

## Forests and adaptation become a priority after Copenhagen

Following Copenhagen, the 'forests and adaptation' issue has become one of the priorities in the fight against climate change.

The Copenhagen summit in December 2009 raised many hopes. Forests and adaptation, as separate and even related topics, were at the centre of debates which took place both during the UNFCCC negotiations (United Nations Convention Framework on Climate Change) and during side events, including those organised by civil society groups. CoFCCA first participated in the second Central African Forest Day organised by CIFOR to prepare for Copenhagen, and then took part in many side events on topics involving the project (see articles in this issue of the newsletter). Once Copenhagen was over, assessments were mixed; some were quick to declare the summit a failure, whilst for others Copenhagen was an important step forward in the fight against climate change. In any event, 'forests and adaptation' is becoming an increasingly high-profile issue.

The Copenhagen Agreement emphasises the need to increase international efforts and cooperation on adaptation to help the realisation of convention goals on a practical level. The international community is called upon to provide assistance to countries such as those in Africa. The agreement also recognises the crucial role played by REDD (reducing emissions from deforestation and degradation) in mitigating climate change. This is where Central Africa, and especially the Congo Basin, is of particular interest to the international community. Forests in this part of the world store large quantities of carbon and the international community is concerned that this carbon may become vulnerable as a result of deforestation and degradation. Furthermore, such forest resources not only store carbon, but also play a valuable role in adapting to climate change through the other



Photo by Terry Sunderland

services they provide (food, water cycle regulation, local microclimate control, etc.). This is true for Central Africa, but also for other regions of the world.

Carbon storing plants and other living organisms (including human beings) are sensitive, and as such, are vulnerable to climate change. If these plants were destroyed as a result of climate disturbances like fires, or other traumatic events such as deforestation and degradation, not only would the local communities that rely on these plants suffer, but the international community would lose the carbon stocks relevant to REDD+. Therefore, if the fight against climate change is to be effective, it is necessary to have adaptation strategies for people, but also for forests. 'Forests and adaptation' is, therefore, an important question in this fight.

The CoFCCA project, developed by CIFOR and partners, with the support of IDRC, illustrates how

the link between forests and adaptation to climate change can be crystallised. However, adaptation is only in its formative stage as a research subject, and its implementation is only in its infancy. In this issue, CoFCCA provides newsletter readers with two reviews which offer a conceptual framework for research on species vulnerability and some background and connecting elements to improve understanding of climate change adaptation. A third review deals with Northern Canada's adaptation strategy in the infrastructure sector. The three reviews provide information and inspiration to develop research activities, but also to define sectoral strategies for adaptation implementation, which take into account forest resources in Central Africa. This issue of the newsletter also provides an overview of project events and activities which took place from October to December 2009. Happy reading and our best wishes for 2010!

## Dr. Innocent Butare visits the CoFCCA project

Dr Innocent Butare, a Senior Program Specialist with the International Development Research Centre (IDRC) and the principal officer in charge of the CoFCCA project, visited the CoFCCA team between 20 and 22 November 2009. During his stay, he exchanged views with CIFOR's Regional Coordinator for Central Africa, Cyrie Sendashonga and Project Coordinator, Denis Sonwa.

In the course of his meeting with the project manager, Dr Butare focused mainly on the following aspects: Participatory Action Research (PAR), monitoring and assessment, training, gender, budget, exchanges with political actors, project impact on fringe partners, workshop organisation and communication. Dr Butare then went on to reiterate IDRC's expectations with regard to CoFCCA and gave advice and guidelines on how to run the project smoothly and effectively. In addition, he said how much he appreciated the

work already carried out and stated his wish that particular emphasis be placed on communication and networking as a way of sharing project experience with other projects of IDRC's CCAA initiative (Climate Change Adaptation in Africa).

Project coordinator Denis Sonwa answered these concerns by explaining how the CoFCCA initiative fitted into CIFOR's approach to research on a global scale and in Central Africa in particular. He gave details on each of the activities carried out. Finally, he thanked Dr Butare for IDRC's support to the project and for entrusting CIFOR with its execution, which helps to reinforce the relationship between CIFOR and IDRC. He added that internal efforts in CIFOR to improve the communications department would help fulfil IDRC's expectations with regard to improving project communication.

## Cameroon's position on international climate change discussions

On 11 November 2009, CIFOR participated in a 1-day workshop to carry out a 'review of Cameroon's draft position on international climate change discussions', organised by the Ministry for the Environment and Nature Protection and chaired by the Minister himself at the Palais des Congrès. The aim of this workshop was to examine the draft document presented by Cameroon in detail and to suggest improvements.

