Institutions, Organizations and the Poverty/Environment Nexus: Challenges to a Rights-Based Approach to Management of Coastal Resources in Colombia and Ghana [1]

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Abstract

Coastal zones globally are hotspots when it comes to the challenges of sustainable resource management and poverty reduction. They used to be relatively under-populated and placid. This is changing due to growing population movements towards the coastal zones. Migrants as a rule do not find what they hoped for, but instead increasingly overpopulated, under-serviced, polluted, conflict ridden, resource-depleted, and poverty-stricken areas. Developing countries are modernizing, and the population, together with cultures and associated social organization are caught in between tradition and modernity.

The paper focuses on this dichotomous management through addressing coastal institutions, organizations, and NGOs in Colombia and Ghana. Relevant stakeholders, specifically the Corporation for the Sustainable Development of the Archipelago of San Andres, Old Providence, and Santa Catalina Islands in Colombia (CORALINA), and relevant NGOs in Ghana are considered. The Institutional Analysis and Development (IAD) framework is employed.

On Providence Island in Colombia there are few traditional institutions, while in Ghana the traditional sector is identical with the pervasive chieftaincy system. CORALINA faces the challenges of engaging people that do not really care, and create an organization from scratch. In Ghana coastal people certainly care, while the organizational obstacles remain much he same. Another important difference is that in Ghana a number of NGOs begin to play important roles, while the situation in the Colombian Archipelago is, in this respect, incipient.

The analysis addresses aspects of how to bridge traditional and modernizing sectors and target the intricate poverty-environment nexus and, more specifically, implement a rights-based approach to the management of coastal resources. The essence of how to achieve this would seem to be closely connected with two major tasks: (1) create new organizations (or reform existing ones), from the bottom up and founded upon relevant institutions, and (2) establish co-management arrangements that are transparent, inclusive, and address conflicts.

Key words: *coastal zone management, co-management, conflict, fisheries, institutional analysis, rights-based approach, traditional knowledge*.

This paper addresses a complex and interrelated set of issues connected with governance, participation and transparency. It does so using a comparative approach, based on data and experiences from comparable areas in two countries, namely the coastal zones in Colombia and Ghana.

For the purpose of this paper we understand the geographical scope of the coastal zone to cover a land area extending to the 30 m contour and an offshore shelf area extending to the 100 fathom depth. A 'management zone' that includes areas up to the 75 m contour is also recognized. [3/]

In Section 1 the IAD framework is presented. Sections 2 and 3 are case studies from Colombia and Ghana, respectively. Section 4 discusses the cases from a comparative point of view, partly based on the analytical framework presented earlier. Section 5 contains our conclusions and recommendations.

1   Analytical framework

The paper addresses coastal ecosystems, and it does so by means of a comparative analysis. The former (coastal ecosystems) implies a focus of ecology/environment (Nature) and social/human (Culture), that is, understanding these two aspects as separate yet as closely interlinked. Nature and culture are understood as two separate analytical levels, with the focus primarily placed on culture.

The latter (comparative analysis) places specific demands on the analytical framework, that is, it needs to be able to address relevant cross-cultural issues chosen for comparison. What are being compared here are essentially different historical and societal realities that do not easily accommodate comparison, together with different approaches to how to address coastal zone issues, and, finally, their differential impact on environment, culture and society. In order to facilitate such comparison, the argument will of necessity, first, be based on selected aspects of the cultural and societal realities in the two countries, and, second, be somewhat general in nature. At the same time, a comparative analysis of necessity places certain demands on the structure and presentation of the cases to be compared and their relevant data.

1.1 Institutions and institutional analysis

The evolution of human societies globally has been in the direction of increasing complexity, whether we are concerned with hunter-gatherer adaptations or sedentarized agricultural societies. A key factor would appear to be population growth. Key aspects of this increasing complexity, to be considered here, are the rise of institutions and organizations.

