

Compilation of recent activities (e.g. studies) and projects in Africa concerning climate change (April 2010) – Bref regard sur les activités (p.ex. études) et les projets en Afrique en ce qui concerne la lutte contre des effets néfastes du changement climatique (Avril 2010), version mixte (française et anglaise)

a) INTEGRATING INDIGENOUS KNOWLEDGE IN CLIMATE RISK MANAGEMENT IN SUPPORT OF COMMUNITY BASED ADAPTATION

Country: Kenya

Theme: Agriculture, fisheries and food security, Crosscutting Issues, Forestry, Gender

Region: East Africa

Organization: IGAD Climate Prediction and Applications Centre (ICPAC)

Synopsis: Researchers from ICPAC and Nganyi Community, Kenya will endeavor to integrate indigenous knowledge into scientific climate forecasts at the local level, where it can be used to enhance the resilience of communities vulnerable to climate change.

Overview:

Traditionally, African farmers have used indigenous knowledge to understand weather and climate patterns and make decisions about crop and irrigation cycles. However, increased variability associated with climate change has reduced their confidence in traditional knowledge. Scientific weather forecasts, on the other hand, are formulated on a much larger scale and are presented in a manner unfamiliar to farmers. This creates a dilemma for those who recognize the limitations of traditional climate forecasts but are unable to use scientific ones. To address this problem, researchers will endeavor to integrate indigenous knowledge into scientific climate forecasts at the local level, where it can be used to enhance the resilience of communities vulnerable to climate change. The project will be carried out in Nganyi community in western Kenya, an area that is known to have a well-established system of traditional weather forecasting.

b) CLIMATE CHANGE AND FOOD SECURITY IN MARADI DISTRICT – NIGER

Country: Niger

Theme: Agriculture, fisheries and food security, Gender, Poverty and vulnerability, Water

Region: West Africa

Organization: ENDA TM, Dakar – Senegal

Synopsis: Climate variability, Food insecurity, Migration, Social capital (solidarity)

Overview:

In Maradi district, 75% of the population is composed of farmers practicing a rain fed agriculture. However, because of climate variability and changes, rainfall has become uncertain, either too early or too late, too much or too little. On the other hand, seasons are becoming shorter and annual temperatures more extreme. During previous field visit and survey in January 2007 among Maradi district communities (Tibiri, Maradawa and Gabi), an alarming report stated the following: Over than 50% of interviewed farmers said that they entirely consume their harvest just after three months! During the remaining nine months in the year and before the next harvest, these communities used to develop small irrigation and income generating activities from fruit and vegetables they harvested. But, because of climate variability and change, these farmers are facing a tremendous challenge in fetching surface and ground water for irrigation. As a result, any adaptation strategy via irrigation became so costly (mainly because of high oil prices and difficult access to energy services) that it is out of many small farmers' reach. Then, in order to ensure their food security, these communities generally use available social networks, solidarity mechanisms and other livelihoods which are unfortunately also affected by climate change. Irrigation has then become less productive because of water scarcity and higher minimum annual temperatures. The only one river (Goulbi) flowing across Maradi city and which use to flow for at least six months after the raining season is now flowing for only one to two months because of a dam¹[1] set upstream in Nigeria (see photos below). Combination of all these stressors makes Maradi district frequently exposed to food insecurity.

Enda's role in fighting against food insecurity in Maradi consists of building a sustainable partnership and work closely with local communities in a participatory manner. Our basic principle is that communities who have been living there over centuries have experienced many climate related hazards and changes and have more or less succeeded to survive so far. Partnering with these communities and building on local knowledge and best practices to reduce food insecurity in Maradi is a key to ensure total involvement, empowerment and fostering trust and ownership from local actors. To implement concrete adaptation actions, Enda involves all concerned stakeholders in fundraising initiatives and capacity building.

Irrigation can still be possible as adaptation strategy to complement rain fed agriculture. However, due to the fact that the water is coming from another country (Nigeria), there is a need to encourage decision makers from both Niger and Nigeria to talk to each other and find ways of a shared Trans boundary efficient water use. Support should be given to coping mechanisms implemented so far by communities and that are sustainable. These include food banks, diversification of and income generating activities, mobilization of social capital (solidarity, networking, etc.).