The main weakness, as noted by the CoFCCA representative, was the lack of consideration given to

climate change adaptation in the position document, which focused much more heavily on the main mitigation mechanisms such as CDM and REDD. Furthermore, the participants deemed Cameroon's position rather vague because the document suffered from a lack of hard information (figures). Several proposals for improving the document were put forward, including CIFOR's on climate change adaptation.

## Workshop on climate change adaptation in Douala

The Interim Secretariat of the Environmental Component of NEPAD (SINEPAD/Env), the International Development Research Centre (IDRC) and COMIFAC ran a regional workshop from 19 to 21 November 2009 at Hotel La Falaise in Douala on validating the review of mapping capacity building needs for climate change adaptation in Central Africa. The workshop arose out of a previous workshop on sharing results from consultations on climate change in Central Africa, which was held in Dakar in Senegal from 29 June to 1 July 2009.

The objective of the Douala workshop was to validate the consultation document, the purpose of which was to map needs in terms of capacity building for climate change adaptation, and to draw synergies between the various programmes in progress or planned in the field of climate change adaptation in Central Africa. Representatives of Gabon, Central African Republic, Cameroon, R. of Congo, D.R. of Congo and Chad – the six African countries where the reviews were carried out – took part in the workshop. CIFOR was represented by Mr Yousoufa Bele, in his capacity as CoFCCA Project Research Assistant.

## CoFCCA at the 13<sup>th</sup> World Forestry Congress

The World Forestry Congress is held every 7 years and provides the opportunity for forestry players to share scientific and political developments in the sector. CoFCCA took part in the 13<sup>th</sup> congress, which was held in Buenos Aires from 18 to 23 October 2009, on the subject of 'Forests, a vital balance in development'. The CIFOR delegation was led by Director General, Frances Seymour. CoFCCA members present at this globally significant event included: Cyrie Sendashonga (CIFOR Regional Coordinator in Central Africa), Denis Sonwa, Olufunso Somorin and Yousoufa Bele. By participating they aimed to keep track of the latest scientific developments in the field of forests and climate change adaptation and to share CoFCCA experience in this field. Denis and Yousoufa presented two posters entitled 'Preliminary integration of forest and adaptation to climate change into the

forestry landscape of Central Africa' and 'Adapting Congo Basin forest management to climate change: Linkages among biodiversity, climate change and forest loss'. During the meeting, Olufunso also took the opportunity to make useful contacts for his research work focusing on the Central African subregion. It was important for him to meet as many people working in the subregion as possible to get an idea of their interests and to see how he could best take these into account in his future investigations. The meeting had a positive outcome, as it provided the opportunity to share the successes of CoFCCA's experience. We are certain that CoFCCA's efforts will lead to more information being generated to share with the international forestry community during the next congress.

## Climate change: A START fellow shares his experience on adaptation

From 19 to 22 November 2009, in Dschang, Cameroon, Dschang University, through its Agronomy and Agricultural Sciences Faculty (FASA), ran a scientific seminar on the topic of 'Challenges facing agricultural training and research: Climate change, environmental protection and food security'. At this event, START fellow Maximilien Tiogang Djomo gave a scientific presentation on the topic 'The climate change concept, its consequences and adaptation opportunities for agricultural and forest outputs'. The young research scientist had a chance to exchange views and share his experiences of climate change adaptation in Africa with a large number of students attending the event.

The main purpose of the seminar was to advance thinking on present and future challenges to agriculture (climate change, environmental risks and food security), with a view to designing adaptation strategies. The meeting provided an opportunity for the wide range of attendees to share their opinions on this matter. This scientific seminar was organised with the support of FAO, CIRAD (International Cooperation Centre for Agricultural Research in Development), WFP (World Food Programme), WWF (World Wide Fund for Nature), UNEP (United Nations Environment Programme) and HPI (Heifer Project International).

## CIFOR Forest Day alongside COP 15

Forest Day 3 was one of the COP 15 side activities, which attracted the most people with an interest in the forest and climate change interface.

Organised by CIFOR in partnership with the Collaborative Partnership on Forests, Forest Day unfolded this year at the Radisson SAS Falconer Hotel and attracted almost 1500 people. The event was officially opened on 13 December 2009 by former US President Bill Clinton, via a pre-recorded video message. This event also benefited from the attendance of Nobel laureate Wangari Maathai, as well as other well-known political and research leaders. Opening ceremony speeches gave the clear message that if deforestation is to continue at its present rate, preventing global warming from exceeding 2 degrees Celsius will prove difficult or even impossible to achieve; which could increase vulnerability in the foreseeable future. Jan Heino, Chairman of the Collaborative Partnership on Forests, observed that thinking of forests simply as carbon reserves should be avoided.