[3/]   This delimitation is taken from the World Bank's sector work on coastal zone management in Ghana (World Bank 1996). The 'management zone' functions as a proxy for watersheds that may have an influence on the coastal zone. Marine ecosystems, sometimes considered to be a part of the coastal zone, are not addressed in this paper.

The meaning of the term 'organization' is fairly straightforward. We use it with reference to collectives and groups found in civil society and in the public sector. The term 'institution' is more complex to untangle. While it is often used with reference to collective activities at the macro-level, it also has a meaning and usage at the micro-level. Here 'institution' – often referred to as 'social institution' – denotes standard-dized or patterned and rule-bound behaviour, linked to a set of complex and inter-dependent roles and norms, and applicable to large parts of the population within a specific area or culture. [4] Accordingly, at the macro-level, 'institution' is understood as an actual formal entity, while at the micro-level it is a way of thinking that has a direct impact upon behaviour. This is partly referred to as an economic approach to institutional analysis, and is often labelled 'institutional economics.' [5]

According to Douglass C. North 'institutions' are: "[T]he rules of the game of a society or more formally the humanly-devised constraints that structure human interaction. They are composed of formal rules (statute law, common law, regula-tions), informal constraints (conventions, norms of behaviour, and self-imposed codes of conduct), and the enforcement characteristics of both" (North 1995: 29). Elinor Ostrom defines 'institutions', broadly speaking, as "The prescriptions that humans use to organize all forms of repetitive and structured interactions" (Ostrom 2005: 3)

Institutions are social practices that are regularly repeated, that are sanctioned and maintained by social norms, and that, in their aggregate, influence and determine social structure. In this latter context we are specifically concerned with how institutions determine the relationships between individuals and groups, on the one hand, and the natural resources they utilize, on the other hand. Furthermore, 'organizations' are understood as "[T]he players: groups of individuals bound by a common purpose to achieve objectives. They include political bodies …; economic bodies …; social bodies …; and educational bodies …." (North 1995: 30).

'New institutional analysis,' which emerged in the 1980s, is concerned with explaining how organizations, as located in public sector and civil society – and including individuals within these organizations – make economic decisions, based on knowledge of factors external to narrow economic considerations, namely institutions. [6]

Institutional analysis, then, deals with analysis of institutions, and focuses on how individuals and groups behave and act in relation to institutions, how they construct institutions, how they function in practice, and how institutions impact culture and society (cf., e.g., IDRC n.d.). One application of institutional analysis that was put forward under the label of 'new institutional analysis,' is the Institutional Analysis and Development (IAD) framework.

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[4] This view was advanced by Emile Durkheim, and later on by anthropologists, a logical corollary of the accumulation of data from a growing number of cultures, cf., e.g., Leeds (1976).

[5] This type of institutional analysis, itself consisting of a number of variations, was developed within economics by a number of people, beginning with Vilfredo Pareto and up to the contemporary theorist Douglass C. North (e.g., 1990).

[6] We use the term 'civil society' to refer to organized activity resulting from modernization, as opposed to organized activities available in what we refer to as 'traditional sector.'

1.2 The Institutional Analysis and Development (IAD) framework

In this paper we use institutional analysis, using a modified version of the Institutional Analysis and Development (IAD) framework, to discuss relevant institutions in the coastal zones of Colombia and Ghana.

The IAD framework was developed by Elinor Ostrom and other scholars. [7] The framework is the starting point that the researcher uses to begin identifying which theories are relevant, and a framework can accommodate different theories. This framework focuses attention on the individuals who make decisions over some course of action. The underlying assumption is that the conditions in the ecosystems (in this case the coastal zone), together with the human use of these ecosystems, are determined largely at the local level, because local institutions largely filter external factors, including regional and national policies and global markets. Processes and outcomes are assumed to be affected, to various degrees, by four types of variables that are external to the actors (Ostrom et al. 1994): [8]

- Attributes of the physical/ecological world,
- Attributes of the community within which actors are situated, [9]
- Institutions/Rules-in-use that create incentives and constraints for certain actions, and
- Interactions with other individuals.

