the research paper named *Vulnerability and Adaptation to Climate Change of rural people living in the central coastal plain of El Salvador*, whose purpose was to explore more appropriate conceptual frameworks and methodologies to assess current and future climate vulnerability. The previous, to facilitate the incorporation of adaptation into local endogenous development processes, including actions that influence the policy and decision-making process at the national and municipal level.
4. The selected territory, whose adaptation strategy was developed, is located in the Salvadoran Central Coastal Plain, which is strongly influenced by several watersheds located in the neighbouring volcanic foothills. The local natural landscapes include: bays and estuaries, agricultural alluvial valleys and volcanic massifs. An important river system goes through the territory, including five watersheds and the *Lempa River*² delta. Most of the local people, who are beneficiaries of the adaptation strategy, are settled in the coastal plain and their livelihoods are mainly based on local natural resources. The territory includes the most important aquifers of the country, and local natural systems provide valuable environmental functions, such as: drinking water, energy, food security (agriculture, livestock, aquiculture, fisheries, traditional hunting, shells capture), forestry and tourism, among others.

Methodological Approach

5. The methodology to develop the aforementioned adaptation strategy in the selected territory (further referred to as territory) includes the following steps: a) identification of the human system to be assessed and whose adaptation strategy is to be developed, b) integrated assessment of current climate vulnerability, considering baseline socioeconomic and climate scenarios, c) integrated assessment of future climate vulnerability including local projected socioeconomic dynamics and climate change, and

¹ PS 14290-RLA/01/G31 (July 2003-April 2007)

² The largest watershed in the Salvadoran country, covering about 50% of the national territory. It is a tri-national watershed shared with Guatemala and Honduras.

- d) development of an adaptation strategy to address the projected local climate change and to be considered and incorporated within the existing local development plans, and eventually at the national or municipal level.
6. Vulnerability of a natural or human system to climate exposure is defined as a dependant variable of three first order-explicative variables, namely: *climate exposure* (local climate threats), *resilience*³ and *adaptive capacity*⁴. Second order-variables, associated to the first order-explicative variables are: flexibility, mechanisms of control and structural coupling, associated to *resilience*; potential of resources, experimentation and innovation and complexity of organization, associated to *adaptive capacity*. Current and projected conditions of the territory were determined, through the setting of a 69-indicator system linked to the first and second order variables, whose values were calculated by 2004 and 2015.
 7. The integrated assessment incorporates natural and social⁵ explicative factors that produce or increase current and future climate vulnerability. The previous facilitates identification and prioritization of adaptation measures and strategies that prevent or minimize impacts related to climate variability and change. The increase of local *resilience* and *adaptive capacity* constitutes the basis for the local adaptation strategy.

Adaptation Strategy & Measures

8. In order to develop the local adaptation strategy to face climate change, its nature and scope were defined, including the geographical, temporal and thematic scope. As well, the principles, beneficiaries, responsible for implementation and the outline of the monitoring and evaluation system were defined. Three specific objectives, linked to the socio-cultural, natural and economic local environments respectively, were identified, to which 7 lines of action for adaptation and 28 adaptation measures were associated and prioritized, based on categorized values of the whole 69-indicator system by 2015.
9. Local rural families would be the direct beneficiaries of the adaptation strategy, and their social local organizations would be directly responsible for promoting the strategy and to follow up appropriate implementation and further replication. The strategy looks for articulating socio-cultural, natural and economic local environments. For that, it incorporates in an integrated manner, adaptation into the local plans and initiatives.
10. The strategy was developed by the research team⁶, together with local actors, who actively participated in identifying, prioritizing, structuring and validating the set of adaptation measures. This process was built on the results of the integrated assessment of current and future vulnerability. Adaptation measures were selected through the identification and prioritization of the main problems associated to the various dimensions for each local environment. Lines of action for adaptation and adaptation measures were defined with the view to overcome the identified main problems which were expressed through the projected values of the 69 indicators by 2015.