Lessons learned

The root causes of migrations are the unreliable conditions of local livelihoods because recent surveys have shown that people may have not migrated if means of life were available locally;

People migrate temporarily from Maradi towards neighbouring West African countries. Because of permanent climatic changes, they tend to move and settle permanently in countries like Nigeria, Ivory Coast or Libya. Those who migrate to Libya tend to reach European countries legally or not.

Local communities are now imposing new approaches and ways of doing action research by either NGOs or other development agencies. "You and other people like you visited us several times and involved us in many participatory research activities like focus groups or surveys. What we need now is action rather than just research" This is what we often hear from communities.

We were surprised to see that implementation of adaptation and other coping strategies by communities, is often of very low cost. UNFCCC and other international NGOs estimated the cost of adaptation in developing countries. It is also important, in a participatory manner, to hear communities' perspective and evaluate what they do need in order to adapt.

This study demonstrates that adaptation to climate change should no longer be considered only as a local but a multi level multi scale process. Indeed, a proper understanding and implementation of adaptation strategies locally requires analysis both at community level and at other scales, in this case including trans-boundary, where key drivers occur. In this example, the construction of a dam at Jibya, upstream on the Goulbi River which flows from Nigeria to Maradi district in Niger, means that irrigation using the Goulbi River water as adaptation option in Maradi requires cooperation and dialogue between decision makers both in Niger and Nigeria. This is important to avoid mal-adaptation in Maradi and obviate conflicts around use of trans-boundary ecosystem like the Goulbi of Maradi.

c) TRAITEMENT DES DONNEES CLIMATIQUES ET DEVELOPPEMENT DES SCENARIOS CLIMATIQUES APPLICATIONS A LA SENSIBILITE DES RENDEMENTS AGRICOLES

Country: Cameroon

Theme: Agriculture, fisheries and food security, Poverty and vulnerability

Region: Central Africa

Organization: Université de Douala

Synopsis: Ce programme porte sur le traitement des données d'observations climatiques, l'élaboration des scénarios de variabilité climatique à moyens et longs termes puis les applications à la sensibilité des rendements agricoles.

Overview:

Le changement climatique global aura des conséquences sur les écosystèmes et les sociétés. Jusqu'à présent les sociétés ont toujours été dans les relations dynamiques avec les changements climatiques démontrant leur capacité d'adaptation endogène.

Ainsi, les recherches deviennent nécessaires pour parvenir à cette adaptation. Cette bourse d'enseignement concerne le renforcement du programme de Master pour le compte du Département de Physique de la Faculté des Sciences de l'Université de Douala.

Ce programme porte sur le traitement des données d'observations climatiques, l'élaboration des scénarios de variabilité climatique à moyens et longs termes puis les applications à la sensibilité des rendements agricoles. Avec la baisse depuis 50 ans de la pluviométrie en Afrique et à cause des problèmes de changement climatique, il devient fondamental que les problèmes de ressource en eau dont souffre cruellement notre continent deviennent une préoccupation majeure. Son impact se fait sentir sur le plan de la population (famine et maladie), l'agriculture, l'hydroélectricité, etc. Le manque de ressources en eau a été dévastateur pour les populations et les économies de cette région. Par exemple, la capacité du bétail au Sahel a diminué de moitié alors que la chute de la production hydroélectrique a freiné d'environ 10% par an la croissance économique du Cameroun. Le problème qui sera examiné à la fin ce projet est l'étude de la variabilité à différentes échelles de temps et d'espace de la mousson dans la région du golfe de Guinée. Le déficit pluviométrique au Sahel qui s'est étendu jusqu'à la côte du Golfe de Guinée pendant les années 70s et 80s ont entraîné un grand nombre de chercheurs à évaluer les mécanismes plausibles associés à ces phénomènes. Les éléments principaux de la circulation atmosphérique, en particulier les ondes équatoriales (Kelvin par exemple), ont un cycle saisonnier qui influe fortement sur le développement de la mousson en Afrique de l'Ouest. Par ailleurs, des approches théoriques ont été amorcées pour analyser la corrélation entre la circulation atmosphérique et la précipitation dans la région d'Afrique de l'Ouest et Centrale. Les résultats de ces analyses climatologiques permettront d'évaluer l'évolution de la durée de la grande saison de pluie (juin-septembre) dans cette région et ses applications à la sensibilité du rendement agricole par exemple.