The event was structured around opening and closing plenary sessions, side sessions, including one on

forests and adaptation, as well as social events. Forest Day further emphasised the importance of adaptation, but more importantly, the role that forests could play in adaptation since they already provide ecological services. However, the need to boost political will and increase available funds, and the need for a trans-sectoral approach were recognised as prerequisites for combatting climate change. The necessary link between adaptation measures and climate change mitigation efforts in the forestry sector was also emphasised during the day. CoFCCA was represented at this event by Cyrie, Johnson, Denis and Olufunso.

The conclusions of the Central African Forest Day were presented by Cyrie Sendashonga (CIFOR Regional Coordinator for Central Africa), while Ivo Boer, the Executive Secretary of the UN Convention on Climate Change, delivered his address in the evening. The day's findings were all submitted to the UNFCCC Secretariat. Participants took note of the next Forest Day, to be held in Mexico in 2010.

Additional information can be found at <http://www.cifor.cgiar.org/Events/ForestDay3/Introduction/>

## African Development Bank side event at COP 15

The African Development Bank ran a side event alongside COP 15 in Copenhagen, on Congo Basin Forest Fund (CBFF) activities.

The theme of the event was the 'CBFF's Global Response to the Climate Crisis. This high level side event was held at the Marriott Hotel on 14 December 2009. Pr. Maathai recounted the CBFF initiative and indicated that she and Paul Martin had entrusted the African Development Bank with managing the fund received from the British Government. Dr. Donald Kaberuka, the Bank's Chair, then gave an address in which he explained that the Bank would present its other initiatives, which have similar aims to the CBFF, alongside the management of this fund.

CIFOR Coordinator for Central Africa, Cyrie Sendashonga gave a presentation on 'Congo Basin Forests: Importance in a post-Kyoto context and in response to the Climate Crisis'. Cyrie took the opportunity to explain to side event participants that vulnerabilities due to climate alterations or change were more than obvious in Central Africa. She explained that temperatures were increasing in certain locations, rainfall was decreasing in others, water was becoming scarce, while forests were surrounded by savannah, which is very sensitive to climate change, and vulnerability in the savannah was leading to migrations to the forests, which in turn lead to increased forest vulnerability to climate

change. She explained that our response had to focus on the synergies between adaptation and mitigation. The project developed by CIFOR, which is based on the CoFCCA experience, will seek to promote synergies between adaptation and mitigation.

The Minister for the Forest Economy, the Environment and Sustainable Development of the Republic of the Congo, representing the Congo President, representatives of bodies including UNEP, FAO, UN-REDD, GEF, IUCN and the Vice-President of Burundi also spoke to comment on the CBFF initiative and the implementation means at its disposal for it to be successful. Pr. Wangari Maathai closed the session by reminding participants of the need to involve more partners in following the UK's example. As if to respond to the Nobel Prize winner's call, a partnership agreement was signed with Monaco's Albert II Foundation.

Following this side event, the Bank organised a second event in the same room on the topic of 'Climate Resilience and the Development of Africa'. Climate Change and Gender Unit Head, Anthony Nyong returned in depth to the Bank's efforts to combat climate change. The discussions that followed included many exchanges on how best to take climate change into account in the development of Africa. Several publications on climate change and the African Development Bank were also distributed to participants during both events.



## Cameroon puts the finishing touches to an adaptation project for UNDP submission

Cameroon is eligible to receive Japanese funds as part of the 'Supporting Integrated and Comprehensive Approaches to Climate Change Adaptation in Africa' initiative, intended to cover 21 countries in Africa. However, in order to secure funding, the country needs to submit a project proposal. The drafting of this proposal requires consultations with several actors. The CoFCCA project counted amongst those taking part in consultations with the UNDP consultant, who was visiting in order to get an idea of the country's situation, and to draw up a project content draft, due to be finalised by a consultant.

The consultant's document was the focus of an adoption meeting, held at the Ministry of the Economy, Planning and Land-Use Planning (MINEPAT) on 26 November 2009. The meeting, held in the Ministry's Land-Use Planning Department conference room, aimed to review the document put forward and recommend stages for its approval by the parties (the Government and the United Nations Development Programme).

Following document presentation and an exchange of views between participants from both government and bilateral bodies operating in Cameroon, it was recognised that the project would benefit from starting in Cameroon and involving several ministries, which would all have their own principal focuses. However, the Government of Cameroon and UNPD must first officially sign the programme document. CoFCCA hopes that in joining forces with the project, Cameroon will build on the work it has already started and will share the vision to become part of the network of 21 countries already receiving UNDP support and being called upon to adapt their development strategies to better take vulnerabilities and climate change adaptation into account.

Because forests play such an important role in African development, we hope they will be a significant part of the programme.