³ Resilience is the attribute allowing the system to absorb, within a coping range, natural or social shocks and to further recover from disturbances or impacts, conserving the same stability domain

⁴ Adaptive capacity refers to the potential of the system to progress and adapt to changes without collapsing, through learning processes that increase its coping range and capacity to self-organization

⁵ Social refers to economic and socio-cultural human activities, including political, technological and scientific issues.

⁶ It was established under the responsibility of the Ministry of Environment and Natural Resources of El Salvador.

11. The scope for each adaptation measure was developed, including specific actions, geographic location and responsibilities for implementation. In that regard, some measures would be adopted and implemented directly by rural families and their local organizations; others, by the municipal or national public entities, as per their legal mandates. However, local rural people would assume the role of taking steps to influence and participate in the policy or decision-making process, to incorporate adaptation into the development agenda.
12. The three fundamental principles of the United Nations Framework Convention on Climate Change (UNFCCC) were the basis for developing the local adaptation strategy, with the view to increase resilience and adaptive capacity of socio-cultural, natural and economic environments. The previous, to prevent, reduce or minimize projected impacts of climate change (*precautionary principle*). As well, adaptation measures were thought to strengthen efforts to improve the quality of life of rural local people (*equity principle*), and to support local efforts directed to take steps to obtain technical and financial support within the UNFCCC multi-lateral process (*polluter pay principle*).
13. The purpose of the strategy is to strengthen organization and capacities of local rural people to incorporate in their socio-economic activities adaptation to climate change, within a land planning framework for the territory located in the central coastal plain of El Salvador. The specific objectives of the strategy are: i) to increase the climate change coping range of rural local livelihoods through economic diversification and the adoption of appropriate productive systems, technologies and practices; ii) to strengthen local capacities to incorporate climate change into land management through the improvement of local knowledge on land planning and the setting of criteria and management plans; and iii) to enhance local organization and capacities to influence public policies and priorities at the municipal and national level, through the strengthening, dissemination and appropriate implementation of the relevant legal framework.
14. Relevant structured information on the adaptation strategy, lines of action for adaptation and adaptation measures, is summarized in Table 1 (format developed by the UNFCCC secretariat).

Table 1: Structured information at the local level (selected territory), including coastal zone, agriculture and water resources dynamics

