BRIEFING PAPER

REGIONAL CENTRES FOR A CHANGING CLIMATE

INSTITUTIONS TO ASSIST DEVELOPING COUNTRIES IN ADAPTATION AND TECHNOLOGY TRANSFER

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Brief Summary

Throughout the past two years of negotiations under the UNFCCC, various countries across country negotiation blocks proposed regional centres to support developing countries. However, little clarity exists with regard to the functions, the locations and other key criteria of such regional centres. It is therefore the aim of this paper to throw light on and discuss the functional and architectural options of regional centres in particular in adaptation, but also in technology transfer and in REDD. The paper provides input into the negotiations which continue after the Copenhagen climate summit, and which will have to determine with more clarity the concept of regional centres.

To achieve this, the work extracts functions in particular from the views and concepts submitted and proposed by Parties to the UNFCCC. On the backdrop of existing institutions and processes, as well as a mapping of potential centre institutions, the work discusses several key principles for the establishment of regional adaptation, technology transfer and REDD centres.

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Executive Summary

Regional centres or networks are a need that numerous developing (and developed) countries have expressed in the UNFCCC climate negotiations. These proposals have been linked to different issues, in particular adaptation and technology transfer, and references appear in different parts of the most recent negotiating text. While the Copenhagen Accord does not make reference to regional centres, they continue to play an important role in the climate debate. This brief outlines some key aspects of the debate and considers possible approaches to move forward on this particular issue, primarily from the perspective of adaptation to climate change.

1. Considered functions of Regional Centres in adaptation can be grouped in four basic functions: 1. an interface function between global knowledge supply and local adaptation needs; 2. the generation and dissemination of needed information; 3. the enhancement of regional and national capacities to process these information; 4. a coordination function to facilitate coherent planning and to provide a multi-stakeholder perspective on the issues at hand.

2. Regional centres might also perform an implementing role, e.g. they might host a Climate Insurance Assistance Facility or an insurance pool for the respective region.

3. Discussion of Regional Centres in Adaptation and in Technology Transfer overlap in the area of adaptation technologies.

4. Considered functions of Regional Centres in Technology Transfer can be grouped in the following 3 functions: 1. provision of information; 2. capacity building (with emphasis on public-private expertise); 3. joint research and development of products (also building on other processes such as the MEF or IEA roadmaps).

5. Regional Centres in Technology Transfer could directly promote deployment by implementing activities such as a business incubator service, an enterprise creation component or an early stage funding mechanism for low carbon ventures.

6. The design of Regional Centres should be based on principles. These are in particular:

    - Institutional form follows function (and ambition) approach
    - Design as per need of region and involved countries
    - Strengthen and build upon existing institutions rather than establishing new ones
    - Ensure synergies with other processes within and outside the UNFCCC
    - Take an interdisciplinary approach/bundle institutions where possible
    - Perform an inclusive approach with all relevant stakeholders
    - Ensure sustained and sufficient international public finance for the centre

7. Regional centres need to interface with important ongoing and future institutions and processes within and outside the UNFCCC. These include among others:

   - Nairobi Work Programme;
   - Global Framework for Climate Services;
   - Hyogo Framework for Action;
   - Proposed and possibly new established institutional arrangements, such as an Adaptation Committee/Subsidiary Body for Adaptation,, an International Adaptation Centre, or a Technology Executive Committee.[1]

8. Some existing institutions and initiatives offer lessons learned in developing regional adaptation/technology transfer centres. Existing institutions could partially be graduated into the role of regional centres under or outside the UNFCCC.

9. Different degrees of institutional arrangement are possible ranging from “light” to “heavy”. A “light” regional centre could build on a “virtual” roster like arrangement, in which different experts and institutions are enlisted with regular meetings between the (already existing or new) partner institutions taking place. The “heavy” version is a regional centre which conducts own research, creates own data and is directly engaged in implementation of activities from a physical base.

10. An institutional “form follows function” approach might well combine some “heavy” as well as some “light” arrangements to best fulfil the stated functions and principles and to best build on existing processes and institutions.

11. Given the manifold functions proposed by countries it is doubtful whether these can be achieved by a sole “virtual”regional centre. On the other hand, many activities of a “heavy” regional centre are already taking place. A centre which is engaged in weather and climate data generation seems a duplication of activity, since such tasks could also be fulfilled by other institutions and frameworks. The tasks for a regional centre should therefore be in many cases rather to point to existing gaps and to ensure that other fora pick these up.

12. One critical question is that of where to place the centres? Needs regarding scope and function vary very much from country to country and from regions to regions. This means that for some contexts a national centre may be rather appropriate than a regional one. The UNFCCC negotiations lack concrete proposals with regard to this question (how many centres, what regional aggregation etc.).

13. In order to ensure country-ownership, a bottom-up system of countries nominating their regional centres seems reasonable. However, this could also result in more nominations than necessary. When building on existing institutions, additional options are a) to build on centres which are already run by regional cooperation organisations (e.g. ASEAN, SAARC,, CARICOM[2] etc.) or b) to use the existing (and rammed up) regional infrastructure of existing UN organisations such as UNEP and UNDP.

[1] This terminology reflects the latest state of the Copenhagen discussion. See document FCCC/CP/2010/2
[2]ASEAN Association of Southeast Asian Nations; SAARC South Asian Association on Regional Cooperation,, CARICOM Caribbean Community and Common Market

14. One should call for a strong partnership approach of regional centres, whereby local networks with an inclusive range of local partners must be enhanced or established. The design of this partnership system should be based on country wants and needs. At the same time an evaluation system should be introduced, whereby the replacement of low-rated components of regional centres by new ones is considered. The peer-reviewed, criteria-based rating of the components should be based on the fulfilment of countries' needs as well as on the fulfilment of the internationally agreed ambition levels of adaptation activities .

15. In order to optimise developing country ownership as well as building up capacities in these countries, regional centres should strive to employ experts from the target regions, rather than becoming a playing fields for international consultants.

16. The costs of regional centres vary much depending on the pursuit functions. UNEP estimates the annual costs for one regional centre under its Global Climate Change Adaptation Network to be in the order of USD 500,000. Costs could run higher for direct implementing activities or if the coordinating need is greatly increased as a result of a fragmented adaptation framework.

17. For regional centres in technology, funding requirements might be much higher, depending on the level of implementation work. The Carbon Trust estimates that one regional centre might require investments of USD 40-100 million per annum.

18. Given the diverse needs in both adaptation and mitigation, and the potential synergies, opportunities for integrated Regional Centres (adaptation and mitigation) should be assessed in each case, but the choice also depends on the priorities countries choose. For some countries, adaptation is the overriding priority.

19. Since there is a broad convergence on the possible usefulness of regional centres, it is one of the areas being discussed in the negotiations where agreement should be possible in the near future. Advancing or building up Regional Centres is also one of the needs which can be responded to very promptly and thus qualifies for near-term action. It is also crucial to build up such capacity as soon as possible, in order to prepare vulnerable developing countries for the near-term threat and long-term challenge of adaptation.

1 Introduction

Regional centres to support developing countries is a concept requested by various countries across negotiation blocks. These calls, ranging throughout the architectural elements of the Bali Action Plan, however, lack a distinct overarching concept. It is therefore the aim of this paper to throw light on the functional and architectural options of regional centres in adaptation, in technology transfer and in REDD, and thus to provide input into the negotiations to facilitate an outcome which most effectively applies the concept of regional centres.

The structure of the paper is as follows: First, it is explored, which functions should be fulfilled by regional centres. This is followed by a section on principles, which could guide the establishment of regional centres. Subsequently, parallel processes within and outside the UNFCCC are analysed with which regional centres would need to interface. This section is followed by a mapping effort of existing institutions, which offer attributes with a prototype character for regional centres. The paper concludes by outlining options for institutional arrangements and discussing these in light of the proposed function, principle and the depicted subset of ongoing processes and institutions.

