

Decision making and policy networks in  
forestry-dependent development sectors:  
Mainstreaming adaptation to Climate Change into policy

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## **1 General Introduction**

Research over the past decades has shown that climate change will have significant impact over tropical forest ecosystems, especially in developing countries. The IPCC states that the countries of the African continent will be affected most by future climate change, since among other factors, widespread poverty, demographic changes, constrained institutional realities, and inadequate political strategies are significantly limiting the local adaptation capabilities ((IPCC 2001, IPCC 2007, DFID 2006; Thornton et al. 2006; World Bank Group Global Environment Facility Program 2006). The extreme vulnerability of local African populations to climate change is largely caused by their dependency on small-scale agriculture and their immediate daily dependence on ecosystem services (ES) and natural resources (Thornton et.al. 2006). There is an urgent need for further investment in adaptation to reduce adverse impacts of Climate Change. Development policies in the affected countries are challenged to implement adequate adaptation strategies and development priorities under current and predicted climate changes (DFID 2006; Group of Eight 2005; World Bank 2006). Such strategies may counteract the local population's vulnerability to climate change and maintain tropical forests ES for the global community.

As recent decades have seen a shift from project-based development assistance to more policy-based measures, the analysis of structures and paths in a specific institutional and policy context is necessary to identify feasible policies and to support successful processes of change and adaptation (Leonard 2004). Evidence based on rigorous research needs to be translated in a policy relevant language and placed into the policy process (Davies 2004; Sutcliffe & Court 2006). The area of forest ecosystem management under climate change is embedded in a multi-layered system and challenges both the local and the global level. Adaptation will be mainstreamed into policy to link local needs and global interests in order to overcome institutional and financial bottlenecks.

### **1.1 The TroFCCA project approach**

The overall aim of TroFCCA as a research project is to support mainstreaming of adaptation to climate change into policy. Focus is on adaptation to CC in forest-dependent development sectors which deliver specific forest ecosystem goods and services (EGS). TroFCCA is working in different regions and countries (West Africa, Asia, and Central America). During stakeholder meetings in the regions actors out of the governmental, scientific and non-governmental spectrum prioritized different development sectors referring to forest-dependent goods and services.

Following IPCC (2001) definition of vulnerability, TroFCCA is using a coupled human-earth system approach. In this system, vulnerability of the bio-physical and socio-economic coupled system will be assessed. Basis for the (V)ulnerability Assessment are the E(xposure) of the coupled system, the (S)ensitivity to climate change impacts, and the (A)daptive capacity of the system. Strategies to plan appropriate adaptation strategies (i.e. aiming at reducing vulnerability) will be identified and developed along the results of the assessment of vulnerability of the coupled bio-physical and socio-economic system. Exposure of the prioritized EGS to climate change and variability will be assessed mainly through bio-physical research (i.e. identifying area of production of a specific EGS followed by an analysis of climate exposure of these areas). Sectors' sensitivity will be assessed through research on bio-physical aspects such as sectors' dependencies on specific FE goods and/or service. Moreover, sensitivity of the sector will depend on the characteristics of sectors'

specific facilities that enable more or less resistance to the effects of climate extremes (i.e. climate variability), for example in the hydroelectric sector whether the power plant is dependant on continuous flow or has a production dam-based. Finally, the capacity of the system to respond to changes will depend strongly on the decisions influencing the ability of ecosystems to provide such EGS.

The policy research will contribute to the assessment of the adaptive capacity through a comprehensive analysis of the political and institutional context and the actors involved in the different decision making processes and identify strategies for the mainstreaming itself.

The development of the adaptation strategies is part of the mainstreaming process, which is ongoing during the whole life time of the project and beyond. Development of adaptation strategies cannot be done by TroFCCA on its own but by all stakeholders involved in the arena. However, the importance of FEGS to the society means that there is a need to influence the direction and timing of adaptation to Climate Change. Literature shows clearly that the design of climate change options based on the IPCC framework is characterized by a 'cascade of unknowns' (Hulme, 2005), particularly in the context of data scarcity (a strong challenge in most developing countries). Therefore, the TroFCCA approach needs to complement the bio-physical, impact-based approach with a strong emphasis on institutional, social and economic determinants of vulnerability of society in a development context (Burton et al 2002). To do this we propose to emphasize a policy-science dialogue integrated in decision making processes rather than offering technocratic solutions (Forner et.al. 2006).