d) LIENS ENTRE LES MIGRATIONS, LES STRATEGIES D'ADAPTATION ET LA RESTAURATION DE L'ENVIRONNEMENT DANS LA ZONE SUD DU LAC TCHAD

Country: Cameroon

Theme: Crosscutting Issues, Forestry, Poverty and vulnerability

Region: Central Africa

Organization: Université de Ngaoundere

Synopsis: L'objectif de ce travail est de montrer comment l'accès aux ressources naturelles dans un environnement soumis à la récurrence des problèmes écologiques détermine depuis des temps immémoriaux les mouvements des populations vers des zones utiles et sous tend la dynamique de l'occupation des espaces dans l'Extreme- Nord du Cameroun.

Overview:

Les abords sud du lac Tchad sont une région riche en ressources naturelles. Sa particularité est déterminée par la présence du lac Tchad, l'un des plus grands écosystèmes d'Afrique ; du lac de Maga et de Guisey. La localité est traversée par quelques fleuves : Chari, Logone et la vaste plaine inondable qui abrite la réserve de Waza. Ces unités écologiques sont des facteurs d'attraction des populations depuis des siècles. L'émigration et la mise en place des divers peuples sédentaires et plus tard l'afflux des peuples venant du Sahara suite à la désertification s'explique par la recherche des ressources. Les abords sud du lac subissent l'influence des changements climatiques. Ce phénomène tel qu'il est perçu n'est pas récent mais remonte à des siècles. L'histoire de l'environnement de la région est convaincante de ce point de vue. La désertification du Sahara, la diminution des superficies, du niveau d'eau des lacs, des fleuves et la détérioration de la végétation sont des effets du changement climatique. Depuis le XVIe jusqu'à nos jours, la région connaît une récurrence de crises écologiques aux conséquences désastreuses. Les mouvements des populations vers des zones favorables y sont tributaires. Depuis 1960, la région accueille des migrants écologiques venus de l'Afrique de l'ouest (Sénégal, Mali, Niger, Nigeria) se donnant aux activités : pêche, agriculture, élevage, commerce. Autour des ressources, on observe une pression démographique, facteur de la dégradation de l'environnement. La dégradation très poussée du milieu écologique est imputable à l'homme provoquant l'amenuisement des ressources. Face aux crises écologiques (sécheresses, famines, dégradation du couvert végétal), les populations déploient des stratégies d'adaptation. La migration peut s'appréhender comme l'une des stratégies. Les stratégies vont du domaine agricole au domaine pastoral. Devant la prise de conscience du patrimoine environnemental, la population locale, la société civile nationale et internationale œuvrent pour la protection et la restauration de l'environnement.

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Pour conduire ce travail, la méthodologie alterne sources écrites, sources orales et documents iconographiques. La collecte des données nécessite l'exploitation des documents dans divers centres de documentation, des descentes de terrain pour besoins d'enquêtes orales. En dehors de la dimension scientifique qui est une contribution à l'analyse et à la compréhension du phénomène d'insécurité climatique, du peuplement, des stratégies paysannes face aux changements du climat, l'étude par le binôme recherche-action aboutit aux résultats suivants :

1. Renforcement des capacités des populations locales à l'adaptation au changement climatique
2. Renforcement des capacités des pays de la Commission du Bassin du Lac Tchad aux stratégies de sauvegarde des écosystèmes.

La politique de bourse amène le chercheur à la vulgarisation des savoirs locaux en adaptation aux changements climatiques. Cette bourse va soutenir une partie de nos recherches documentaires, la rédaction et l'impression des travaux.

e) RAISING AWARENESS OF CLIMATE CHANGE RISKS AND ADAPTATION OPTIONS IN THE DEMOCRATIC REPUBLIC OF CONGO

Country: Congo, Dem. Rep. of the

Theme: Crosscutting Issues, Forestry, Poverty and vulnerability

Region: Central Africa

Organization: Kasugho Université

Synopsis: This work assesses the level of awareness of the Congolese population on global warming and determines what the basis of our responsibility is. It also makes an analysis of methods (measures) for the fight against climate change, their effectiveness and impact upon the lives of the people dependent on resources sensitive to climate.