2 Possible Functions of Regional Centres

The analysis contained in this paper is primarily based on Parties' views subsumed by the AWG/LCA chair in the so called Assembly Document[3] which was released in Poznan in December 2008. Furthermore, all submissions made by countries to the AWG/LCA (until September 2009) as well as the relevant negotiation text captured in the non-papers of the Bangkok session are being taken into account. The most recent negotiating text worked out in Copenhagen provides little technical detail on the issue of regional centres (see box 1).

2.1 Regional centres in the adaptation debate

The enhancement or establishment of regional centres to assist developing countries in the implementation of adaptation has been raised continuously in the adaptation related negotiations under UNFCCC, since COP13 in Bali, but also before.[4]

The submissions made by Parties from different country negotiating blocks until the Bangkok session (AWG-LCA 7) can be summarised as follows with regard to the proposed four basic functions:

1. an interface function between global knowledge supply and local adaptation needs;
2. the generation and dissemination of needed information;
3. the enhancement of regional and national capacity to process this information;

[3] FCCC/AWGLCA/2008/16/Rev.1
[4] See Harmeling & Bals (2008); e.g. Decision 5/CP.7

4. a coordination function to facilitate coherent planning and to provide a multi-stakeholder perspective on the issues at hand.

Box 1: Regional centres in the adaptation debate: Before and after Copenhagen

Pre-COP15: Non Paper 31(20th October 2009)

"Regional [adaptation] centres, including virtual centres, networks, organizations, initiatives and coordinating [bodies] [entities], should be strengthened to the extent possible and, where necessary, established in developing country regions [under the authority of the Subsidiary Body for Adaptation] to facilitate action on adaptation. Regional centres should be designated by the countries they serve and be guided by and complement national adaptation action and priorities. Parties could use them as a source of guidance, information and expertise. Regional centres should operate with a view to:

a) Facilitating sharing of knowledge and information between regions and centres at all levels;

b) Organizing and delivering information between the Convention process and national focal points;

c) Providing technical support, backstopping and capacity-building;

d) Enhancing the implementation of adaptation action, particularly at the regional level through cross-border projects and programmes, where appropriate;

e) Facilitating development, diffusion and transfer of technologies for adaptation"

COP15: Content of Drafting group 18th December

After the reporting of the LCA work to the COP a further drafting group was established under the COP. The drafting group achieved substantial progress, however, it could not report to a contact group nor plenary. Therefore, it is uncertain which negotiation text will be the base for further negotiations. It remains, however, that the latest text reflects the furthest compromise established in the adaptation negotiations. Document FCCC/CP/2010/2:

"Invites Parties to strengthen and, where necessary, establish regional centres and networks, in particular in developing countries, with support from developed country Parties and relevant organizations, as appropriate; to facilitate and enhance national and regional adaptation actions, in a manner that is country-driven, encourages cooperation and coordination between regional stakeholders, and improves the delivery of information between the Convention process and national and regional activities,"

Link between expertise and need:
Australia rightfully noticed that regional centres are a core element to link global

expertise with the needs from the ground.[5] In this sense adaptation centres have to filter global top-down knowledge (e.g. climate data from Global Circulation Models) with what is demanded by regional, national and local actors. At the same time, regional centres have to backfeed the articulated needs of the users to the global level to ensure that information generation there is generally compatible with the required needs of regional stakeholders (e.g. national administrations, communities etc.).

Information generation and delivery:
One key function to be fulfilled by regional centres is the generation and dissemination of adaptation information. This has been proposed by a diverse group of countries[6]. The countries, however, point to different aspects within this debate

- Enhance endogenous knowledge and foster sharing of it within a region[7]
- Promote the rescue, diffusion and transfer of traditional and local knowledge relevant and appropriate for adaptation[8]. A concrete proposal could be to establish seed banks for regional crop varieties and (agro)forestry species
- Build on north-south as well as south-south R&D cooperation and partnerships[9]
- Promote information for short-, medium-, and long-term climate change challenges and risks in the region[10] and use analytical tools to enable scenario generation and downscaling for current and future impact assessments[11]
- Provide an international arena for regional centres to collaborate[12]

Annex V of the non-paper 8 of the Bangkok session concretizes that such information generation should also consist of exchanging ´lessons learned´ and ´best practices´[13]. Furthermore, it also suggests that information and guidance should be made available to the financial mechanism of the adaptation framework on appropriate criteria for approval and disbursement of financing for adaptation.[14] Inter alia, this relates to the question of how a prioritisation of funds could be guided by approaches to measure vulnerability. Some countries (e.g. Bangladesh, Pakistan) are calling for an scientific index rather than relying exclusively on the already agreed language of the Bali Action Plan (BAP) as the key reference for country prioritisation (which terms LDCs, SIDS and African countries prone to drought and flooding as particularly vulnerable).[15] The BAP language itself has certain foundations in the prior Convention process.

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[5] Australia 04/2009, Document FCCC/AWGLCA/2009/MISC.4(Part 1)
[6] See Assembly Document: EU , AOSIS, Brazil, Colombia, Indonesia, Russian Federation; China, AOSIS, Australia, New Zealand, African Group, LDCs)
7 AOSIS in Assembly Document FCCC/AWGLCA/2008/16/Rev.1
[8] Nicaragua on behalf of Guatemala, Dominican Republic, Honduras, Panama and Nicaragua 04/2009, Document FCCC/AWGLCA/2009/MISC.4(Part 1)
[9] Argentina, 02/2009, Document FCCC/AWGLCA/2009/MISC.1
[10] Columbia in Assembly Document, FCCC/AWGLCA/2008/16/Rev.1
[11] China & Brazil in Assembly Document FCCC/AWGLCA/2008/16/Rev.1
[12] EU in Assembly Document, FCCC/AWGLCA/2008/16/Rev.1
[13] Non-paper 8, Annex V (e), the non-paper got superseded by non-paper 31. For this reason non-paper 8 has no official documentation. It can, however, be accessed on http://unfccc.int/files/kyoto_protocol/application/pdf/adaptation831009v1.pdf
[14] Non-paper 8, Annex V (e)
[15] It remains in question, whether such assessment can be done on a scientific basis. Compare Klein, R. (2009):

Such guidance could also be linked to the question of how to measure and assess reasonable costs, such as for comprehensive documents on national adaptation planning, which may be submitted for full funding in the future.

Capacity building:
Another function pertaining to regional centres is the building of capacities within the adjacent countries to facilitate and implement national adaptation strategies and actions. Brazil[16] in its submission and AOSIS[17] in a similar way laid out the different work areas of such a capacity building component:

- Promote the professional exchange between technical personnel from different countries and regions
- Enhance professional development opportunities, through scholarships, fellowships and access to other forms of training
- Strengthen information networks through 1) the establishment and maintenance of databases and repositories of adaptation-related information; 2) preparation and dissemination by the UNFCCC of compilations and syntheses of best practices in adaptation
- Support public information and awareness-raising activities at national level
- Dissemble information through peer-reviewed documents and journals

Cooperation, coordination and alignment of adaptation actions:
Regional centres could pursue a crucial role in coordinating adaptation efforts by different countries:

- Australia pointed to the need to coordinate between relevant sectoral agencies and stakeholders[18]
- The EU underscored to engage the private sector and encourage cooperative partnerships between governments and industry[19]

The need to concert adaptation action within the region has been emphasized by a submission from the International Water Association[20]. The authors highlight the transboundary settings of many adaptation policies in particular in the water sector. Pressures for water allocation are a complex issue in a single country, yet many catchments cross borders making the challenge even harder. The WGBU[21], a scientific advisory board to the German government, concluded in a special report on conflict and climate change, that adaptation policies itself could be a source for conflicts, in particular on regional scales, when adaptation strategies are opted by one country relentlessly of the resulting impacts in another. An example would be a country damming a river to use the water for irrigational purposes (as their adaptation strategy), thereby reducing the amount