A common approach for policy analysis will be used across the regions. This should allow, besides a cross-country analysis, also a cross-regional analysis. The methodological steps have been elaborated during the workshop in Ouagadougou in May 2007. The research activities undertaken by the policy research team present at the workshop will focus strongly on adaptive capacities across sectors, countries, regions by emphasizing the importance of decision-making processes among the actors (stakeholders, policy makers) involved in the policy process. The workshop was organized in two modules:

- 1) Concept: policy theoretical background, definitions, expected outputs and impact pathways, conceptual synthesis
- 2) Approach: Tools and methods to conduct analysis and mainstreaming across regions and countries

## **2 Theoretical background for TroFCCA policy analysis**

Policymaking is a complex process and a multitude of actors is involved in the policy and decision-making processes at different layers from the local to the global level. Successful adaptation to Climate Change will depend on decision-making processes at local level as well as at national and international level. Therefore, the actors involved, their belief systems and their relations, the structure in the specific policy and decision-making arenas, needs to be analysed.

Attributes of governance and individual, organizational, or community capacities for adaptation determine the success of adaptation to climate change. Key features for adaptation are learning and flexibility (Pelling et al. 2005). To understand policy learning and policy change, notably as more than rational and utility-oriented, Sabatier and Jenkins-Smith developed the advocacy coalition framework (AFC) (Sabatier 1993; Sabatier & Jenkins-Smith 1999). In this approach, change is induced by competing coalitions within a policy subsystem. Hereby, diverse advocacy coalitions consist of players or actors, e.g. interest group leaders, legislators, governmental agencies, researchers, etc. Members of a coalition share a set of basic beliefs. (Sabatier 1993; Sabatier & Jenkins-Smith 1999). They try to make

governmental policy more consistent with those beliefs. Following Sabatier (1999), the belief systems are hierarchically organized due to their resistance to change. At the deepest level is the “deep core”, with fundamental normative beliefs, which are highly resistant to change. The “policy core” and the “secondary aspects” follow it. A “policy core” consists of basic political positions. “Secondary aspects” include e.g. the evaluation of and disputes over various programs and institutions, and specific policy preferences. They can be also characterized by disputes about causality issues around a specific policy issues. To give an example, if the importance of hydrological services of forests is once established, disputes might arise on how forest management can be important for water cycle respectively the causal relationship of management components. Sabatier (1999) sees the secondary aspects more negotiable across the advocacy coalitions, while the ‘deep core’ is very stable, and the ‘policy core’ is expected to be negotiated more within a coalition. Changes on relatively stable parameters or on external system events (e.g. extreme climate events) put pressure on the subsystem actors. This may induce change of ‘actors’ resources or ‘belief’ settings. New strategies will occur to achieve newly desired policy outcomes. New policy outputs as well as the policy impacts will again influence the coalitions’ positions and behaviour in a particular policy subsystem. In this setup, pre-assigned roles are given to the policy broker, as they can mediate to overcome conflicting positions of the coalitions involved. Sabatier (1999) sees, for example, science in such a catalyst role; but also other actors, governmental or non-governmental, can act as policy or interest broker.

However, all actors, be it individuals, governmental, or non-governmental organisations, do not negotiate independently. They are restrained to groups and personal constraints. Their individual scopes for negotiations are determined by responsibilities, perceptions, and expectations (own or of others), capacities, hierarchies, and beliefs (Sabatier & Jenkins-Smith 1999; Scharpf 2000). Actor’s behaviour is assumed as being based on a rational and utility-oriented exchange of resources in the actor-centred institutionalism (Mayntz & Scharpf 1995; Scharpf 1992). Existing institutions and the institutional arrangements, formal or informal, limit this dynamic space for decision-making. But actor’s rationality is also stamped by cognitive processes, by ideological principles and beliefs, which result in personal bargaining and problem solving strategies (Sabatier 1993). Interactions like negotiations between the actors take place in this limited space. This all will lead to different problem perceptions and different visions for problem solving among the actors or to a ‘distinct subjectivity’ as Saleth and Dinar (2004:79) have described it in the context of institutional change of water management.