The key element in this framework is the Action Arena, which are the unit of analysis as well as the focus of investigation. These variables are connected in the IAD framework (Figure 1).

The elements of the IAD framework are:

- *Attributes of the bio-physical world.* This covers also ecology, and what is included here will vary from ecosystem to ecosystem. Key variables are: rate of growth, diversity of species, climate, weather, terrain, as well as other factors that affect the state of the ecosystems and the humans that interact with them. Other variables are size of the resource and temporal and spatial variability of resource units (Ostrom 1990:197). These resources are characterized as being common property resources or common pool resources (CPRs), [10]

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[7] The most explicit description of the IAD framework appeared in Ostrom et al. (1994), while the perhaps best know work that applies the framework is Ostrom (1990), and the most recent treatment is Ostrom (2005). For a brief introduction to the framework consult Koontz (2003).

[8] In this presentation and adaptation of the IAD framework, the individuals and collectives involved are referred to as 'actors.' In some of the key writings on the IAD framework, including those by Elinor Ostrom, the alternative term 'participant' is also used. The term 'stakeholder,' which comes out of a different intellectual tradition concerned with development cooperation, methodology and participatory approaches, means the same, and could alternatively have been used. In fact, this term is at times employed elsewhere in the paper.

[9] We use the term 'village' with the same meaning as 'community.'

[10] According to Ostrom (2000) these are resources in which there are no space-temporary restrictions for resource users. These resources are characterized by the difficulty of excluding

Figure 1. The Institutional Analysis and Development (IAD) framework
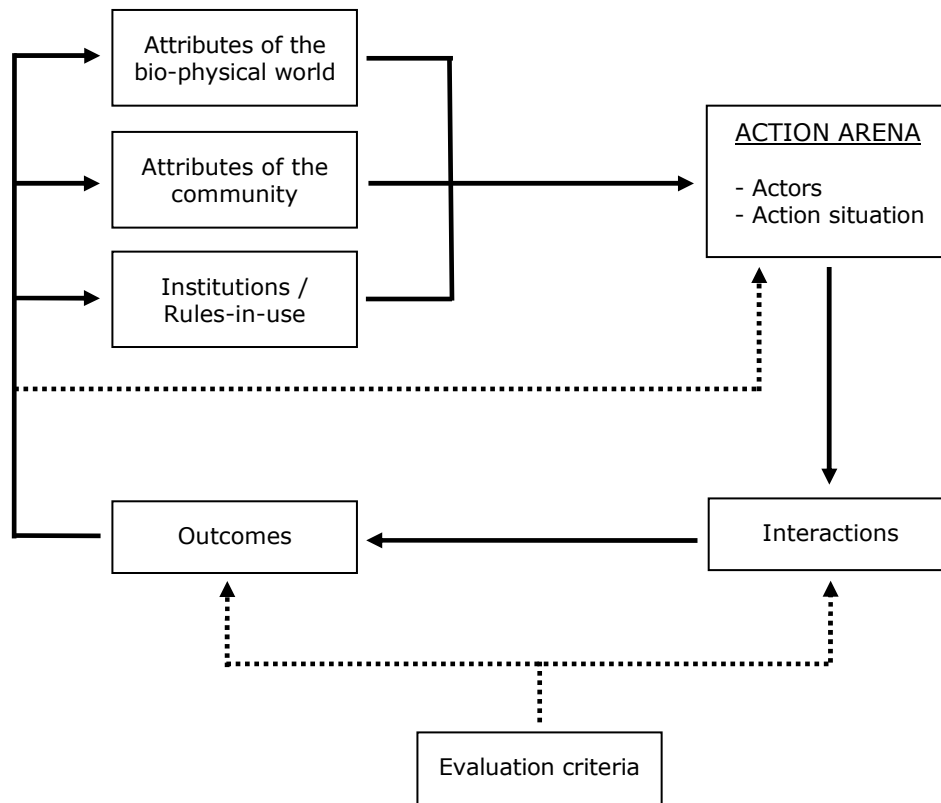
Source: Adapted from Koontz (2003), Ostrom (1990, 1994, 2005) and Rudd (2003).