[16] Brazil 04/2009, Document FCCC/AWGLCA/2009/MISC.4(Part 1)
[17] AOSIS, 12/2008, Document FCCC/AWGLCA/2008/Misc.5/Add.2 (Part I):
[18] Australia 04/2009, Document FCCC/AWGLCA/2009/MISC.4(Part 1)
[19] EU 04/2009, Document FCCC/AWGLCA/2009/MISC.4(Part 1)
[20] International Water Association 04/2009
[21] WBGU (2007) pp. 83

of water for other downstream located communities and countries. Whereas adaptation plans and strategies of countries should avoid such side effects of adaptation measures within the same country by facilitating a consultation process, which includes all affected stakeholders, there is no such entry point within the UNFCCC negotiations so far for regional 'spill-overs' of adaptation activities. One function of regional centres, therefore, should be to facilitate cooperation between the different stakeholders and countries. This aspect has partially been captured in Non-paper 31 published in late October 2009 (para 28, see above).

Also, this draft text envisaged an assisting and (co)financing role of regional centres for countries to enable planning, implementing, monitoring and evaluation of adaptation action as well as direct assistance in the formulation and application of national adaptation plans (Annex IV, c)).

A further coordinating role considered in para (r) of the same document is to "provide feedback to the Adaptation Committee on gaps at the national and regional levels that need to be addressed." Furthermore, one could imagine a trust fund associated to regional centres, which could provide funding to help fill these gaps.[22] This role, however, depends very much on the format of the adaptation framework itself. An adaptation framework with a centralized funding mechanism instead of a patchwork of bilateral and multilateral assistance would limit the amount of coordination needed and could probably reduce the resources required.

Implementing activities by regional centres?

In submissions and during interventions at the Bangkok session, Parties reiterated their understanding to apply a country driven approach in adaptation, whereby the identification of priorities and the implementation of adaptation activities is up to the concerned countries. This does not necessarily stand in conflict with regional implementing activities, since countries can work together and jointly develop regional approaches. However, currently there are not yet specific frameworks or incentives envisaged under UNFCCC to direct Parties more explicitly to advancing regional cooperation. It is questionable if countries take this up actively by themselves. Mandating the regional centres to initiate regional cooperation and perhaps providing them with specific resources for this purpose could help filling this gap, without undermining the "country-driven" principle.

However, it is important to note that some adaptation activities need back-up arrangements on higher levels in order to be viable. Micro-insurance activities, which have proven to be a successful tool as a safeguard of people assets and livelihoods after extreme events, could become insolvent, if an event affects a large geographic area. For this reason, and to overcome other market barriers such as poor weather data, the Munich Climate Insurance Initiative (MCII) proposed to establish a Climate Insurance Assistance Facility (CIAF), which would provide reinsurance as well technical expertise and support for micro-insurance solution and other forms of post-disaster financial safety nets on a global scale.[23] In search of 'light' institutions, however, one could imagine to locate such CIAF at regional centres, which would provide the double benefit of harmonizing activities to support insurance (e.g. improved data provision) with other adaptation needs

[22] Compare to the CCCCC in the "Mapping of forerunner institutions" section of this document
[23] For further information visit www.climate-insurance.org

of the region. Also risk pooling solutions, such as the Caribbean Catastrophe Risk Insurance Facility[24] which operates as a hedging institution for countries to cover a predefined portion of a particular event, could be added to a regional facility. This is of particular relevance, since a compromise option on climate loss and damage discussed in the Copenhagen negotiations explicitly referenced the establishment of regional approaches.[25]

2.2 Regional centres the technology building block

Besides the adaptation debate, regional and national centres have been proposed as a component of the technology building block of the LCA negotiations. The discussion, however, overlaps in content, as many issues relate to adaptation technologies, which are part of both adaptation and technology transfer and deployment. In addition the basic function of regional centres in generating information and building capacities are in principle also very similar.

Box 2: Climate Technology Centres in the Copenhagen discussions[26]

Climate Technology Centre and Network
"10. *Decides* that the Climate Technology Centre, supported by its regional units and by the climate technology network, will:
(a) At the request of a developing country Party:
(i) Provide advice and support related to the identification of technology needs and the implementation of environmentally sound technologies, practices and processes;
(ii) Provide information, training and support for workforce development programmes to build or strengthen developing country capacity to identify technology options, make technology choices and operate, maintain and adapt technologies;
(iii) Facilitate prompt action on the deployment of existing technologies in developing country Parties based on the identified needs;
(b) Stimulate and encourage, through collaboration with the private sector, public institutions, academia and research institutions, the development and transfer of existing and emerging environmentally sound technologies, as well as opportunities for North. South, South.South and triangular technology cooperation;
(c) Develop and customize analytical tools, policies and best practices for country-driven planning to support the dissemination of environmentally sound technologies;"

Providing information:
The importance to increase information and access to this information has been noted by several Parties. In addition to those points raised in the adaptation section there are a few technology specifics, which have to be included when technology centres are established.

- Identify key technological products that have strong climate change benefits and that safeguard sustainable development.[27]

[24] See http://www.ccrif.org/
[25] See Document FCCC/CP/2010/2
[26] Likewise the adaptation building block, further negotiations on a technology mechanism took place in on the 17th of December. The status of the discussion is contained in document FCCC/CP/2010/2
[27] Annex VII of non-paper 29

- Inventory existing adaptation technologies and identifying priority adaptation technologies (for support/uptake of int. technology mechanism.)
- Again like in the adaptation debate, the 'translation' work between bottom-up needs and top-down approaches in technology or data/knowledge generation must be at the core of the work of a regional centre.

Capacity building:
More than in the adaptation debate, parties hinted to the fact that capacity building need to build on public-private expertise.

- Provide cooperative training opportunities for participants from all countries to facilitate the development and transfer of renewable energy and energy efficiency technologies as well as environmentally sound adaptation technologies.[28]

Likewise the adaptation debate, where regional centres should have the explicit mandate to create capacities for and to assist in the preparation and alignment of adaptation strategies and plans, regional technology centres should also support the strategic focus of mitigation activities to ensure a decarbonisation of the economy and sustainable development. Therefore capacity building should be provided for the drafting process of Long Term Action Plans and the development, implementation and monitoring of unilateral, bilateral and multilateral NAMAs. It is important, however, to interlink such efforts with ongoing work for instance in the LEG[29].

Joint research and development of products:
A crucial component of technology transfer is the collaboration and joint development of new green technologies. Bazilian et al. (2009) point to the fact, that any technology transfer regime should be mutually reinforcing, that is that both the donor and the recipient country should benefit from participating the scheme. Norway rightfully acknowledges that abatement technologies should be developed and demonstrated in close cooperation between developed and developing countries and the technology framework must incentivise and reward North-South and South-South technology cooperation with a look on the climate change and sustainable development benefits.[30]

This has to be seen in conjunction with other processes also outside the UNFCCC, namely the International Energy Agency technology roadmaps and the topical technology partnerships in the Major Economies Forum. Therefore, regional centres should pursue centre to centre twinning arrangements to contribute to such technology partnerships and to develop and tap comparative advantage.[31]

Promote deployment:
Unlike the discussion in adaptation, Parties proposed a role for regional centres in technology deployment, which goes beyond a sole enabling of necessary environments.