Any negotiation among the subsystem actors, with or without policy broker, takes place at all phases of policymaking. In developed, but as well in developing countries, or countries in transition political decision-making is not only controlled by formal ‘Weberian’ political and administrative hierarchies nor follows it neo-economic ideas of pure private market-organized demand and supply (van de Walle 2001). Rather, the process of public policy is embedded in a decentralized netting of well and/or less organized interests and actors. Governmental and non-governmental organisations interact in this netting (Mayntz 1993; see for example Schneider 2003). The frame of reference for this embedded process can be a political subsystem, as Sabatier (1999) has defined it. And following Benz (1992), this frame can be divided, concerning content, into the ‘policy area’ (in this research natural resource management policies) and, concerning structure, into the ‘policy arena’, in which a wide range of actors are organized to negotiate the policies. Therefore, political decision-making can be understood as a multilateral and multilevel negotiation process.

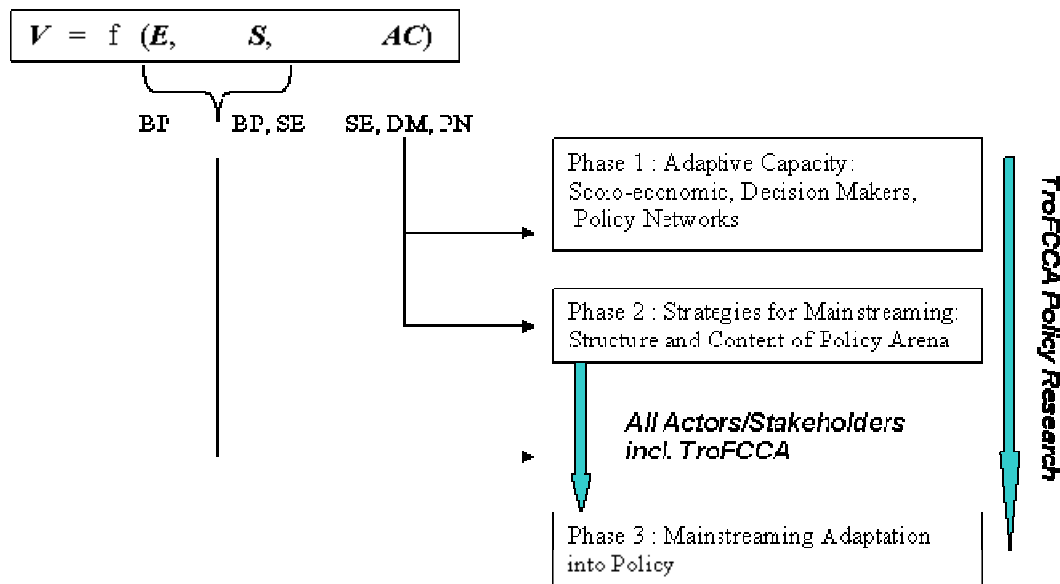
The focus of analysis in the TroFCCA policy research will be on actors and their belief systems (Interest, Attitudes and Values, Knowledge, Heuristics and Cognition) and their

relations (Networks of Contact, Information, Influence). More specifically, decision-making processes (influenced by this belief systems and by the structure of their relations that can inhibit or facilitate appropriate solutions) are of research interest, which take place in or across the development sectors prioritized during the Kick-of-Meetings (KOMs) of each region, and which are relevant for the provision of FESG . The specification of EGS will thus depend on the following, ranked criteria: socio-economic relevance, exposure to climate variability and sensitivity of the sector, and data availability.

