ISSN : 0974 - 7451 Volume 10 Issue 10

Environmental Science
An Indian Journal
Current Research Paper

ESAIJ, 10(10), 2015 [372-375]

Environmental policies to climate change in the state of oaxaca

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ABSTRACT

Climate change is a key issue of the twenty-first century and its mitigation and adaptation, one of the greatest challenges facing humanity. At the country level there is an agenda against this phenomenon and studies have been conducted on the possible scenarios of climate change. But it is necessary to reinforce actions at the state level, case Oaxaca, which must define policies to mitigate emissions of greenhouse gases (GHG) and climate change adaptation, in order to promote strategies, starting from local reality to generate synergy and impact at regional and national levels. So, it is necessary to construct State Program of Action to Climate Change (PEACC) with the committed participation of specialized equipment designed to: make decisions, assess needs and define situations; which are the basis for the design of an action plan, integrating specific measures aimed to reduce greenhouse gas emissions and get adapted to climate change, in accordance with established national and international policies in the matter. The PEACC will identify climate change as a strategic security issue requiring timely solutions to the social, political, economic and environmental spheres.

KEYWORDS

Climate change;
Environmental policies;
Climate change adaptation;
Mitigate emissions of greenhouse gases.

INTRODUCTION

Climate change is set to change attributed directly or indirectly to human activity that alters the composition of the atmosphere and which is in addition to natural climate variability observed over comparable time climate. In other words climate change may be due to natural internal processes or external forcings to persistent anthropogenic changes in the composition of the atmosphere or land use. Currently, there is strong evidence that the process of global warming is attributable to human activities. It is estimated that the rate of this warming will be greater than any climate change experienced over the past 10 000 years; also expected for the next 20 years there is a great variability of climate, since not all regions of the world have similar climatic responses. No doubt these changes in the long term, large scale, induced by humans interact with the natural climate variability thereby affecting the social and economic welfare.

The scenarios show that by 2100 global average surface temperatures could rise more than 1.5 to 5 ° C[6]. A planet with higher temperatures result in a more intense hydrological cycle, melting ice caps and gla-

ciers, rise in sea level, more frequent extreme events and more intense hurricanes. Such a condition will alter the development of countries and therefore, will have to develop mitigation and adaptation measures to reduce the negative effects of a changing climate that human societies are not used.

On the other hand, greenhouse gas (GHG) are those gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and re-emit infrared radiation. By international agreement, it was determined that it is essential to control emissions of six GHGs due to its impact on the atmosphere[7] carbon dioxide CO_2, methane CH_4, nitrous oxide, N_2O, hydrofluorocarbons HFCs, PFCs and perfluorocarbons, sulfur hexafluoride SF_6.

Thus, climate change caused by the high amount of GHG emissions (high concentrations) currently brings changes in the composition and dynamics of the atmosphere, these effects are visible in prolonged droughts, increased temperatures, presence of hydrometeorological phenomena more intense rise in sea level (due to thermal expansion of the ocean) and other phenomena that affect all humanity.

It is necessary to promote and develop strategic actions short and long term, where it will consider how the weather in the coming years, and thus provide implications on ecosystems, human life or the economy, so that government and society including climate variability as a fundamental part of the development plans.

Current and future vulnerability and adaptation

For the IPCC[6] vulnerability is characterized by the exposure, sensitivity and adaptability intrinsic (adaptive capacity) of each system (or sector) to climate variability, extreme events and changing climate. The ability to adjust the system is called adaptation. This becomes evident when responses or actions occur, and the potential ability to exercise these responses is called adaptive capacity[2]. Adaptations can be spontaneous or planned, and exercised before or after the changes in the weather (changes required in practices, processes and structures in human systems).

Adaptive capacity is related to social and economic factors leading to human systems the flexibility to make changes in their practices or processes, may also allow them to have stability to adverse weather events, and / or have access to human resources and / or economic resources.

A this access to resources is called equity. The factor of access to economic resources is very important. Adaptation measures are not free. Another factor to consider is that barriers to the implementation of certain measures of adaptation can be found.

Therefore, studies are currently cimático change based on methods for the design of adaptation policies; remembering that adaptation involves a new dialogue between scientists and decision-makers in complex processes. It is necessary to shorten the time it takes to understand a phenomenon and its implications or how to communicate and design of a social response (public policy), institution, funds, programs, policies and systems investment.

In this paper the significance of adaptation to climate change is reviewed considering the few international experiences, discussing the lack of environmental policies Oaxaca state level, and the opportunity for civil society to articulate actions that help in making decisions on hydro-meteorological events social, political and economic linked to climate change.

MATERIALS AND METHODS

For this work was used as study methodology SWOT (Strengths, Weaknesses, Opportunities and Threats) for the current situation in the state of Oaxaca, analyzing their internal characteristics (strengths and weaknesses) and external environment (Opportunities and Threats) in a matrix premitió square we obtain environmentally relevant indicators of economic, political, and social. And the analysis of data generated is used by *Instituto Nacional de Ecología, Quinta Comunicación ante la Convención Marco de las Naciones Unidas sobre el Cambio Climático*, report *México ante el Cambio climático* generat for Greenpeace, and the *Estrategia Nacional de Cambio Climático, México 2007*[3,4,5,9].

Scaling data for the state of Oaxaca and compared with environmental policies considered in the National Development Plan for the State of Oaxaca 2011-2016 was performed.