## REJEFAC: Young people find out about climate change adaptation in Africa

From 7 to 9 November 2009, in Yaoundé in Cameroon, the Young People's Network for Central African Forests (REJEFAC, Réseau des Jeunes pour les Forêts d'Afrique Centrale) organised a national forum aimed at building capacity among young people on climate change issues, preparing young people for COP 15 in Copenhagen and setting up a national sub branch in Cameroon representing the sub regional Central African network. REJEFAC is one of the networks of the Conference on Dense and Humid Forest Ecosystems in Central Africa (CEFDHAC) and a member of the CEFDHAC Steering Committee, and has connections with the Commission on Central African Forests (COMIFAC).

The national forum was organised as part of the 'Global decade of education for sustainable development (2005–2014)' initiated by the UN and for which UNESCO is the lead agency, and as part of COMIFAC's Convergence Plan. START fellow, Maximilien Tiogang Djomo gave an opening address, 'Climate change, environmental protection and REDD mechanisms'. Thanks to this presentation, young people were able to enrich and share their knowledge of climate change

challenges in Africa, and equip their representatives at COP 15 in Copenhagen with appropriate tools.

They learnt that:

- Climate change, natural resource conservation and REDD mechanism issues are poorly understood and lack promotion among universities and the youth sector in Cameroon.
- Individual and collective behavioural changes are needed and these fall under citizenship education (in this instance, eco-citizenship education would be even more relevant). They are at the heart of challenges for formal, but also informal education.
- Education about environmental issues should introduce new approaches to increase people's awareness of climate change adaptation challenges.

Schools, universities and society as a whole should play a major role in environmental education by transcending subject areas and instilling a global vision of humankind and the world.

## Climate: Researchers explore synergies between adaptation and mitigation

Finding synergies between climate change mitigation and adaptation in the forestry sector was the theme of a workshop which brought together CIFOR, CIRAD, SEI, UEA and CATIE researchers on 1 and 2 October in CIFOR's offices in Cameroon. This event aimed specifically to:

- Share information on the synergies between adaptation and mitigation on local, national and global scales ;
- Present approaches and methodologies ;
- Discuss future activities.

The researchers in both climate change research areas exchanged views for two days about how to build bridges between activities in both areas. The

presentations considered the conditions of Central Africa, Asia and Latin America. Cyrie Sendashonga, Youssoula Bele and Denis Sonwa from the CoFCCA project took part in the workshop. This event is the first step towards carrying out research and development activities which take into account both climate change adaptation and mitigation.

Central Africa, through its project 'Climate Change and Forests in the Congo Basin: Synergies between adaptation and mitigation' submitted to the African Development Bank, could be one of the first regions where adaptation and mitigation are considered simultaneously in research projects.

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## Johnson and Monica say their goodbyes to CIFOR

Two of the people who contributed to the development and implementation of the CoFCCA project have just officially left CIFOR.

Before joining CIFOR, Dr. Nkem Johnson, a Cameroonian national, had worked as a research scientist at the Natural Resource Ecology Laboratory of the US Colorado State University in its West African branch in Burkina Faso, and in Central Africa at the International Institute of Tropical Agriculture (IITA). Drawing on his considerable knowledge of the region's challenges, he was well placed to develop the CoFCCA project for the Congo Basin.

He led this initiative with passion until passing the baton to Denis Sonwa. During this period, he entertained, and still entertains, the desire to see real change in Central Africa on the issue of sustainable management of forest resources and communities, in spite of climate change. Johnson has now officially left CoFCCA, but his spirit remains in the project he helped to create. Under his leadership, CIFOR has been able to rally a variety of players in the region around the theme of forests and climate change adaptation.

As for Nigerian national Monica Idinoba, she had previously replaced Johnson (then promoted to global coordinator of the Tropical Forests and

Climate Change Adaptation Bureau TroFCCA at its headquarters in Bogor) as the Coordinator of TroFCCA in West Africa. In her position in CIFOR she applied the lessons learned from her experience in West Africa to Central Africa. She facilitated the process which led to the prioritisation of Central African sectors according to their climate change vulnerability. She also played a paramount role during the RAP workshop on forest and adaptation in Central Africa, especially in relation to PRECIS model management as part of TroFCCA.

Johnson has taken up a position with UNDP where he is going to pursue his work on the CC-DARE initiative (Climate Change and Development – Adapting by Reducing Vulnerability), while Monica is going to join her husband in Tanzania.

Dear Colleagues, as pioneers and dignified children of Africa, you have contributed to writing a page in the history of research and development on forests and climate change adaptation in Africa and the southern Sahara. In so doing you have contributed to the birth of an initiative which will help the forests and communities of western and central Africa be better equipped to face the adverse effects of climate change. CoFCCA is grateful for your founding efforts. We will always welcome you back.

## Climate change training for the region's forestry teachers

CoFCCA is sharing its experience with leaders of forestry education providers in Central Africa.