The above theoretical reflections allow us to identify two relevant aspects in the formulation of a mainstreaming strategy and therefore relevant for mainstreaming adaptation into policy: Structure and content of the arena of decision and policymaking. The analysis of the structural conditions in the arena will be facilitated by the policy network analysis, combined with an actor analysis and will answer questions such as:

- who are the key actors that play a role in adaptation?
- what are their roles and positions in the networks?,
- what are their interests and values, their belief systems?
- what kind of language and discourse is used by them on adaptation to climate change and forest ecosystem management ?

The following figure shows the different phases of the policy research (from the assessment of adaptive capacity to the mainstreaming of adaptation into policy), and how the policy research contributes to the achievement of overall TroFCCA aim.



The policy (content) analysis is referring to ongoing policy and institutional changes and future trends. It should be examined in which way current policies and programs are supportive or non-supportive for a) adaptive management of FEGS and b) minimizing the risk of local populations' vulnerability. Additionally, it will allow us an identification of entry points and windows of opportunities in the policy arena, where a further integration of adaptation to CC is needed, and where TroFCCA can inform the policy process. Answering content and structure related questions will allow answering overall research questions that are important for the mainstreaming strategy of TroFCCA:

1. What are the possible adaptation options to reduce vulnerability?  
→ based on results of the bio-physical and socio-economic/institutional research
2. What are the possible entry points for adaptation in the sector policy processes and political programs?  
→ based on macro level research on: impacts of Policies/Political Programs on vulnerability and adaptation, institutional bottlenecks, belief systems of actors characterizing their capacity to promote or hinder appropriate discussion on adaptation and FEES
3. What paths and policy brokers in policy arenas' structure exist which enable a transfer of evidence into the policy process?  
→ Identification based on research at micro and macro level on decision makers and policy networks

### **3 Basic Framework for Policy Research**

#### **3.1 Mainstreaming**

##### Definition

Mainstreaming adaptation involves the integration of policies and measures to address climate change into development planning. This involves addressing ongoing local and sectoral decision-making processes, so as to ensure the long-term sustainability of investments as well as to reduce the sensitivity of development activities to both today's and tomorrow's climate (Klein, 2002; Huq et al., 2003; Agrawala, 2004a).

The main assumption guiding our research is that the development of specific sectors is depending on sustainable provision of FEES. The sustainable provision of such FEES itself depends on:

1. the decision making by a variety of actors,
2. the organization of the different layers these actors act on,
3. the processes of negotiating on and designing of policy change in formalized structures (committees, secretariats, intergovernmental organizations, etc.) and informal structures (networks).

#### **3.2 Approach:**

Actor-centered analysis of decision making process in the context of climate change by the identification of relevant variables such as Adaptive Capacity, Knowledge, Heuristics, Cognition, Personal Interests, Organization Interests, etc. Additionally, the research will be organized across scales and if needed across sectors. The analysis will be more normative oriented, for example value based rather than a prescriptive analysis offering technocratic solution. Policy network analysis will be conducted in the specific policy arenas.

#### **3.3 Impact Pathways to achieve mainstreaming**

Measuring impact and identifying impact pathways are essential for each planning process of a research activity. However, a measuring of success in mainstreaming adaptation into policy is a challenge. Will it be sufficient to show organised policy-science dialogues or will we than fall into the well-known trap of getting words into documents or dialogue processes without coming to any kind of visible implementation action. Will 'stakeholder participation'

by stakeholder workshops lead to impact or is it once again simple phrase mongering. And, last but not least, allows the time frame of our research project a measuring of impacts by visible implementation or is it not simply unrealistic to expect these happen after the project's lifetime. Since TroFCCA has the aim to offer a methodological framework, our success can be measured by the spreading and application of our proposed methods by other actors. And, in fact, TroFCCAs impact should be measured also by the plus of awareness of forest issues in the adaptation context (meaning that the importance of FEGSs are no longer reduced to forests' role in mitigation actions. Further, changes in budget allocation (state budget explicitly owed to development and implementation of adaptation strategies) can be an indicator of success.