- *Attributes of the community*.   Affects individual actions. This include, for example, "norms of behaviour, the level of common understanding about action arenas, the extent to which preferences are homogeneous, and distribution of resources among members (Ostrom et al. 1994: 45),

- *Institutions / Rules*-in-use.   Statements about what actions are "required, prohibited, or permitted and the sanctions authorized if the rules are not followed" (Ostrom et al. 1994: 38),

- *Action arena*.   This is the unit of analysis and focus of investigation. An action situation is the "social space where individuals interact, exchange goods and services, engage in appropriation and provision activities, solve problems of fight" (Ostrom et al. 1994: 28). The action arena includes several distinct elements: "Participants in positions who must decide among diverse actions in light of the information they possess about how actions are linked to the potential outcomes and the costs and benefits assigned to actions and outcomes" (Ostrom et al. 1994: 29),

- *Actors*.   Part of the action arena. An individual or group that, operating as a corporate actor, take action, as well as 'corporate' actors in the market, public sector, or NGOs in civil society. Actors are characterized by four features: "(1) the preferences evaluations that actors assign to potential actions and

actors from using them, and the fact that the use by one individual or a group means that less is available for others; therefore, the possibilities that these remain are highly influenced by resource management that people carry out to extract them (Ostrom 2000, in Ramos et al. 2004).

outcomes, (2) the way actors acquire, process, retain and use knowledge contingencies and information, (3) the selection criteria actors use for deciding upon a particular course of action and (4) the resources that an actor brings to a situation" (Ostrom et al. 1994:339),

- *Action situation*.   Part of the action arena. Refers to the social space where actors with diverse goods and services interact. It is characterized using seven clusters of variables: "(1) participants, (2) positions, (3) control exercised by participants, (4) action-outcome linkages, (5) types of information generated, (6) costs and benefits assigned to actions and outcomes and (7) potential outcomes" (Ostrom 2005: 14),
- *Interactions*.   Covers interactions between actors at three levels: operational, collective choice and constitutional (see below), and
- *Outcomes*.   The aggregate patterns of interaction lead to outcomes.

The IAD framework is multi-dimensional, in that it describes three levels of action:

- *Operational*.   Day-to-day activities that affect life directly,
- *Collective choice*.   Here decision-makers create rules to impact activities at the operational level, and
- *Constitutional choice*.   Here decision-makers determine how actors that exercise collective choice will be selected and the relationship among members of the collective choice body.

The relationship between these three levels of action is such that, in general terms, constitutional choice outcomes affect collective choice decision-making which, in turn, affects operational level activities. Actors often move between these levels of action in order to secure the best possible outcome given the set of rules at their disposal. They may also attempt to change collective or constitutional rules to serve them better.

For analysis of the present-day management of Colombia's and Ghana's coastal zones, the design principles for successful management of CPRs that have been put forward are useful (Ostrom 1990). They are: (1) Clearly defined boundaries, (2) Rules congruent with local conditions, (3) Individuals affected can participate in modifying operational rules, (4) Monitors are accountable to the appropriators, (5) Graduated sanctions against violators, (6) Ready access to conflict-resolution mechanisms, (7) Recognition of rights to organize, by external government authorities, and (8) Nested enterprises, where the resource is part of a larger system. These design principles are focused on and aim to sustain CPRs. The evaluative criteria for success are that the resource is being sustained while the community continues to derive benefits. Each principle affects incentives such that "appropriators will be willing to commit themselves to conform to operational rules devised in such systems, to monitor each other's conformance, and replicate the CPR institutions across generational boundaries" (Ostrom et al. 1994:91).