[28] Tuvalu, 05/2009, Document FCCC/AWGLCA/2009/MISC.4(Part 1)
[29] This is yet only partly reflected in the Annex VII of non-paper 29, which speaks of "coordinating nodal centres". An advanced proposal, however, has been elaborated by Bazilian, et al. 2006
[30] Norway 02/2009, Document FCCC/AWGLCA/2009/MISC.1
[31] Non-paper 29, Para 32

In Annex VII of non-paper 29 it says the centres should achieve development of such products as well as markets. A paper by the Carbon Trust (2009) develops the implementing functions of such a regional centre for technology promotion in developing countries.[32] These are *inter alia*

- a business incubator service, which gives strategic advice to start ups,
- an enterprise creation component, which aims to enable the creation of new businesses by bringing together expertise and skills,
- and an early stage funding mechanism for low carbon ventures, which provides co-investments, loans or guarantees.

2.3 Regional centres in the REDD debate

Regional centres are also featured in the debate about the reduction of emissions from deforestation and degradation (1b)III) in the mitigation building block. This relates back to a proposal made by Tuvalu in May 2009. Similarly, like in the adaptation and technology discussions, the main role for regional REDD centres is that of a capacity provider. The task profile of a REDD regional centre would be to support countries with the capacities needed for successful mitigation action associated with reducing emission from deforestation and forest degradation (i.e. help to fulfil the measuring, verifying and reporting requirements for REDD).[33]

3 Principles in establishing regional centres

Before developing the institutional arrangements for regional centres and networks, it is a necessary prerequisite to establish and acknowledge guiding principles. The authors propose the following:

Institutional form follows function approach
Without a doubt, the ultimate guiding principle is that the institution should be designed/established/changed in a way that ensures the highest effectiveness in performing the needed functions.

Design as per need of region and involved countries
Clearly, any institutional arrangement needs to take into account national and regional circumstances. Adaptation or technology transfer needs are for example very different for many poor African countries vis-à-vis emerging economies in south east Asia. Therefore the institutional arrangement must not consist of a top-down, ´one size fits all structure´.

[32] See Carbon Trust,(2008)
[33] See Tuvalu 05/2009 and non-paper 18 para 20 of the Bangkok session

Strengthen and build upon existing institution rather than new ones
In order to best use synergies and to avoid duplications of efforts, existing institutions should rather be scaled up in scope than building new ones. This, however, should be decided by the beneficiary countries

Ensure synergies with other processes within and outside UNFCCC
To avoid duplication of work regional centres should have strong linkages with ongoing processes within and outside the UNFCCC (e.g. the Nairobi Work Programme or the Hyogo Framework for Action, Global Framework for Climate Services).

Take an interdisciplinary approach/bundle institutions where possible
The overlaps between different building blocks have already been mentioned. In many cases it would make sense to use an interdisciplinary setting, whereby different topics are combined in one institution. Technology approaches, if poorly designed, could contribute to maladaptation. Ecosystem services are at the heart of people's livelihoods and play a crucial role in adaptation. REDD policies could foster these ecosystem services, but if poorly designed and with a blind focus on carbon benefits only, they could also undermine them.

Perform an inclusive approach with all relevant stakeholders

In order to be most effective, regional centres should not only target governmental authorities, but explicitly outreach their services to the private sector, to local academia as well as the civil society, and build their knowledge on the experience of these different target groups.

Ensure sustained and sufficient international public finance

The last principle is that of finance. Equal footing to design should be given to ways to ensure sufficient and continuous funding. Climate change will continue to pose stress on developing countries for decades, and so will the need for regional cooperation and exchange of experience.

4 Interface institutions and processes

This section provides insights on important (future) institution and processes within and outside the UNFCCC, with which future regional centres would need to interface with.

Nairobi Work Programme
The Nairobi Work Programme on Impacts, Adaptation and Vulnerability provides a useful forum for scientific debates around issues such as vulnerability, adaptation and

climate stresses and impacts. Because the mandate lasts only until 2010 there are many discussions on the extension and possible improvements of the NWP beyond 2010.

While the NWP (despite limited budgets) has achieved significant capacity building on country government level, much more needs to be done to disseminate the knowledge in regions and within countries. International workshops only reach a few addressees. This holds in particular true if a post 2012 adaptation framework would increase the need for strategic planning.

One reported shortcoming of the existing NWP, which causes frustration in particular on developing country side, is the restricted mandate on information sharing without any role for action research or implementation of adaptation.[34]

Given the formidable challenges ahead (the impact side of climate change is growing and so is the management challenge of adaptation) the NWP should be enlarged in scope as well as mandate. To target a wider circle of sectors as well as to ensure a continuous exchange of information and capacity building, the format in which the NWP takes place could be reformed (away from a workshop-type capacity building to a more institutionalized setting). An example of increasing the outreach and effectiveness of the programme would be by addressing the regional and local private sector. This is something that could be facilitated through regional centres.

Regional centre or hubs could be the physical place to hold such events and also outreach to the target countries. In addition they represent a pool of experts to be utilized for the information exchange and capacity creation. Furthermore, there needs to be an overall oversight/monitoring/report-back role on the effectiveness of the regional centres, - a role which could be performed by the NWP.

Potential Adaptation Committee/Subsidiary Body under the UNFCCC

Because the way adaptation is dealt with under the UNFCCC is very fragmented across different expert groups, several countries have suggested to create a focused institutional arrangement under the UNFCCC on adaptation issues alone,[35] which would be tasked to *inter alia* assess progress and recommend further action to the COP, develop guidelines for adaptation strategies, assist the adaptation funding regime and develop mechanisms/instruments to verify countries' commitments related to adaptation.[36]

It is stating the obvious, that the composition and the objective of the panel depend very much on the wider context how adaptation is handled under the UNFCCC through what kind of framework and institution(s).

Potentially there might be overlaps between the task profile of regional centres and an adaptation committee (e.g. capacity building in preparing national adaptation strategies). However, regional centres are not necessarily an element of the UNFCCC institutional structure. Therefore, a committee with a specific mandate to prepare political recommendation would be an expedient addendum to the UNFCCC.

Nonetheless, many of the tasks would involve strong collaboration with regional centres as well as a sharing of competences.

[34] The NWP has a mandate for the SBSTA and not for the SBI
[35] For a more detailed analysis on the different options discussed, see Harmeling (2010)
[36] See CAN-submission 04/2009

Potential International Adaptation Centre

Bangladesh has proposed the setting up of an International Adaptation Centre (to be hosted in Bangladesh) with the objectives to support vulnerable developing countries in general and the LDCs & SIDS in particular through coordination and building synergies with other adaptation activities being taken place throughout the world. This should be achieved by own adaptation research, by data and information sharing, by establishing a virtual library of adaptation activities and by building on strong partnerships with other institutions. The International Adaptation Centre would be administered by a board with equal representation from developed and developing countries.[37]

Obviously there would need to be strong linkages with regional centres. One advantage of establishing an International Adaptation Centre is, that it could bridge gaps which appear in the process of establishing regional centres.

Global Framework for Climate Services

At the World Climate Conference 3 (hold under the auspices of WMO from 31/08-04/09 in Geneva) Heads of States, Ministers and Heads of Delegations decided to establish a Global Framework for Climate Services (GFCS), with the aim to provide the data and knowledge needed for adaptation in all countries. The WMO has been instructed to convene a task force, which prepares a report on the future of such a framework within 12 months time.

The Framework will have four major components:[38]

1) Observation and Monitoring; Research,

2) Modelling and Prediction;

3) a Climate Services Information System

4) a User Interface Programme

The objective of the User Interface Programme is to bridge the gap of existing climate information and the practical information needs of users. The outcomes of the User Interface Programme will be reflected in the operational services of the Climate Services Information System.[39]

The WMO envisages to achieve the objective of the framework through "an enhanced role and involvement of national meteorological services as well as *regional/global centres* and greater participation of other stakeholders and *centers of excellence across relevant socio-economic sectors*, particularly those in developing countries, Least Developed Countries (LDCs) and Small Island Developing States (SIDS)."[40]

Given the relatively large scope and ambition of the Global Framework for Climate Services as well as the shared objective of the GFCS and regional centres (i.e. to be an

[37] See Bangladesh 04/2009, Document FCCC/AWGLCA/2009/MISC.4(Part 1)
[38] See WCC3 (2009): Brief Note
[39] Ibid.
[40] Ibid. Emphasize added.

intermediary between data expertise and information need), it seems pivotal to link the discussions on regional centres with those originating from the WCC3.