Therefore, our impact pathways are related to both, content and structure in the respective policy arenas. Impact will be achieved by:

- action research ( interview vis-a-vis, workshops)
- conference participation (spreading our ideas in the scientific community)
- stakeholder conferences (animating adaptation processes, facilitating development and implementation of adaptation strategies)
- ongoing stakeholder/expert inclusion in research process (animating adaptation processes or facilitating adaptation strategies)

### **3.4 Analysis**

The research should enable us to know what we want to say:

- adaptation options (based on biophysical exposure and sensitivity analysis)
- methodological guide
- decision support tools for different levels/ actor groups/ coalitions

to whom (focus on actors at planning and strategy levels)

- catalysing actors, multipliers
- donors (donor community, development projects, etc.)
- decision makers (landscape, regional, national, international)
- scientific community

in which format, (communication strategy or 'information flow' strategy for adaptation into development sector related policy arenas based on target group, decision level, content, language, etc)

- workshops
- conference
- articles (peer reviewed journals)
- media (radio, television, newspapers)
- policy briefs
- adaptation and policy checklist
- video
- theatre

and when in the policy process:

- during agenda setting, formulation, implementation, etc.

to ensure an in-time delivery of results in the right format.

### **3.5 Basic Definitions:**

Definition of scales:

Spatial:

The identification of relevant scales is depending on the goods or services, which are focus of analysis in the different regions. The definition of the scales is depending on the decision makers affecting the provision of this good/service. The landscape level is defined as the space where the good/service occurs. In the decision process, the importance of vertical and horizontal linkages among actors/institutions will be recognized.

Time:

Different time horizons of the actors and actions involved need to be taken into account (e.g. between scientific thinking and policy outcome orientation, and the differences between climate change horizon 20,30 or hundred years, and climate variability observations and the policy process which evolve or become visible in less than 10 years). It is important for the policy process to account for periods less than 10 years in order to be relevant for policy actors. Indeed, policy actors will rarely use projections over decades to take important decisions on ecosystem management, especially if they do not have direct experience of projected impacts.

Area, Arena, Network:

Definition of policy areas of research: Climate Change and specified EGS

Definition of policy arena: space for negotiation, boundaries related to policy areas

Definition of networks: based on key relations: contact, information, influence (power)

## **4 Actor and organization analysis**

Actor and organization analysis refers to the research phase that will investigate relevant variables that characterize the decision-making function of key policy actors. Literature on decision making variables relevant for actors in organizational context, in risk contexts and in adaptation to climate change context (Ajzen, 19991; Pelling et al. 2005; Grothmann et al 2005; Slovic, 1987) identifies 4 main categories of variables. This interlinked categories describe personal aspects characterizing the actor like:

- personal interests on the policy issue relevant for his professional work, and organizational interests (and learning procedures) which will result from policy content analysis and personal expression
- belief systems in respect to the policy issue of relevance (e.g. climate change and EGS), as can be revealed by mental models and about availability of adaptation space (e.g. appraisal of adaptation options resource endowment of organization, government responsibility, policy options availables, etc.)
- his personal judgement process in respect to probabilities and severity of adverse impacts of complex processes (e.g. risk of climate change impacts on EGS).
- personal attitudes and values in respect to general environmental problems as well as to specific issues of relevance for identification of alternative solutions (e.g. adaptive responses)

### **4.1 Actor and the organization**

Interviews vis-à-vis is the main tool for this actor and organization analysis. A previous step to be undertaken can be called portfolio analysis (Eriksen et al 2005). Literature review and

expert consultation (as part of the policy 'content' analysis (analysis of existing policies, political programs, plans and of the revision of organizational statements relevant for our policy areas) will be a previous step in order to identify organizational involvement in activities related to our research policy areas. This information will be used as an input for the formulation of actor's perception on organizational involvement in relevant Policy Area (i.e. what is organization participation in specific events), type of interests of the organization in specific participation to relevant events (why participating).