On 17 November 2009, Dennis Sonwa gave a presentation at the Educational Centre Specialising in Agriculture and the Forestry and Timber Industry (CRESA) in Yaoundé. The presentation was part of the workshop organised by Inwent (German Cooperation) and RIFFEAC (Network of Forestry and Environmental Educational Institutions in Central Africa) from 9 to 20 November 2009. The workshop dealt with climate change in connection with forests and adaptation and REDD. The purpose of the workshop was to help members of these educational institutions increase their understanding of climate change issues in Central Africa.

The presentation dealt with CoFCCA (Congo Basin Forests and Climate Change Adaptation) in CIFOR's

agenda and its context in Central Africa. The aim was to increase understanding of the theoretical aspects of 'Forests and Adaptation' in the Central African context, by presenting the efforts made as part of the CoFCCA project. Project objectives were explained, project approaches presented, main findings already produced shared, and future activities presented to the audience.

This workshop provided an opportunity for intense and fruitful exchanges and proved very relevant to CoFCCA, as forestry education providers are an important factor in the patterns observed in the Central African forestry sector. This is because these institutions train the people who will become tomorrow's forest managers in the region. We hope that this presentation will help the leaders of Congo Basin forestry education providers incorporate climate change adaptation into their training programmes.

## Dr. Foahom shares his CoFCCA experience in FORNESSA and IUFRO

At the beginning of December 2009, Dr. Bernard Foahom, Director of Forests, Soil and the Environment at IRAD in Cameroon – a member of CoFCCA's taskforce – took part in an event which brought members of the Forestry Research Network of Sub-Saharan Africa (FORNESSA) Topic Group on 'Forests and Climate Change' together. Supported by IUFRO, this event aimed to put together an address to deliver at COP 15. The address prepared in Vienna received a significant contribution from Dr Foahom and benefited from his experience in CoFCCA.

Stephy David Makungwa, the leader of the FORNESSA Topic Group 'Forests and Climate Change', delivered the results of the Group's work during the side event co-organised on 11 December 2009 at the Bella Centre in Copenhagen by IUFRO, the ITTO (International Tropical Timber Organization) and Intercoopération

(the Swiss international development agency). His address was titled: 'Making African Forests Fit for Climate Change – Key messages to policy and decision makers'. The address stressed the vulnerability of forest people and areas, and the role forest resources could play in climate change adaptation.

It was an honour for CoFCCA to see one of its members involved and sharing his experience in the FORNESSA network, and especially being present at COP 15 when the address was delivered to the international community. Work is still ongoing with the aim of producing a policy brief to be widely disseminated by IUFRO.

Links: <http://twitter.com/IUFRO/status/6528458911>  
<http://theiufroblog.wordpress.com/2009/12/11/cop15-side-event-forests-livelihoods-climate-change/>.

## Social event for CCAA partners alongside COP 15

With the intention of encouraging exchanges with CCAA programme members, the IDRC invited those present in Copenhagen to a social event on 10 December 2009 at the Mart Club Restaurant. This event was an opportunity to share in a relaxed setting on the activities of each climate change adaptation project. CoFCCA was represented by Denis, Cyrie and Bernard Foahom (IRAD-Cameroon).

Dr. Simon Carter of IDRC facilitated exchanges between those present. The social event afforded

a successful opportunity to share information with fellow participants. After the initial formal presentation of each team and their projects, Simon then met the teams informally to discuss their activities in more detail. He had the opportunity to meet CoFCCA project members.

For more information on other CCAA programme activities, please follow the Web link: [http://www.idrc.ca/fr/ev-148996-201-1-DO\\_TOPIC.html](http://www.idrc.ca/fr/ev-148996-201-1-DO_TOPIC.html).

## Adapting infrastructures to climate change: The Northern Canadian example

Infrastructure is one of the major foundations of development. There is a saying that goes 'where the road goes, development follows'. Research carried out by ASB (consortium of CGIAR centres and national research centres) in the Congo Basin has shown that reduced isolation (presence/absence of surfaced or earth roads) is a determinant of rural development. Bodies such as the World Bank for example do not hesitate to use infrastructure-linked parameters as indicators of development.

In 2006, investments in infrastructures made up a third of the bank's loans to developing countries. Infrastructure aims to bring communities out of isolation and reduce vulnerabilities such as those resulting from climate change. It is true that infrastructural development is quite weak in Central African regions compared to other parts of the world. But, it is often a concern that infrastructure is vulnerable to the negative effects of the climate. As far as roads are concerned, the continuous flow of water across their surfaces is a major problem.

Therefore, in a context of climate adaptation, it is even more necessary to consider infrastructural development in the light of climate change. In Cameroon, a few months ago, heavy rain caused a landslide which blocked a road and disrupted traffic to the North-West Province. In forest areas, the state of muddy roads during the rainy season disrupts the movement of people and goods to and from the forest province of East Cameroon. Health and education services buildings in forest areas also suffer from tornadoes. It follows that infrastructure vulnerability leads, inevitably, to human vulnerability.