Hyogo Framework for Action

The Hyogo Framework is a global blueprint for disaster risk reduction efforts during the decade from 2005-2015 to which 168 countries signed at the World Conference on Disaster Reduction in 2005.

The Hyogo Framework for action has initiated a shift in disaster risk management away from a sole post disaster response to more preventive approach of addressing the underlying drivers.

Since adaptation to climate change is in many cases adaptation to increasing impacts from climate weather extremes, it is of great importance to make use of processes initiated by the Hyogo framework.

There should be an arrangement between regional adaptation centres and centres under the UNISDR (e.g. in Bangkok, Thailand, or in Duschanbe, Tajikistan).

Institutional arrangement for technology transfer

Likewise the discussion in adaptation, countries proposed also the establishment of a new institutional arrangement for technology transfer under the UNFCCC.[41] In Copenhagen parties discussed to launch a Technology Committee. This panel would provide guidance to the COP on promising technology pathways as well actions to promote technology development and deployment. The Technology Committee would also spearhead the further advancement of the technology transfer building block under the UNFCCC and its subsidiary bodies and with this mandate replace the existing Expert Group on Technology Transfer.

Again, like in adaptation, there might be overlaps in the work of regional and national centres and a technical panel under the UNFCCC. However, the same argument applies, that regional technology centres are not necessarily part of the UNFCCC architecture, so there is a role for technical panel to provide direct policy recommendation. The second way to overcome the issue of redundant capacities is to focus on the global level on the elaboration of guiding documents which set the standard for a due diligence, whereas centres on the regional and national level facilitate the implementation of these guiding documents.

5 Mapping of forerunner institutions

This section aims to explore the potential of existing institutions and initiatives in being graduated into the role of regional centres. Such a graduation can either be an augmentation of the physical capacities of the institutions, it can be part of a network initiative building the regional centre, it can be a close cooperating partnership to another institution, which becomes physically strengthened to be a regional resource facility or it

[41] See document FCCC/CP/2010/2

can be a mixture of these options. The section provides insights to some institutions and organizations, however this is yet by no means an exhaustive analysis.[42]

UNEP

UNEP has the comparative advantage to be able to build on existing experience in supporting the implementation of the Montreal Protocol. Through its Division of the Technology Ozone Action Branch, UNEP by its regional networks hosted at UNEP regional branches provides Parties to the Montreal Protocol with 1) guidance to understand the Montreal Protocol and its provisions and linking them with countries' industrial and development policy 2) quick identification and help in addressing compliance challenges, 3) local technical and project management support to countries 4) identification and implementation of cost-effective solutions for project activities (e.g., South-south cooperation)[43]

This experience and the existing infrastructure in regional branches make UNEP a possible object to be augmented in order to host regional centres in the UNFCCC context -both in adaptation as well as in technology transfer.

UNEP has realized the potential to strengthen its role regarding adaptation support[44] and is ramming up its strategy now to develop a Global Climate Change Adaptation Network[45], which would be the main provider for "knowledge-based adaptation" under the UNFCCC. Figure 1 exhibits indicatively which flows of function would be directed to which level of decision-making as well as the different components of the network (see also Annex 1 of this document).

UNEP's strategy regarding the framework follows a triple-phased approach, with an inception phase in the years 2009/2010, an expansion phase from 2011-2013 and a full operationalization from 2014 onwards. The inception phase includes the offer of full services for selected regions (i.e. Africa and Asia). In the expansion phase emphasis is given to developing a fully functioning network with a long-term financing mechanism, which is reportable to the COP of the UNFCCC. Full operationalization will be achieved when the network gets granted with a mandate, and when it develops clear performance indicators, whereby 5% of the low-rated components are replaced with new processes, as well as an annual replenishment system.[46]

[42] The manifoldness of different climate adaptation networks and initiatives is depicted in the overview -chart at http://wikiadapt.org/index.php?title=Overview_of_major_climate_adaptation_intitiatives_and_networks. These are also possible interface institutions

[43] Bagai (2009)

[44] See UNEP (2008) action pledge at the 28th session of SBSTA, available at http://unfccc.int/adaptation/sbsta_agenda_item_adaptation/items/4558.php

[45] See UNEP (2009)

[46] Ibid.

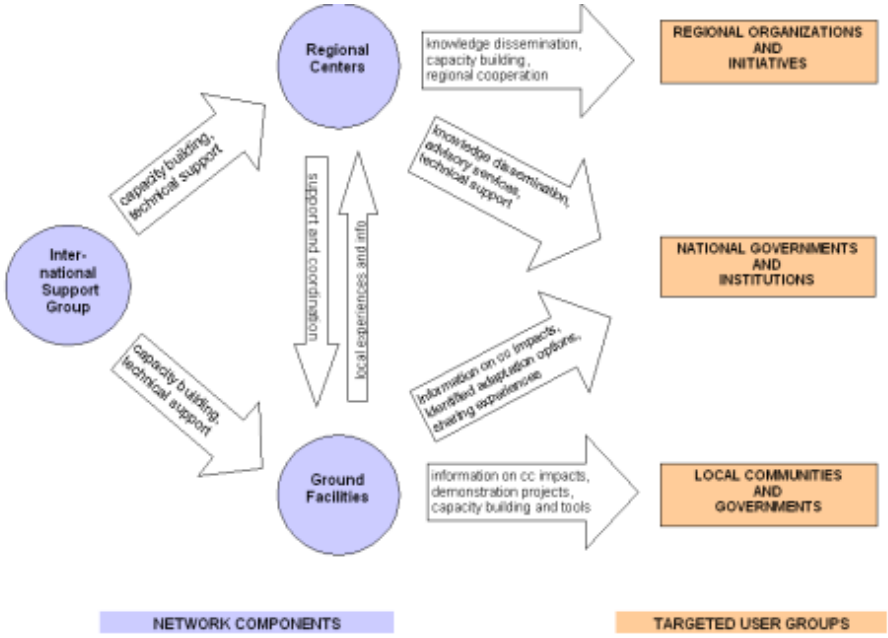

Fig. 1: Structure and flows of functions of the Global Climate Change Adaptation Network (source: UNEP, 2009)

One advantage of UNEP are its regional branches: - the Regional Office for Africa (ROA) in Nairobi, Kenya; the Regional Office for Latin America and the Caribbean (PNUMA) in Panama City, Panama; The Regional Office for West Asia (ROWA) in Manama, Bahrain; as well as the Regional Resource Centre for Asia an the Pacific (RRC-AP) in Bangkok, Thailand.

Exemplary for other regional UNEP centres, it is shown below what potential lies in the RRC-AP to facilitate some of the proposed functions of regional centres under or to the UNFCCC.

The RRC-AP facilitates the implementation of activities in the field of safeguarding ecosystem services while allowing for sustainable development by a Collaborative Assessment Network (CAN) which consists of other (inter)-governmental bodies, the scientific community, and donor institutions active in the region. The network is guided by the Centre Advisory Committee.

Together with its partner-institutions[47] the RRC-AP provides technical support in capacity building and informed decision-making required by governments in the region for the realization of UNEP's thematic priorities. The offered products include among other an environmental knowledge hub, sustainable development strategies for the region as well as scientific assessments regarding pressing environmental questions.