1.3 Connections, interrelations and systems

At the local level, institutions, on the one hand, and natural resources, on the other hand, are closely linked. Analysis of institutions as ways of thinking are to a large

extent concerned with relations between people and their environment, specifically the natural resource endowment. The focus is on how institutions facilitate, structure and constrains the utilization of local resources, and on the related modes of subsistence practices. In this way, then, the ecology/environment level and the human/social level – Nature and Culture – are connected! In terms of systems thinking, we are here concerned with an interrelated set of social and ecological systems (Berkes et al. 1998; Burnham and Ellen 1979), what today often is referred to as 'social-ecological systems.'

The utilization and appropriation of natural resources are done by individuals organized in various types of collectives, that is, groups based in and legitimized in kinship, territory and/or social organization. These collectives jointly manage and control specific resources, namely CPRs. CPRs are found throughout the coastal zones in Colombia and Ghana, and contain unique resources that constitute the loci for specific human adaptations and subsistence patterns. In this paper we limit ourselves to addressing such CPRs and their associated common property regimes with respect to catching of the Black Crab and fishing (Colombia) and artisanal inshore fisheries (Ghana).

2 Case: Ghana [11/]

The coastline of Ghana stretches for around 540 km between the international borders with Senegal in the west and Togo in the east. Towards the east, especially where the Volta River drains into the sea, there are a number of larger and smaller lagoons and wetlands. The coastline is part rocky and part sandy, that is, beaches. Coastal zones are in and off themselves macro-level categories that contain a varying number of smaller and larger circumscribed ecosystems. Key ecosystems in Ghana's coastal zone are: forests, lagoons, mangroves, savannah, continental shelf (consisting of a number of eco-systems including seagrass beds) and wetlands. The continental shelf (15-75 m depth) is narrow, and constitutes around 11 percent of the country's territorial waters.

This case study aims to present a generalized picture of the situation along the whole coast, with respect to a limited aspect of very complex realities, namely artisanal small-scale fishing in coastal waters and lagoons.

2.1 Attributes of the bio-physical world

The climate is tropical. Along the eastern coast it is warm and comparatively dry, while along the western coast it is hot and humid. The landscape is low and undulating and presents few topographic features. There are two rainy seasons: April-July and September-November. Annual average rainfall is around 740 mm countrywide, while rainfall along the eastern coastline lies around 2,000 mm. The

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[11/] All data from Soeftestad (1995-96), when nothing else is mentioned. In the period 1995-1997 he was a member of a World Bank team that – jointly with Ghana's Environmental Protection Agency (EPA) – prepared a comprehensive strategy for management of Ghana's coastal zone. He was responsible for social and cultural aspects of the strategy, in particular in relation to chieftaincy (Assimeng 1995; Soeftestad 1996a, 1996b, 1996c; World Bank 1996, 1998a, 1998b). He has been following the situation in Ghana's coastal zone closely ever since.

harmattan, a dry desert wind, blows from the northeast in the period December-March, and lowers the humidity around January. The highest temperatures occur in March, the lowest in August, while the average annual temperature in Accra is 30°C.

The fisheries sub-sector accounts for about 5 percent of the agricultural GDP, and are the country's most important non-traditional export. In the continental shelf area there are pelagic and demersal fish. The most important pelagic species are anchovies, sardinellas and chub mackerel. The most important demersal species belong to the families *cephalopods, lutjanidae, mullidae, pomadasidae*, *sciaenidae*, *serranidae* and *sparidae* (World Bank 1995a).

2.2 Attributes of the communities

This analysis is concerned with communities located along the whole of Ghana's coastline. There is a large complexity in adaptations. Some of the key variables operating are culture, ethnicity, group or collective characteristics, language, local politics, religion, socio-economics and subsistence practices. For the purposes of this limited analysis only a part of this reality is relevant. The several and growing urban centres add another level of complexity to the equation that will also not be covered.