Type of adaptation action	Title of the adaptation action	Status of adaptation action	Needs in order to successfully implement the adaptation action	Concerns/ Barriers	Experiences/ Lesson learned	References
<p>A. Local adaptation strategy</p> <p>To be led by local people living in the selected territory, and to be implemented at the family, local, municipal and national level, through local actions to influence the policy and decision-making process, to incorporate adaptation into the development agenda</p>	<p>“Strategy & Measures to Adapt to Climate Change”, of rural people living in the Central Coastal Plain of El Salvador (Section 6 of the comprehensive study quoted in the “references” column)</p> <p>Purpose: To strengthen organization and capacities of local rural people to incorporate in their socio-economic activities adaptation to climate change, within a land planning framework for the territory located in the central coastal plain of El Salvador.</p> <p>Specific objectives:</p> <ol style="list-style-type: none"> To increase the climate change coping range of rural local livelihoods through economic diversification and the adoption of appropriate productive systems, technologies and practices; To strengthen local capacities to incorporate climate change into land management through the improvement of local knowledge on land planning and the setting of criteria and management plans; To enhance local organization and capacities to influence public policies and priorities at the municipal and national level, through the strengthening, dissemination and appropriate 	<p>The adaptation strategy has already been developed and will be published mid June 2007.</p> <p>Direct beneficiaries of the strategy, who had a leading role in its elaboration, have developed a PIF⁷, to be submitted before the Special Climate Change Fund. The PIF is currently under revision within the UNDP-GEF system</p>	<p>The Special Climate Change Fund should be fully operational with transparent criteria and procedures based on the COP guidance.</p> <p>Adaptation strategies submitted by local actors should be fully eligible, as per the COP guidance.</p> <p>Participation in policy and decision making process should be broaden, in order to facilitate the inclusion of adaptation initiatives into development policies, at the municipal, national, regional and international level.</p> <p>Local and national capacities should be enhanced to improve knowledge concerning climate vulnerability and adaptation, through training, technical assistance, co-operative research, postgraduate programs, among others.</p> <p>Local traditional and empirical knowledge should be rescued, appreciated and fully incorporated into climate vulnerability studies and adaptation proposals, to facilitate the adoption of adaptation initiatives by local people.</p>	<p>The weaknesses of the national climate observing network, which should play a relevant role within the national early forecasting and local warning systems</p> <p>The lack of national scientific research programmes to address vulnerability and adaptation to climate change, on a permanent basis</p> <p>Prevailing criteria, procedures and frameworks to submit and implement adaptation projects within current financing mechanisms and implementing agencies, are rigid and inappropriate to the nature of the adaptation processes</p> <p>There are limited adaptation initiatives set by Annex I Parties as bilateral programmes, to transfer technical and financial resources to developing countries (as per Art.4 of the UNFCCC)</p>	<p>The adoption of a conceptual framework, integrating natural and social processes and identifying the explicative factors of climate vulnerability, supported the development of the local adaptation strategy, including the prioritization of the adaptation measures.</p> <p>The development of a methodological approach appropriate to national circumstances, with the required transparency and effective local participation, facilitated to local actors the adoption of the process and outcomes, playing progressively a leading role.</p> <p>There is a local knowledge, which has been either transmitted by oral tradition or empirically acquired, concerning the history and current trends of natural and social processes, which was rescued, appreciated and incorporated into the analysis and prospecting processes to enrich and complete technical knowledge and proposals.</p> <p>The scope of the local adaptation strategy extends beyond the territory through activities directed to influence the public policy-making process, in order to incorporate adaptation to climate change within the development agenda at the national or municipal</p>	<p>“Vulnerability & Adaptation to Climate Change of Rural People living in the Central Coastal Plain of El Salvador”, to be published mid June 2007.</p> <p>It will be uploaded in the website: http://www.marn.gob.sv once it is published.</p>

⁷ Project Idea Format, developed by the GEF.

Type of adaptation action	Title of the adaptation action	Status of adaptation action	Needs in order to successfully implement the adaptation action	Concerns/Barriers	Experiences/ Lesson learned	References
	implementation of the relevant legal framework.				level.	
B. Local lines of action for adaptation (per specific objective)	<p>Objective 1: <u>Line of Action 1.1:</u> Diversification and incorporation of additional added value to agricultural activities to increase the coping range to climate change of local livelihoods</p> <p><u>Line of Action 1.2:</u> Promotion of non agricultural economic initiatives to decrease impacts associated to agriculture sector-related climatic sensitivity</p> <p><u>Line of Action 1.3:</u> Experimentation, validation and adoption of processes and technologies to increase the coping range to climate change of agricultural activities</p> <p>Objective 2: <u>Line of Action 2.1:</u> Improvement of capacities to manage local environment, based on the appropriate criteria and indicators related to climate change impacts, among others, validated and adopted by local people</p> <p><u>Line of Action 2.2:</u> Improvement of local knowledge on natural systems, including climate sensitivity, to develop criteria and indicators for their restoration and conservation, and to maintain rural livelihoods, taking into consideration</p>					

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	<p>climate change impacts</p> <p>Objective 3: <u>Line of Action 3.1:</u> Improvement of territory functionality to assure security of rural families and to favor the incorporation of climate change adaptation into local development initiatives</p> <p><u>Line of Action 3.2:</u> Strengthening of the legal and institutional framework at the municipal level, promoting its effective application to support local development and sustainable land management, including adaptation to climate change</p>					
C. Adaptation measures per line of action	28 adaptation measures were defined and classified within the 7 lines of action for adaptation, and linked to the economic, socio-cultural or natural environments, as appropriate.					