In its strategy document for 2009-2013 RRC-AP commits to further provide direct regional support (which includes inputs to ministerial fora at the regional and national level as well as network and science support). Network support is composed of multi-

[47] Partner institutions are among others the Association of South East Asian Nations (ASEAN), International Centre for Integrated Mountain Development (ICIMOD), Mekong River Commission (MRC), Scientific Informational Center - Central Asia (SIC), South Asia Cooperative Environment Programme (SACEP) and South Pacific Regional Environment Programme (SPREP).

stakeholder participation networks which aim to mainstream sustainable development in decision making at all levels. Science support encompasses the direct running and analysing of data on for instance atmospheric brown clouds.

The RRC.AP decided to limit its direct engagement to the three areas climate change, ecosystem management; environmental governance.

The aspiration of the RRC-AP to be a regional centre for adaptation issues has been shown lately, since it is at the core of a UNEP pilot component of the Global Climate Change Adaptation the Network the Regional Climate Adaptation Knowledge Platform for Asia, which was launched recently.[48]

On the technology transfer side of the regional centres discussion, UNEP has the above mentioned experience in providing support in implementing the Montreal protocol. Another area which could be extended are the 24 National Cleaner Production Centres in the developing world, which UNEP partners with UNIDO.[49]

UNDP-SURF

One remarkable component within the UNDP system are the Sub-Regional Resource Facilities (SURF) which were established in 1999 based on the realization that neither UNDP country offices nor the UNDP headquarters can provide the technical backstopping for project activities on a day to day basis.[50]

First SURFs were launched in the main developing regions. By the time being, some of these SURFs were graduated into full-fledged regional centres, which provide support to country offices with analysis, policy advice and support for national capacity development, knowledge networking and sharing of good practices. Some of the SURFs are also engaged in advocacy or run their own programmes.[51]

SURFs exist

- in Bratislava for the Commonwealth of Independent States (CIS) region;
- in Bangkok, Colombo and Suva for the Asia-Pacific region;
- in Johannesburg and Dakar for Africa;
- in Panama for Latin America and the Caribbean;
- in Cairo and Beirut for the Arabic/West Asian region.

As of 2007 all of the SURFs with the exception of Colombo and Suva have expertise and run programmes related to environmental as well as new-energy issues.

Institutions run by regional cooperation organisations

The following case studies on regional initiatives, which –provided they are augmented

[48] See http://wikiadapt.org/index.php?title=Short_course_on_adaptation
[49] Bagai (2009)
[50] See Weidner, D., & S. Rahman (2000): Review of the SURF System: Way Forward for Knowledge Management in UNDP. http://fly.undp.org/eo/documents/SURF-evaluation-MainReport.pdf.
[51] UNDP Evaluation Office. Evaluation of Role and Contribution of UNDP in Environment and Energy. http://www.undp.org/eo/documents/thematic/ee/EE-Full-Report.pdf.

with finance and resources – could host the necessary adaptation services for developing countries, is not meant to be an exhaustive list of institutions. Rather, the aim is to provide illustrative examples of how regional centres could originate from regional initiatives, which arguably have a higher regional buy-in than the global networks. A more comprehensive analysis would surely include respective institutions from South East Asia (ASEAN) and the Pacific.

Caribbean: Caribbean Community Climate Change Centre

One promising institution for the Caribbean countries is the 5C, a collaborative initiative undertaken by the CARICOM countries. The centre features prototype activities regarding the role of regional centres in adaptation. The services of the 5C include:[52]

- A clearing House mechanism: The 5C collects climate change information from global and regional sources and further disseminates them to national and regional organizations, agencies, and individuals.
- Support throughout the project cycle: The 5C seeks to conceptualise, develop, and implement projects in climate change relevant areas such as health, tourism, agriculture and renewable energy.
- A network of organisations and experts: The 5C maintains a strong network with other organisations. The Centre has also a network of experts who can help in project design and management.
- Environmental Scanning: The 5C develops own regional scenarios to offer to stakeholder in the region for their planning and impact assessment.
- A trust fund – The 5C has established a Trust Fund to support promising projects where external funds are not available in time. In some situations, regional priorities may not be supported by existing international programmes.

It is acknowledged, that it is probably the intergovernmental regional organisation which is most advanced and experienced in providing consulting services on climate risks.

Asia: SAARC Regional Centers of Excellence

The area of the SAARC, the regional cooperation between 8 countries in South Asia, exhibits a world hotspot of climate impacts: Glacier melt likewise coastal erosion, salient embankment and shift in monsoon and cyclone pattern and - intensity - affect countries like Pakistan, Nepal, Maldives and Bangladesh.[53].

As early as 1997, the SAARC established an action plan to create *Regional Centers of Excellence* in areas, where the trans-boundary linkages of environmental disasters called for further regional cooperation.[54]

As a follow up, the SAARC established the Meteorology Research Centre in Dhaka, Bangladesh, the Coastal Zone Management Centre in Male, Maldives, the Disaster

[52] See http://caribbeanclimate.bz
[53] SAARC, 2008
[54] Ibd.

Management Centre in New Delhi, India and the Forestry Centre in Bhutan. These topics would cover the core of issues of what an regional adaptation centre would need to serve.

In 2008 the SAARC developed a road map to implement a climate change action plan. The main goal is to align the disaster risk reduction agenda with the climate adaptation agenda, as this offers many synergies. Further thematic areas are possible ways to achieve technology transfer (like early warning systems for flood), finance and investment (which includes the role of micro credit and – insurance), education and awareness as well as the development of training modules on climate risk assessments

Africa: African Centre for Technology Studies

The African Centre for Technology Studies (ACTS) is an intergovernmental policy research institution based in Nairobi, Kenia, which acts as an independent think-tank on the application of science and technology to development. Mandated by the results of the Rio Earth Summit, the ACTS in its early work undertook capacity building, conducted research, provided advisory services on the policy aspects of the application of science and technology to sustainable development.

Today, the ACTS does research as well as outreach on issues such as transboundary water resource management, capacity strengthening of least developed countries for adaptation, community based adaptation and agriculture and food-security. In response to a perceived failure of higher education in several sub-Saharan countries, the ACTS conducts training courses on pressing issues such as the livestock related emergencies in the signatory countries of the institute

Networking Regional Centres under the UNFCCC[55]

The UNFCCC has piloted an initiative to assess the technical feasibility and the costs of enhancing existing technology centres in developing countries. The idea behind a network is to share information about technologies and to streamline existing information systems in order to be more effective. For the user, the network can provide a pool of information originating from the participating regional centres. The network is founded on the following principles (a) participation is voluntary; (b) institutions have similar roles in the network; (c) web-based sharing and exchanging of information over the network; (d) users would be able to access information from, and provide feedback to, any institution in the network; (e) an important feature of the network is to access information contained in national and international patent databases.

At present the following institutions are part of the network initiative:

UNEP/GEF: Sustainable Alternatives Network (SANet)
Canada: Clean Energy Portal
USA: Climate Technology Cooperation Gateway
China: The International Technology Transfer Centre (ITTC) of Tsinghua University
Caribbean: The Caribbean Community Climate Change Centre
Tunisia: Tunis International Centre for Environmental Technologies (CITET) and the Sahara Sahel Observatory (OSS)

[55] See http://unfccc.int/ttclear/jsp/Networks.jsp

6 Options for institutional arrangements

McGray (2009) has developed three institutional options for regional arrangements and their relationship to the UNFCCC, ranging from "light" to "heavy". This are displayed in the following table. [56] The options presented in the the different scenarios are not mutually exclusive – e.g. "heavy" institutional arrangements may include elements elucidated under the "light" scenario.