Forward thinking during the planning and technical standard application stages can, nevertheless, play a role in reducing, and even controlling the damage. But such forward thinking is constrained by specific factors which are sometimes unique to each agro-environmental zone. The Northern Canadian example below illustrates this perfectly.

An initiative in the far north of Canada shows how the infrastructure sector can develop a plan for climate change adaptation. Transport, construction, communication and energy facilities are all rethought from the standpoint of making them more resilient to climate change. The 160-page document covers issues including:

- Aspects of climate change in Northern Canada
- Infrastructure vulnerability and adaptation
- The role of government in adaptation
- Risk mechanisms in adaptation.

The document's authors address aspects such as: (a) codes of conduct and standards, (b) insurance and (c) disaster management. The document points out that local government, the private sector and government have a role to play in climate change adaptation. Government could use voluntary measures such as information dissemination or coercive measures such as regulations. The value of the document resides in the fact that it demonstrates how climate change adaptation is relevant across sectors including the infrastructure sector. The document is designed for polar zones, but courses of action in the infrastructure sector can apply very aptly to tropical areas.



To come back to forest areas in Central Africa, it is clear that infrastructure, even basic infrastructure, require adaptation to be taken into account. This should be a concern when building huts and houses, community infrastructure such as schools and health centres, or when building and maintaining roads or constructing dams. When wood is used in construction, for instance, higher temperatures should be taken into account as they result in an increased risk of insect attacks.

In addition, isolation is a typical feature of forest areas and infrastructures are needed to reduce the vulnerability of forest communities. Consequently, it would be counterproductive to build these infrastructures in complete disregard for the unpredictable weather events associated with their

environment. Such infrastructures should be built with the purpose of reducing people-vulnerability to climate change. If badly constructed, they become vulnerable to climate disruptions and increase the vulnerability of the people who depend on them.

The document is available in both English and French through the National Roundtable on the Environment and the Economy website:

National Roundtable on the Environment and the Economy 2009 Franc Nord: adaptation de l'infrastructure du Nord Canadien au changement climatique. TRNEE, Ottawa, Canada. 176 pp. <http://www.nrtee-trnee.com/fra/publications/franc-nord/sommaire-franc-nord-fra.php> [May 2010].

## Building a conceptual framework for research on species vulnerability

With regard to ecological landscape management (including forest areas), one of the challenges is to prioritise species, habitats and ecosystems most vulnerable to climate change. It is necessary to identify the determinants that are causing vulnerability.

The IUCN periodically reviews threatened and endangered species. Threats generally include anthropogenic factors contributing to species extinction. But increasingly being discussed is the threat of climate change and its consequences, which is likely to reinforce species extinction. In addition, decision makers need to take informed decisions, and this requires researchers and scientists to produce the necessary information on species vulnerability.

The work of Williams and colleagues endeavours to define a conceptual framework to increase understanding of the interactions causing vulnerability at species level. This framework is necessary to help define research actions, and identify gaps in the work already completed. Using biology basics and existing work, the publication shows that species vulnerability is a function of exposure and sensitivity. The latter is determined by resilience (life history traits, population dynamics, colonisation/dispersion potential, inbreeding susceptibility and spatial scale of minimum viable population) and adaptation capacity (genetic diversity, phylogeographic diversity, ecological plasticity, genotypic and phenotypic features) of a given species. Genetic diversity, physiology (climatic preferences/tolerance) and ecology (habitat use, behaviour, biotic and abiotic interactions) determine adaptation capacity and resilience. Exposure,

combined with sensitivity, determine climate change vulnerability and depend on micro habitats and regional climate change. These regional changes, which can be modified by mitigation activities and resource management, determine habitat changes, which in turn influence species ecology.

In relation to Central Africa, this publication draws attention to the fact that it is necessary to produce scientific information on species vulnerability to climate change. It is necessary to identify species' intrinsic features (e.g. climatic margins that species cannot tolerate) and current exposure. One of the challenges is to develop mitigation strategies (as part of REDD+ for example) which maintain the microclimate inside an ecological margin compatible with the survival of local Central African biodiversity. Simply identifying endangered species as does IUCN is no longer sufficient. It is essential to include adaptation strategies in species conservation and sustainable management actions; and this can only be possible if species vulnerability is known first, and this also requires multidisciplinary research on species potentially endangered as a result of climate change. Williams and colleagues have defined a conceptual framework, a tool that we deem necessary for integrated thinking.