The typical traditional small-scale fishing village – to the extent that such a thing can be said to exist – is of varying size (population size also varies during the year due to seasonal migration), and is located along beaches, behind or in-between stands of palm trees. There are around 200 such villages along the coast (World Bank 1995a), and probably the majority are inhabited by people from the ethnic groups Ewe and Fanti who have been engaged in an ongoing migration westward since the 19th century (Overå 2000; Salisbury 1973; Soeftestad 1996c; Wyllie 1973). The position of chieftaincy and religion is strong, as witnessed, for example, by the position of 'chief fisherman' in fishing villages. Fishing crafts are of two main sizes: small (around 7 m, approximately 8 men) and large (up to around 20 m and approximately 20 men). All boats are supplied with outboard motors.

2.3 Institutions / Rules-in-use

Here we are concerned with local-level institutions, that is, those that operate within a single community (and also between a number of communities), as well as institutions located at other levels. Resource management at the local level is often shaped by a number of overlapping institutions as located in economic, political, religious and social spheres. Communities, rather than being homogeneous entities governed by a single set of rules, are made up of diverse institutions and organizations with conflicting values and priorities based on differences in, among others, age, gender and wealth. These institutions, in turn, are interconnected with and influenced by broader institutions operating at higher levels, including district, region, state and international levels. This internal and external diversity must be taken into account when investigating how rules affect behaviour related to resource management. For the purposes of the present concern, and as argued above, only a limited set of institutions will be used for this analysis.

The relevant institutions and rules-in-use can conveniently be divided in two: informal and formal. The relationship between them is not a straightforward one, and the positions presented here may be considered as representing a subjective position and part of the reality.

It is important to discuss whether these institutions and rules-in-use have a function in an environmental or ecological sense. That is, do they function to protect, for example, against over-fishing? Many of the informal rules and norms would clearly seem to have such a function, whether it is – or at one time was – intentional or not. [12] In the case of chieftaincy such a connection is perhaps more tenuous, certainly it is for the most part more indirect.

2.3.1 Informal rules

The informal include beliefs, magic, norms, ritual, taboos, voodoo and values. There is often a close connection with religion (Kraan 2007). A majority of these rules are indirect or inadvertent (Anane n.d.). The informal rules prescribe acceptable and unacceptable behaviour but do not impose formal, legal sanctions on the part of violators. They can be flexible and dynamic, but also rigid. Examples of informal rules are: (1) river and seas are seen as the abode of gods (Anane n.d.), (2) fishing on specific days, seasons and areas is not allowed (Assimeng 1995; Entsua-Mensah et al. 2000; Kraan 2007), (3) there are annual rituals to pacify the gods of the sea (Kraan 2007), (4) some fish are forbidden or sacred and should not be caught nor eaten (Kraan 2007), (5) a number of rituals are used in fishing that are probably best understood as religious activities (Kraan 2007), (6) restriction on the use of certain gear types (Entsua-Mensah et al. 2000), (7) regulation of entry (Entsua-Mensah et al. 2000), [13] (8) taboos (Entsua-Mensah et al. 2000) [14] and (9) mesh size regulation (Entsua-Mensah et al. 2000).

With increasing urbanization, migration of fishermen and the impacts of Western practices these traditional practices are gradually being lost (Ntiamoa-Baidu 1991; Ntiamo-Baidu and Hollis 1998).

2.3.2 Formal rules

Formal rules specify outcomes or actions that are permitted, prohibited or required, and prescribe formal sanctions for rule violation. Also included are transparent rules for decision-making. Two different bodies of rules are identified, namely the chieftaincy system and property rights. There is clear overlap between them, at the same time one could see the former as part and parcel of the latter. Chieftaincy is included here as a formal rule system because it is universally so presented, understood and argued by Ghanaians themselves. [15]

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[12] Many people are today not aware of this connection and the implication of these rules. Such rules are referred to as 'inadvertent' (see Section 2.3.1 for examples).

[13] In part of Songhor Lagoon, only the fetish priest and people living near the lagoon are allowed to enter, and in Muni Lagoon only local people are allowed to fish.