Table 1: Options for institutional arrangements of regional cooperation

	Extent of New Institutions		
	"Light"	"Medium"	"Heavy"
Imple-mentati-on of Adapta-tion	Role of FCCC and Regional Centers: Centers function primarily as a regional network "hub" for knowledge-sharing, identification of regional adaptation needs, and identification of best practice. They interface with the Nairobi Work Programme via the Secretariat to channel learning to/from the global level.	Role of FCCC and Regional Centers: Centers primarily play a technical advisory role, and provide Parties with assistance on vulnerability assessment, adaptation planning, and development of projects and proposals. They report formally to a new body of the UNFCCC that governs the Nairobi Work Programme, or to UNFCCC institutions that would govern registration and implementation of national adaptation plans.	Role of FCCC and Regional Centers: Regional centers go beyond technical advice to provide concrete services to Parties, such as meteorological services, research and development of adaptation technologies, or regional insurance/risk pooling mechanisms. Services needed would vary from region to regi-on.
	Institutional Needs: Centers must have convening capacity, though meetings may not all take place at the centers. They might keep a database of national plans, best practices, regional experts and the like, to help countries obtain skills and capacities they need. Centers could be appropriately housed at a university or NGO. The UNFCCC would rely upon the existing NWP within SBSTA, and would not need significant new institutional arrangements.	Institutional Needs: Regional centers would need more substantial human and technical capacity. They might keep regional databases of vulnerability and impacts information, would need GIS capacity, and could assist with model development and downscaling. Staff would travel frequently to national capitals. The centers could be housed at a university or research institute; the offices of the regional development banks or UN agencies may be options for some regions. At the global level,	Institutional Needs: Institutional needs would vary from region to region, depending upon the services desired. Many would require the creation of new institutions, or significant new development of existing ones. Service delivery institutions would need to be backed by regional convening bodies (or regional sub-sets of the UNFCCC) to house joint governance by countries. Some services (especially insurance facilities) would require an entity to manage public-private partnerships.

Source: McGray (2009)

[56] The full document is available at www.climatecapacity.org/tm/hjemmesidemateriale/adaptation/institutionalarrangementspaper090508.doc The most sincere courtesy to the author

7 Discussion

This section aims to discuss some key issues, which should be considered in the debate. The discussion centres around the principles outlined in section 3.

What form should the institutional arrangements take?

One question subject to discussion is the form of the arrangement for regional centres. As shown in the previous section, different degrees of institutional arrangement are possible ranging from “light” to “heavy”. A “light” centre could build on a “virtual” roster-like arrangement, in which different experts and institutions are enlisted and regular meetings between the partner institutions take place. One of the institutions could have convening power and might host a clearing house to inventory and convey best practises, etc. The other pole is a regional centre which conducts its own research, creates its own data and is directly engaged in the implementation of activities. The institution would have a physical base.

Given the manifold functions proposed by countries including capacity building, information delivery and cooperation enabling as well as implementing of actions to some extend, the authors are doubtful whether these can be achieved by a sole “virtual” regional centre. On the other hand, many activities proposed to be undertaken by regional centres are already taking place or are at least in the planning pipeline. A “heavy regional” centre which is engaged in weather data generation for instance seems a duplication of activity, since such tasks could also be fulfilled by other frameworks (i.e. the future Global Framework for Climate Services in this case). The task for a regional centre should therefore be rather to point to existing gaps and to ensure that other fora pick these up. Hence, the question to the needed “heaviness” of regional centres should not be treated as too important. An institutional form follows function approach might well combine some “heavy” as well as “light” arrangements to best fulfil the stated functions and principles and to best build on existing processes and institutions.

In the principle section it is stated that combining different building blocks could herald synergistic effects. One challenge, however, is that there is a trade-off to do between an interdisciplinary approach in bundling institutions and between using existing comparative advantages of some institutions. Furthermore, many existing institutions each of which with existing expertise are not situated in the same location, which makes it difficult and costly to join the 'hardware' in one place. An answer to this dilemma could be to opt for an integrative approach, by which “hard elements” are combined with “partnership elements”. In this sense there could be one regional centre on adaptation and one on technology, but both maintain a close partnership and a sharing of competences for selected areas of work.

Where should regional centres be placed and how could the selection process be outlined?

One critical question is that of where to place the centres? Needs vary very much from country to country and from region to region. For instance, specific technologies might be of such priority to help China in curbing its emissions, that the tasks need to be fulfilled by a national Chinese centre on technology. For Africa, however, with its negligible share in global emission one facility could operate for the many countries. The UNFCCC

negotiations on the way to Copenhagen and beyond have not seen yet a detailed proposal how much centres are needed, and where they should be placed.

Reflecting that regional centres might differ in scope (and function) bears the question of how such a selection process on scope and function could look like? A bottom up system of countries nominating their regional centre seems very reasonable to ensure country-ownership. However, it might prove difficult to find agreement, since there are inherent advantages for countries to host such a regional centre (advantages include a stream of finance and expertise into the country, as well as a closer proximity to the centre), and such a process could result in more nominations than necessary, or a lack of agreement among the countries. When building on existing centres, another approach seems to be to use the existing (and possibly ramped-up) infrastructure of regional cooperation organisations – which would also be country-driven – or of the existing UN organisations such as UNEP and UNDP. The latter one would be more a top-down approach, which would entail the benefit that such institutions are rather independent from possible countries´ conflicting interests. The weak spot of such a top-down approach, however, could be less country ownership in the centre.

If Parties opt for the top-down approach, the challenge is how a system can be complemented (and in some parts of the world even be replaced) with existing institution, such as the CCCCC[57] to which the countries have developed a great ownership and which have gained great comparative advantage on their own. The answer may lay in strong insistence on a partnership approach as laid out below.

How to ensure a design as per need of regions?

The apparent question is how one can ensure a design as per need of regions, when the actual selection is done on a top down basis? The question might be to call for a strong partnership approach of regional centres, whereby local networks with an inclusive range of local partners must be established. The design of this partnership system must be based on country wants. At the same time a system could be introduced, whereby replacement of low-rated components of regional centres by new ones could be considered. The rating of the components should at least partly be based on the fulfilment of countries' needs.

Financial considerations

As stated in the principle section, a regional centre initiative should be provided with sufficient financial means. But, how much financial resources need to be provided? And, from which sources should these costs be financed from?

The costs of regional centres vary much depending on the pursuit functions.

UNEP estimates the annual costs for one regional centre under its Global Climate Change Adaptation Network to be in the order of 500,000 USD.[58] This could, however, vary much upwards if direct implementing activities are to be performed (e.g. reinsurance pool for micro-insurance solutions) or if the coordinating need is greatly increased (as if it would be under a fragmented funding framework as proposed by developed countries,

[57]The problem may actually not apply to the CCCCC, since it is an established UNEP focal point and could therefore serve the region under a UNEP regional centre network
[58]UNEP (2009)

where regional centres would have to point to gaps where bilateral and multilateral help is not enough and probably even fulfil a trust fund function).

For regional centres in technology, funding requirements might be much higher, depending on the level of implementation work. The Carbon Trust estimates that one regional centre might require investments of 40-100 mio. USD per annum.[59]

Given their long-term relevance, it is important that such centres are provided with reliable financial support (assumed they are doing a good job). Their existence should not depend on varying and changing donors´ interests. The answer could be a (new) international Fund like the Copenhagen Green Climate Fund, which is mentioned in the Copenhagen Accord . In the case of the Caribbean Community Climate Change Centre, the participating countries are providing the core funding themselves, in order to be independent. However, given the responsibility of industrialised countries for the cause of climate change and thus for the need to act on adaptation, in any case they are expected to substantially contribute.

Since there is a broad convergence on the possible usefulness of regional centres, it is one of the areas being discussed in the negotiations where agreement should be possible in the near future. Advancing or building up Regional Centres is also one of the needs which can be responded to very promptly and thus qualifies for fast-track action. It is also crucial to build up such capacity as soon as possible, in order to prepare vulnerable developing countries for the near-term threat and long-term challenge of adaptation.