**Source:** Williams, S.E., Shoo, L.P., Isaac, J.L., Hoffmann, A.A. and Langham, G. 2008 Towards an integrated framework for assessing the vulnerability of species to climate change. *Public Library of Science Biology* 6(12): e325. doi:10.1371/journal.pbio.0060325 [May 2010].

## Research: Background and connecting elements to improve our understanding of climate change

Climate change adaptation research has recently expanded to include a proposal to provide the background and connecting elements to improve our understanding of climate change adaptation capacity. IDDRI geographical researcher, Alexandre Magnan (Institute for sustainable development and international relations) of Sciences Po, in Paris, France, seeks to build on the idea that weak development does not necessarily equate to low adaptation capacity. Alexandre has conducted a review of work in the area of adaptation and attempted to produce a concept connecting the various research elements, based on four lines of investigation:

1. Influencing factors
2. Space and time scales
3. Vulnerability, adaptation capacity and developmental level
4. Adaptation and sustainability.

Alexandre divides each research direction into several subdirections demonstrating how adaptation issues can be addressed. For example, Direction 1 on influencing factors can be broken down into Subdirection 1a, identification of influencing factors, 1b, interactions between influencing factors, identification of constraints and leverage points for adaptation and 1c, development of indicators. With regards to Subdirection 1a which relates to factor

identification, the author demonstrates how factors such as living conditions, socio-cultural cohesion, political and institutional structuring, and the degree of economic diversification can help in conducting research on adaptation. Thus, each direction is deciphered to enable researchers to be able to adapt the grid to each specific study.

The author also presents some theoretical thoughts on the link between adaptation capacity, adaptation trajectories (i.e. the way in which an area tries to adapt to climate change) and development. The latter exercise stems from the author's desire to set adaptation issues against the backdrop of wider questions not necessarily restricted to climate change.

Alexandre's proposal applies with ease to any community. His wish is for the region's researchers to use his work to improve conceptualisation and planning of research activities in the field of forests and climate change adaptation, as well as in other areas where adaptation capacity is relevant.

**Source:** Magnan A. 2009 Proposition d'une trame de recherche pour appréhender la capacité d'adaptation au changement climatique. *Vertigo*, la revue électronique en sciences de l'environnement 9(3). <http://vertigo.revues.org/9189> [May 2010].

## Launch of the second call for application

Congo Basin Forests and Climate Change Adaptation project (CoFCCA) is a three-year effort of the Center for International Forestry Research (CIFOR) funded by the International Development Research Center (IDRC) under their Climate Change Adaptation Programme for Africa (CCAA). This project aims at contributing to national processes of adaptation to climate change through the development of policy-oriented adaptation strategies that also ensure sustainable use of forest resources in the Congo Basin Forests. The participating countries include Cameroon, Central African Republic and Democratic Republic of Congo.

In December 2009, the project launched its second call for applications for the second and the third generation of interested candidates for graduate research fellowship awards (6 months for M.Sc, DEA or equivalent) for the academic year 2009-2010. The fellowship is on vulnerability assessment of climate change impacts and adaptation strategy on selected forest ecosystem sectors jointly identified

by stakeholders during the project kick-off meeting in June 2008. The sectors include: (1) Bioenergy with emphasis on fuel wood and Charcoal; (2) Water principally quality, quantity, accessibility, etc.; (3) Food (Non Timber Forest Products) linked to human and animal nutrition, and (4) Health linked to healthcare products (medicinal plants). However, the project focuses on the impacts of climate change on local communities and their coping strategies in the pilot countries of the Congo Basin region in Central Africa.

Thirty six candidates applied to the call from three countries: Cameroon (17), Central Africa Republic (10), Democratic Republic of Congo (09).

Pre-selection is already over and two successful candidates will be finally selected by country. All candidates will be notified soon about the status of their applications. However, the project is exploring possibilities to include more fellows within the project.

**Table. Number of candidates by sector**

Sector	Food	Water	Energy	Health	Multi-sector	Other (no link with predefined sectors)	Number of applicants
Cameroun	8	2	1	0	4	2	17
RCA	6	0	0	1	0	3	10
RDC	0	2	0	0	1	6	9
<b>Total</b>	<b>14</b>	<b>4</b>	<b>1</b>	<b>1</b>	<b>5</b>	<b>11</b>	<b>36</b>

### CoFCCA paper selected for the Yale conference

In the last quarter of the year, there was a call for papers by the International Society of Tropical Foresters (ISTF) of Yale University, USA, on 'Tropical Forests and Climate Change: Linking Impacts and Adaptation with Mitigation'. Led by Olufunso Somorin, the CoFCCA team including Carolyn Brown, Denis Sonwa, Youssoufa Bele, Johnson Nkem and some other associates. The team submitted an abstract

based on the preliminary result of the field work done in the three project countries. After a rigorous selection and interview process with the lead author (Olufunso Somorin), the abstract 'Sustaining the Congo Basin forests in a changing climate: policy discourse on adaptation and mitigation' was accepted for oral presentation as well as an invitation to be part of a panel on adaptation.