[14] In the Muni and Sakumo Lagoons it is forbidden to use canoes. Women are not allowed to cross the Muni and Songhor Lagoons during menstruation.

[15] Discussing, assessing and analysing institutions and rules-in-use in Ghana today can be a challenging balancing act. There is theory and practice, and there is tradition and modernity. Two key arguments or points of view need to be presented: (1) it is a difficult question where to draw the dividing line between informal

(a) Chieftaincy

A chief is the leader of a group of people and/or a region. In many cultures in Africa, especially in larger tribes, there are segments at various levels each headed by a chief. Chiefs have certain responsibilities to undertake as well as roles, internally in the group or region and also externally. These range from the pure ceremonial to decision-making under some type of autonomy in relation to neighbouring or macro-level units. Neither 'chief,' 'tribe' or 'tribal chief' are very clear concepts, and in some cases other terms that are equally vague are used instead.

In Ghana the traditional system of chiefs has been put in system, the so-called chieftaincy (Soeftestad 1996c). As a traditional institution, chieftaincy has its origin in pre-colonial states and societies, and was incorporated into the British colonial rule in what is now known as Ghana (Crook 2005). However, the term 'traditional institution' is not uniform, neither in space nor in time. Chieftaincy has changed in the course of colonial and post-colonial times, and it is not equally understood and practiced in all parts of Ghana. The latter has much to do with the fact that chieftaincy originated, and to this day remains most evolved, among the Ashanti ethnic group, from where it over time has been diffused to neighbouring ethnic groups and in the process become transformed.

(b) Property rights

Property rights are often understood as organized in different systems, that is, public or state rights, private rights, communal rights and open access (i.e., no rights). Here such rights are understood to be part of chieftaincy. Land in Ghana is formally owned by the state; however, village chiefs continue to manage village resources according to customary rules, local knowledge and power relations. This creates a legal situation that is referred to as 'legal pluralism.' The modernizing and decentralizing state, which has instituted responsible management bodies especially at the district level (in particular the District Assembly), has strived to assure that the traditional responsible enforcers of land tenure laws and customary rules continue to be local people and institutions, and that they should be in continual and routine contact with actors in the decentralized public sector (Moore 2004).

Property rights have two aspects to it: understood as common property rights they are part of and overlap with the chieftaincy system and its rules and provisions for how to manage such rights. Understood as private property rights they are part of the modernizing and 'new' Ghana. At the same time we have to acknowledge the fact that fishermen are also involved in cases of evolving common property rights (see Section 2.5.2, Case 4). This can be understood as a consequence of population growth, increase in fishing activities, efforts to prevent conflicts and the ongoing west-ward migration of fishermen from some ethnic groups. The fact that chieftaincy is gradually becoming less important, together with increase of contacts between

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rules, on the one hand, and chieftaincy and religion, on the other hand and (2) the positions chosen depend as much on the person as on the circumstances and the audience. What not too long ago would be considered by all as formal rules, under chieftaincy as a kind of 'umbrella' institution, are increasingly relegated to a body of informal and marginalized rules, while the modernizing state, including EPA, is seen as constituting the new formal rules, namely various laws, statues and regulations and their associated conditionalities. In other words, this reality is increasingly questioned and debated.

fishermen from different ethnic groups in Ghana and also from different countries (which may lead to new difficulties in reaching agreements) are some other factors that explain this occurrence of a more direct engagement in evolving such rights. This is notwithstanding the fact that a 'chief fisherman' in each village may be involved.

2.4 Actors

The focus on artisanal fishing, together with the specific choice of relevant institutions and rules-in-use, largely determines the choices made and consequent behaviour of the actors. Coastal fishing as a subsistence practice is related to – and follows from – values and institutions both in traditional society and modern society. Thus, while EPA is in focus, it is necessary to focus also on other stakeholders, including chieftaincy, NGOs, and the District level.