[59]Carbon Trust (2009)

8 References

UNFCCC Documents:

FCCC/AWGLCA/2008/Misc.5/Add.2 (Part I): *Ideas and proposals on the elements contained in paragraph 1 of the Bali Action Plan*, available at http://unfccc.int/resource/docs/2008/awglca4/eng/misc05a02p01.pdf

FCCC/AWGLCA/2008/16/Rev.1: *Assembly Paper*, available at http://unfccc.int/resource/docs/2008/awglca4/eng/16r01.pdf

FCCC/AWGLCA/2009/MISC.1: *Ideas and proposals on the elements contained in paragraph 1. of the Bali Action Plan*, available at http://unfccc.int/resource/docs/2009/awglca5/eng/misc01.pdf

FCCC/AWGLCA/2009/MISC.4(Part 1): *Ideas and proposals on the elements contained in paragraph 1. of the Bali Action Plan*, available at http://unfccc.int/resource/docs/2009/awglca6/eng/misc04p01.pdf

International Water 4/2009: *Submission by IWA International Water Association relevant for the preparation of the 6th session of the AWG LCA*, available at http://unfccc.int/resource/docs/2009/smsn/ngo/146.pdf

Climate Action Network 4/2009: *An Adaptation Action Framework for the Copenhagen Agreement*, available at http://unfccc.int/resource/docs/2009/smsn/ngo/128.pdf

FCCC/CP/2010/2: *Work undertaken by the Conference of the Parties at its fifteenth session on the basis of the report of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention*, available at http://unfccc.int/resource/docs/2010/cop16/eng/02.pdf

Websites

http://caribbeanclimate.bz

http://www.ccrif.org/

www.climate-insurance.org

http://unfccc.int/ttclear/jsp/Networks.jsp

http://wikiadapt.org/index.php?title=Overview_of_major_climate_adaptation_intitiatives_and_networks

References

Bagai (2009), *Networking for Climate Change: Experiences from Montreal Protocol*, Presentation at the Eighteenth Asia-Pacific Seminar on Climate Change "Building an Architecture of an Effective Future Regime", Hanoi, Vietnam 2 March 2009

Bazilian, M., H. de Coninck, M. Radka, S. Nakhooda, W. Boyd, I. MacGill, A. L Amin, (2009): Considering technology within the UN climate change negotiations. In IOP Conference Series: *Earth and Environmental Science*, **6**:2006

Carbon Trust (2008): *Low-Carbon Technology Innovation and Diffusion Centres*. Carbontrust, London

Harmeling, S. & C. Bals (2008): *Adaptation to Cliamate Change – Where do we go from Bali?*, Bonn, Germany available at http://www.germanwatch.org/klima/adapt08e.pdf

Harmeling S.(2010): *New institutional arrangements on adaptation under the UNFCCC – a discussion of proposed options*. Forthcoming.

Klein, R. (2009): Identifying Countries that are Particularly Vulnerable to the Adverse Effects of Climate Change: An Academic or a Political Challenge? *Carbon & Climate Law Review*, **3**, 2009

McGray, H. (2009): *Institutional Arrangements for Adaptation Under the UNFCCC*, Climate Action Network Think paper prepared for the Copenhagen 92 Group, available at www.climatecapacity.org/tm/hjemmesidemateriale/adaptation/institutionalarrangementspaper090508.doc

SAARC (2008): *Regional Cooperation on Climate Change Adaptation and Disaster Risk Reduction in South Asia: Road Map*, SAARC Workshop on Climate Change and Disasters: Emerging Trends and Future Strategies

UNDP Evaluation Office (2008): *Evaluation of Role and Contribution of UNDP in Environment and Energy*, available at http://www.undp.org/eo/documents/thematic/ee/EE-Full-Report.pdf.

UNEP (2008), *Action Pledge: Global Climate Change Adaptation Network*, available at http://unfccc.int/adaptation/sbsta_agenda_item_adaptation/items/4558.php

UNEP (2009): *Draft strategy for the development of the global climate change adaptation framework*, Draft Document as of 16 January 2009, available under http://www.unep.org.bh/Newsroom/pdf/CC%2017%20GAN%20Strategy%20Jan09.pdf

WBGU (Wissenschaftlicher Beirat für globale Umweltfragen) (2007): *Welt im Wandel – Sicherheitsrisiko Klimawandel*, Springer-Verlag, Berlin, Heidelberg.

WCC3 (World Climate Conference) (2009): *Global Framework for Climate Services*, Brief Note, available at http://www.wmo.int/wcc3/documents/brief_note_en.pdf

Weidner, D., & S. Rahman (2000): *Review of the SURF System: Way Forward for Knowledge Management in UNDP*, available at http://fly.undp.org/eo/documents/SURF-evaluation-MainReport.pdf.

9 Annex 1

Excerpt from UNEP(2009)

The Global Climate Change Adaptation Network consists of Ground facilities, Regional centres as well as an International support group:

Ground facilities

Ground facilities are proposed for building the adaptive capacity of local communities and for

supporting decision-making at various levels of governance, in particular at the national and regional

levels. The core functions of the ground facilities would include:

- monitoring climate change and its impacts to support the assessment and early warning of climate change impacts;
- experimenting, piloting and demonstrating the most appropriate adaptation options in line with local and national circumstances;
- identifying and delivering support and services needed at the local level, and building capacity of local organizations for community-based adaptation;
- identifying and disseminating knowledge and experiences from the above activities (successful adaptation options, hands-on knowledge, tools, and best practices) to other communities and decision-makers at various levels.

Regional centres

Regional centres are proposed for improving the availability and usability of data, information and knowledge at the regional, sub-regional and national levels, for providing technical support to policy-setting and planning at national level, and for strengthening regional cooperation. The core functions of the regional centres would include:

- the collection, synthesis, packaging and dissemination of adaptation-related data, information and knowledge (including those generated from ground facilities) at regional and national levels;
- serving as knowledge centres for adaptation, and supporting coordinated monitoring, experimentation, and demonstration activities of ground facilities;
- providing advisory services and technical support to national efforts on integrating adaptation into development process;
- building the capacity of regional and national actors, and strengthening regional and inter-regional cooperation through the above activities.

The regional centres will have a specific role to play as nodes bringing together top-down international technical expertise and knowledge, and bottom-up lessons learnt and best

practices from the ground facilities, and disseminating these in the form of packaged support to relevant regional and national actors.

International support group

An international support group of technical institutions, including advanced networks of ground facilities and regional centres in developed countries, is proposed for helping to build the capacity of the network of ground facilities and regional centres in developing countries and for responding to the needs of global or inter-regional adaptation initiatives. Its core functions would include:

- providing advisory services as well as technical and knowledge support, methods and tools for the ground facilities and regional centres in response to specific needs and requests;
- reviewing and updating best practice and guidance on impact and vulnerability assessment methodologies and the evaluation of adaptation strategies and options;
- facilitating knowledge management and dissemination;
- coordinating the development and implementation of inter-regional projects as international partnerships, drawing on expertise and facilities of the regional centres and ground facilities.

Germanwatch

Following the motto "Observing, Analysing, Acting", Germanwatch has been actively promoting North-South equity and the preservation of livelihoods since 1991. In doing so, we focus on the politics and economics of the North with their worldwide consequences. The situation of marginalised people in the South is the starting point of our work. Together with our members and supporters as well as with other actors in civil society we intend to represent a strong lobby for sustainable development. We endeavour to approach our aims by advocating fair trade relations, responsible financial markets, compliance with human rights, and the prevention of dangerous climate change.

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You can also help to achieve the goals of Germanwatch and become a member or support our work with your donation:

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