Overview:

Some environmental problems arise independently of human will, others are the consequences of irrational use by man of natural resources on which thousands of other species depend; such is the case with climate change. Our survival depends on our ability to change our lifestyles; this change is only possible if the population is aware of the existence of a problem, their responsibility and what should be done to solve the problem. A good policy on the part of the government, characterized by effective measures to reduce global warming remains an important asset for the salvation of our planet. In developing countries the choice is a difficult one difficult between development and environmental protection. Laws are complacent, the priority is development and often at any price. As such some environmental disasters are attributed to the actions of developing countries, a situation that creates total suspicion. Some feel they are victims as they don't understand the part they play in creating the problem, and they do nothing to address the causes of global warming. But we think that this is no reasons to stop fighting. What is the situation in the DR Congo?

What is the level of awareness? Do laws need to be reformed? This project will shed some light on such concerns. This work assesses the level of awareness of the Congolese population on global warming and determines what the basis of our responsibility is. Also, it will make an analysis of methods (measures) in the fight against climate change, their effectiveness and their overall impact on the lives of the people dependent on resources that are sensitive to changes in climate. This research project is taking place in the DRC.

Given the objectives of this research project, following our investigations, we hope to improve the understanding of issues related to climate change and its impacts on environmental, social and economic planning in terms of potential mitigation and adaptation. This assessment of knowledge and the examination of Congolese policies on issues relating to climate will set new strategies in the fight against global warming. The question, obstacles and difficulties associated with reducing our contribution to global warming will also be found. Finally we will propose some possible solutions to enhance the awareness of climate issues and for the creation of successful policies to help fight against global warming while ensuring the well-being of those who depend entirely on resources related to this problem and who live in poverty. The data which will be analyzed in this research project will come from the results of the questionnaires and from interviews. At the end all data will be compared with what occurs in other countries and the recommendations from experts in the field of climate change.

f) COMMUNITY BASED ADAPTATION TO CLIMATE CHANGE IMPACTS IN BANJUL-GAMBIA

Country: Gambia

Theme: Agriculture, fisheries and food security, Crosscutting Issues, Gender, Health, Poverty and vulnerability

Region: West Africa

Organization: ENDA

Synopsis: Community-based adaptation to impacts of climate change in urban Half-Die Banjul, Gambia - coastal erosion, urban flooding and loss of livelihoods

Overview:

Our community climate change adaptation project is lead by Women In Service Development Organisation (WISDOM), a non-governmental Organisation founded in 1989 to organise and empower women groups particularly at the community level. It launches awareness creation programs on contemporary cross-cutting development issues such as gender and development, environmental protection and climate change, and strategies for sustainable development. Community discussions on projects activities were led by the local group/branch of this organization in the Half-Die community. Our project is aimed at sensitizing community members on climate change and to develop more adaptive measures against the impacts of climate hazards on our lives and livelihoods. Our main livelihood activities are fishing, oyster collection fish preservation (smoking) petty trading and some small scale cottage industries (baking, batik and soap making). Our important natural livelihood resources are the sea and sandy beaches, the River Gambia, our mangrove forest and wetlands. Our community is built on a low-lying coastal spit of erodible sediments which is less than one meter above sea level. We are currently battling with rising sea levels, increasing temperatures, intense rainfall and storm surges. These extreme climate events are causing damages to our precious natural resources upon which we depend on for our livelihoods. Our beaches are being constantly eroded away as a result of rising sea levels, our fresh water from the River Gambia is being intruded by saline water and our mangrove forests are gradually being washed away. The low-lying nature of our land propels serious floods as we experience intense rainfall from July, August and September. These floods destroy our infrastructure such as shelter, roads and markets. Some of our compounds are flooded stagnant water in the rainy season serving as breeding grounds for mosquitoes, resulting in high incidence of malaria cases. We are also experiencing heat stress currently as a result of rising temperatures. Most of our coping strategies to these hazards have not been very efficient. This year with support from ENDA, we are aiming at getting sustainable adaptive measures which can be locally driven and implemented to help us cope better with and prepare ourselves for future unforeseen extreme events. The upcoming local decision makers' workshop will be a platform for most of our local people to be well informed about climate change and to help us adapt better. Through the implementation of this project, the capacity of our local CBO staff has been built on research methods. Many people have moved away from the old town, leaving behind their old homes, memories and traditions. Climate is not the only cause but life is not easy where we move to either. St Mary's island has been home to many generations of families and life on the mainland in the Kombos, Serrekunda and Brikama is just not the same. But God teaches us to accept life so what can we do?