As a result of the investigation, the state of Oaxaca, contributes less than 2% of national GHG[4], transport

TABLE 1 : Elements to consider in the state policy for climate change adaptation oaxaca

Guiding Principles	Strategic Priorities	Lines of Action
1. Territorial and Ecosystem Approach	i. Institutional development, mainstreaming and coordination.	Strengthening intersectoral coordination mechanisms. Coordination between the three levels of government (not duplicate functions). Collaboration between the public sector and other sectors of society. Compliance with international treaties and instruments.
	ii. Articulation, implementation and evaluation of public policies.	Development and implementation of legal instruments, planning and land use planning, management tools, economic instruments. Monitoring and evaluation of environmental policy.
2. Civil Rights, social justice and gender equality.	iii. Reduction of social and physical vulnerability.	Reducing vulnerability to human settlements. Reducing vulnerability of productive sectors. Reducing vulnerability of infrastructure. Protection and conservation of ecosystems and biodiversity.
	iv. Conservation and restoration of the ecological functionality of landscapes and watersheds.	Design and implementation of a strategy of eco-regional connectivity. Restoration of ecosystems associated with the hydrologic function of watersheds and costs. Reconversion in agricultural areas of high vulnerability.
3. Ensure participation of society	v. Funding for adaptation.	Planning and spending of public funds. Joint funding and funding sources. Financial instruments risk reduction.
4. Access to information and transparency	vi. Research and technological development.	Generation and deepening of knowledge on climate change scenarios. Generating scenarios for vulnerability and adaptation to climate change at different scales. Social, environmental and economic evaluation of adaptation actions. Development and technology appropriation.
	vii. Communication of vulnerability and adaptation to climate change.	Design of a communication strategy, education and promotion of adaptation actions.

and land use changes are two sources emitting CO2 to be be met, both in energy-intensive processes such as pollution and environmental degradation involved.

On the other hand the State Program of Action on Climate Change (SPCR) that drives the state government[1], should provide a range of expertise and key proposals for the successful implementation of measures in response to the possible effects of climate change in Oaxaca. These elements will identify options to promote measures to both reduce GHG emissions and vulnerability of different sectors, which in turn should lead to create efficient public policies to adapt to climate change.

The successful development and implementation of the SPCR depend on the active participation of government, other levels of government, civil society, academia and society, as a whole throughout the diagnostic process and exploring alternative they must arise strategies and actions to mitigate and adapt to climate change.

While much remains to integrate, this is the first step that the state must give in order to prevent extreme hydrometeorological events from the year 2010 have increased.

Moreover, it aims to develop the efficient use of energy (renewable energy), promote programs for management and disposal of solid waste, environmental education in every part of our daily lives, the rescue

community work, and strengthen solidarity economy and active participation in society (See TABLE 1).

CONCLUSIONS

We conclude that adaptation to climate change is also a commitment to protect human rights, individual and collective rights; p. eg. The right to life, to health, a healthy environment, ecological balance, water, food, work and a decent life. Should build capacity for adaptation explicitly recognizing equal rights and access to resources on climate change.

Additionally, responsibility and autonomy in adaptation will be possible if society is informed. The information acts as a catalyst for individual and collective action to integrate society. The state government should develop systems for timely, relevant and accessible information when executing recultados and evaluate their policies and programs before climate change.

We must not forget the economic instruments, which are a primary tool to address the behavior of society towards adaptation. This tax incentives (green tax and payment for environmental services) and enhance financial instruments to reduce risk (use of insurance), hiring risk protection schemes, strengthening the culture of insurance and creating funds are proposed mixed participation (public and private) at the state level to address the impacts of climate change[3].

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REFERENCES

[1] Alianza World Wide Fund for Nature (WWF)-Fundación Carlos Slim-Centro Mario Molina. Hacia el Programa de Acción ante el Cambio Climático de Oaxaca: aportes técnicos y recomendaciones de acciones tempranas. No. de proyecto 1602OL88., **(2011)**.

[2] Cámara de Diputados del H. Congreso de la Unión. Ley General de Cambio Climático. Publicado en el D.O.F. el 06 de Junio de 2012 y entrada en vigor a partir del 10 de Octubre de, **(2012)**.

[3] Comisión Intersecretarial de Cambio Climático. Estrategia Nacional de Cambio Climático. México D.F.-Gobierno Federal, **(2007)**.

[4] Gobierno Constitucional del Estado de Oaxaca. Plan Estatal de Desarrollo del Estado de Oaxaca 2011-2016: Política transversal de sustentabilidad. Oaxaca, México, **(2014)**.

[5] Greenpeace México, **(2009)**. México ante el Cambio Climático (evidencias, impactos, vulnerabilidad y adaptación. México D.F.-Greenpeace, **(2011)**.

[6] Grupo Intergubernamental de Expertos sobre el Cambio Climático (IPCC). Cambio Climático 2007: Informe de síntesis. Contribución de los Grupos de trabajo I, II y III al Cuarto Informe de evaluación del Grupo Intergubernamental sobre el Cambio Climático. IPCC, Ginebra, Suiza, **(2007)**.

[7] Organización de la Naciones Unidas, ONU. Protocolo de Kyoto de la Convención Marco de las Naciones Unidas sobre el Cambio Climático. Kyoto, Japón, **(1998)**.

[8] Poder Ejecutivo Federal-Comisión Intersecretarial de Cambio Climático. Programa Especial de Cambio Climático 2009-2012. Publicado en el D.O.F. el 28 de Agosto de 2009. México, **(2009)**.

[9] Secretaría de Medio Ambiente y Recursos Secretaría de Medio Ambiente y Recursos Naturales (SEMARNAT)-Instituto Nacional de Ecología (INE). México: Cuarta Comunicación Nacional ante la Convención Marco de las Naciones Unidas sobre el Cambio Climático. México, **(2009)**.