Next relevant questions for this component will elicit aspects related to organizational learning procedure and to proxy their relation to adaptive capacity of the organization as defined by learning capacity. This is related to the:

- capacity to change procedures (Pelling et al 2005; Berkhout et al. 2006) which we relate to the existing incentives for training its personnel, the of themes prioritized in training
- the centralization level of decisions inside organizations which can be identified by personell perception measured on a likert scale and by eliciting the reasons of statements (i.e. why do you judge centralization level of your organization with such a score?). This is also important to understing what key decision makers perceive as a pro-or adverse orgnizational adaptation factor

Actors' belief system

At this level of analysis, we are more interested on the personal understanding of the complex issue that climate change and its impacts on the sustainable provision of EGS and the adaptation responses (this will support identification of adaptors, entry points for mainstreaming for phase two and three of TroFCCA). We will do this by using mental model technique (Morgan et al 2002). Adapt questions in function of considering climate aspects understandable for the actor and ask.

#### **4.2 Questionnaire: Actors**

General questions for a deeper understanding of actors' belief systems and further attributes are:

- Can you list at least 4 factors that you perceive as risky for the achievement of your professional goals (this needs to be adapted to actor characteristics (local different from national, etc.)?)
- Can you rank them?
- Do you have information on CC? if yes: from which source? what would you tell someone who is asking you about it?
- Have you experienced impacts you would attribute to climate conditions?
- Psychometric risk perception analysis. Identify risk items (i.e. CC and CC impacts on EGS) scales of importance: probability, severity, controllability, government control, science knowledge
- Adaptation response options: At this final point of the interview, the actor is confronted with a scenario of climate variability impacts on the relevant EGS. Scenarios have proven to be a more consistent method for cross-cultural comparison (Peng et al. 1997), so they are of uttermost importance for the overall aim of TroFCCA cross-regions and for the international dialogue on adaptation to climate change.

Adaptation response options can refer to alternative policy solutions that are resulting from general national policy strategies for Natural Resources Management (i.e. PES in Costa Rica). This has the advantage of being a strategy that is already known to the respondent. Alternatively, options can be kept open and questions could be directed to understand what

kind of options the respondent suggests in specific categories like financial incentives, technological solutions and or soft institutional engineering like information flow, media strategy, etc. It is in anyway important to elicit the responsibility structure for each of the solutions suggested.

## **5 Policy Network Analysis**

### **5.1 Policy Networks**

Over the last two decades the term ‘policy network’ has been employed frequently to describe and analyse the decentralised netting of actors and to explain outcomes of policy processes with a more and more pluralistic character which could not be explained by common political theories (Schneider 2003). In policy analysis, it is generally assumed that a plurality of governmental and non-governmental actors is involved in the negotiations on outcomes of the policy process (Benz 1992; van Waarden 1992). Additionally, the assumption is shared that actors and actor groups act in networks to realise their interests and strategies (Benz 1992; Jordan & Schubert 1992; Mayntz 1993; Sabatier 1993). As Evans (2001) definitively suggests:

“Policy networks should be viewed as a part of the broader social world and are always in a state of becoming. They are not fixed and determinate entities. Their major features – power dependency, goals, dominant coalitions and appreciative systems, processes of exchange, rules of the game and so on – are the outcroppings of the process of social construction.” (Evans 2001:245).

In literature, there is no clear line on taking policy networks as a mere metaphor, method, analytical toolbox, or as a theory itself. Yet, policy networks are seen sceptically by a variety of scholars. Actors may dominate a network in using their bargaining power, and for example, by blocking or abusing negotiations by maximising their own benefits (bargaining dilemma), even if the base for negotiations in networks is trust and resulting voluntary bargaining (Benz 1992). Networks may inhibit change by fostering inside-relations, stabilise a given status quo, and therefore become dull and inflexible for external changes. Diverse scholars see further critique in the exclusivity of networks and in the potential self-blockage (Benz 1995). The major problem seen with networks is the problem of democratic legitimacy of networks, since this should be the base for policy making in democratic political systems (Börzel 1998; Messner 1997; Rhodes 1997).