## Forest Day Cameroon

Over 250 participants made up of forest experts and enthusiasts including government officials, representatives from various intergovernmental and nongovernmental organisations, donors and private sector representatives, forest communities and media, participated in the 2nd edition of Forest Day Central Africa, held on 10 November 2009 in Yaoundé, Cameroon. Defined as 'a roadside show' for Forest Day 3 which CIFOR organised on 13 December 2009 in Copenhagen on the margins of UNFCCC-COP 1, the second edition of Forest Day Central Africa was organised by CIFOR Regional Office for Central Africa as a follow up to the first Forest Day organised in the region in April 2008. The theme for Forest Day Central Africa 2009 was 'Congo Basin Forests and Climate Change: advances and challenges before Copenhagen'.

The event had three objectives: 1) to raise the awareness of a broad range of stakeholders on the discussions and positions existing in Central Africa regarding combating climate change; 2) to share knowledge and experiences on a number of topics related to climate change by inviting experts to clarify those subjects; and, 3) to popularise the concept of 'adaptation' to climate change which is often overshadowed by that of mitigation with the famous REDD. It comprised an opening and a closing plenary session, four parallel sessions and a Forest Café forum.

One of the four parallel sessions was on 'Adaptation of societies and forests to climate change' chaired by Dr Denis Sonwa, Manager of the Congo basin Forests and Climate Change Adaptation project (CoFCCA) based in CIFOR Central Africa Regional Office in Yaoundé in Cameroon. It emerged from the session that, in Central Africa, climate change is not just an environmental issue. It also has serious economic and social implications. Climate change is, fundamentally, a sustainable development challenge, that should be linked more firmly to the broader development agenda, including poverty reduction and other internationally agreed development goals. In fact it was also stressed that, in the region, the issue of climate change is, in its essence, a development issue and that any successful solution to the climate problem will have to come from within the development process and be based on a deep understanding of how development occurs. As a common resource pool for Central Africa people, Central African forests were portrayed not only as an indispensable asset in designing poverty reduction strategies and contributing to the realisation of some of the other global targets in the countries of the region but also in helping people adapt to climate change. Forests should thus be an entry point for poverty reduction and for designing climate change adaptation.

## Participatory-Action Research in Cameroon

Following the implementation of the Participatory Action Research (PAR) roadmap developed in February 2009 in Yaoundé in Cameroon within the framework of the Congo basin Forests and Climate Change Adaptation project (CoFCCA), activities carried out in Cameroon between October and December 2009 focused on participatory identification of climate change adaptation options as well as potential partners that can facilitate implementation of the adaptation strategies and options identified in the pilot sites in Cameroon. In these sites, the following activities have already been carried out: participatory diagnosis, visioning and identification of adaptation strategies and actions. However, some of the adaptation strategies and actions were vague and had no direct linkage with climate change or the mission of CIFOR or IDRC, thus necessitating identification of

strategies and actions focused on forest and climate change adaptation.

The table below gives the top adaptation strategic options important for community livelihood in which local populations need support in the two project sites in Cameroon.

Several potential partner institutions that could facilitate the implementation of the adaptation actions have been identified. These include relevant technical services, IRAD, ITTA, Réseaux des éleveurs du Cameroun, Centre de production des champignons d'Obala. Negotiations with the partners are ongoing and the next step will be planning meetings with both the local communities and the partners.

Lekie	Yokadouma
Domestication of Gnetum (eru, coco, kok, okok)	Solicit improved varieties of farm products such as cassava, maize.
Training in agroforestry practices	Training in small livestock husbandry (such as cane rats, bees, pigs)
Training in small livestock husbandry (such as cane rats, bees, pigs)	Domestication of Gnetum (eru, coco, kok, okok)
Reforestation with forest species important to local communities	Training in sustainable management of community forest resources.
Use improved varieties of farm products such as cassava, maize.	

## CoFCCA expert point of view in Natural resources Forum

Olufunso Somorin responded to a call for technical expertise by the Natural Resources Forum, a United Nations Sustainable Development Journal. For its November 2009 edition, there was a special issue on climate change and sustainable development. In his viewpoint on the question: 'What would be the three key preconditions for jumpstarting or scaling up the transfer of environmentally sound technologies for climate change to developing countries', Olufunso

asserted that the three preconditions would be: 1) a comprehensive and objective regulatory framework; 2) capacity building; 3) adequate financial mechanisms.

For more details see: Somorin, O.A. 2009 Viewpoints on the preconditions for jumpstarting or scaling up the transfer of environmentally sound technologies for climate change to developing countries. Natural Resources Forum 33(4): 334-337.