For this research, the above-mentioned critique will be main part of research. The TroFCCA research takes place in regions and countries with less developed democratic systems, where policy networks can be assumed in playing an even stronger role as a form of governance, even if ‘efficiency’ in terms of achieved societies’ welfare can be doubted. If there is bargaining power, which actor or actor group has it; if there is exclusivity, who is in and who is out; where are brokers and where are the gaps in the network. This will allow an analysis directed towards the role science can play in the arena, aiming at mainstreaming adaptation into the policy processes.

### **5.2 Network Analysis**

Network analysis was chosen as the analytical tool for this research. Different from classical empirical social research the relations between individuals and not the individual itself are centre of research. The social network analysis data, in general, is treated more

mathematically rather than statistically since the observations are seen less as ‘sample’ of some larger population but as the population of interest itself (Hannemann 2001). For the Policy Network Analysis applied in the TroFCCA approach we will undertake the following steps

1. Identification of Network Boundaries

- CC/CV and/or EGS policy area

2. Identification of Network Actors

- a) Formal and informal involvement in decision making
- b) Participation (workshops, conferences, meetings related to: CC, EGS, policy-science dialogues)

Methods:

- Policy content analysis (a), literature review (a,b) participant list review (b)
- Interviews:
- Expert Consultation (to verify actor list)
- Snowball Technique (e.g. at local level)

3. Analysis of Network Data (UCINET, Netdraw)

- Identification of Actors’ Networks of Contact, Information, Influence
- Identification of Brokers, Bridges, Structural Holes, Sub Groups, Coalitions, Gate Keepers, etc

Method: In-Depth Interviews, Social Network Analysis

### **5.3 The Relations:**

Contact: (frequency, quality)

- List of actors (0/1)
- Nature of contact
- Most important contact for d-m

Information: relevant for his d-m related to EGS and/or CC/CV/CA

- List of actors (0/1)
- Most important source/requestor of information for d-m
- Other sources like Media?

Influence: in the arena of CC/CV/CA and EGS

- Who is influential
- Who is/will be ally/opponent/neutral

→ Power (Sabatier 1999)

- What are influential activities
- Contribution of own organisation in respect these..

## **6 The Questionnaire**

The questionnaire has been already discussed under 3.2. In this section, we will just give a brief overview over the structure of the questionnaires used in the different countries and regions. Their will be country, sector, and/or level related changes but the general structure will remain. This will allow a comparative analysis across countries and regions.

All Q are organised in

- A. General Information
- B. Actor and Organisation to identify Belief System (personal, organisational contribution, interest, learning, knowledge (risk perception, experience) etc.
- C. Actor and Network to identify structure in arena (actor list, contact, information, influence)
- D. Visions/Actions for response options to CC/CV (values, actions, responsibilities)
  - Scenarios (one, multiple, specified, general)
  - Categories of Action (pressure, information, incentives based on known policy strategies)

Q will be adapted to level (micro, meso, macro)

## 7 Outlook

The workshop in Ouagadougou allowed us an harmonization of our conceptual approach in the policy research and of the techniques as well as the variables we will use for data collection and analysis. A comparative analysis across countries and across regions seems feasible.

The team Central America (until now only Vignola) will start field research activities in 2007, for West Africa (Brockhaus, Kalame) this is not expectable until 2008, since the key document analysis as well as the bio-physical and the socio-economic vulnerability assessment are basic for the network analysis and until now on-going. However, the network analysis is accompanying the whole process of TroFCCA research and first steps are undertaken for identification of Network Boundaries and Network Actors, based for example on the list of participants in the Kick of Meeting or other related events, or on the preparation of organigrams of the ministries or other organisations responsible for or involved in implemented policies and programs related to the forest dependent development sectors identified.

Finally, it can be stated that the analysis of structures and content in the policy arena, the identification of brokers and bridges, of actors' belief systems and the groups and coalitions in the arena will assist in identifying feasible paths for mainstreaming adaptation into policy.

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