2.4.1 Actors in civil society

- *Artisanal fishermen*, [16]
- *Chiefs*.   Operate on several societal levels from the village to the national level, as representatives of the chieftaincy system, [17] and
- *NGOs*.   Locally and nationally based, are involved in supporting local-level work, especially in the area of biodiversity protection, sustainable management of key ecosystems (in particular wetlands and lagoons), and sustainable subsistence practices.

2.4.2 Actors in the public sector

- *District level politicians/administrators*.   This includes District Assemblies, which in the present administrative, public sector set-up have important and wide-ranging responsibilities, and
- *Environmental Protection Agency (EPA)*.   EPA's mission is to "co-manage, protect, and enhance the country's environment, in particular, as well as seek common solutions to global environmental problems (EPA n.d.). EPA aims to accomplish this mission through "An integrated environmental planning and management system established on a broad base of public participation, efficient implementation of appropriate programmes and technical services, giving good counsel on environmental management as well as effective and consistent enforcement of environmental laws and regulations. The EPA is an implementing agency, a regulatory body and catalyst for change towards sound environmental stewardship." (EPA n.d.; cf. Amlalo 2006).

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[16] We are here concerned with the actual catching of fish, where only men are involved, and not with land-based marketing and processing activities where women are involved.

[17] It is, admittedly, a valid question to what extent chieftaincy can be said to belong in civil society. Key tenets of civil society – a Western concept and idea that is today actively promoted across the world – is transparency, participation and involvement by everybody. Chieftaincy actually consists of the chiefs at various levels, and local people are only included indirectly. This begs the question of how to utilize and involve chieftaincy in the ongoing emphasis on democratic governance as a foundation for economic development (Moore 2004), and also speaks to the increasing role that the emerging NGO sector, built along Western organizational models, is likely to have.

2.5 Interactions

The interactions take place between actors, as located in the traditional sector, civil society and public sector. They may also occur at three levels: operational, collective choice and constitutional (see Section 1.2).

2.5.1 Interactions within traditional sector and civil society

The following case addresses the evolution of property rights jurisdictions between neighboring fishing villages, together with informal sanctioning of property rights violations (Case 1).

Case 1. Evolution of communal property rights

I asked *Fanti* fishermen whether there were local property rights that structured their own fishing operations, as well as relationships with the neighboring fishing villages up and down the coast. The answer was yes.

When they arrived at this place, there were very few people here at all, and nobody was fishing (they could not state clearly how long back, but my estimate is that is was 1-2 generations). As more people began fishing, in their village but especially as new neighboring fishing villages was founded, there was a tendency that fishermen from one village would fish so close to a neighboring village that the fishermen in the latter village began wondering whether this area perhaps belonged to them. In this way a demarcation gradually was instituted (a relatively simple task as this area features only beaches and there are no islands). Since some years, the involved neighboring villages have reached an informal understanding of the borders between the areas used by each village. My informants explained how this process had taken place 'on the job' so to speak, during repeated encounters on sea with their colleagues in the neighboring villages. There was no reference to any involvement of village chiefs or 'chief fishermen' on either side.

As for control of infringements and sanctions against fishermen who did not keep to their own territory, there was a relaxed view on how to deal with this. First, the control was done, again, "on the job" by fishermen while fishing. Secondly, the issue would be taken up there and then by simply confronting the other party. Oftentimes discussion would ensue about the merits of the complaints, but as a rule an amicable solution was always found. If the joint agreement was that one party had infringed on the seascape belonging to a neighboring tribe, they would be liable to pay restitution. According to my informants, this could amount to a bottle of Genever and/or a token sum of money. My informants were smiling and laughing when relating this story, signaling that this was a case of a common property rights regime evolving and that the whole thing was more fun than anything else.

Source: Field notes, November 1995 (Soeftestad 1995-96).

In another case the strong position of religion as well as chieftaincy, in this case in connection with fishing, is marshaled (Case 2).

Case 2. Ban against fishing

On 20 August 2004 the following story appeared in The Mirror, a Ghanaian newspaper:

> *"When this year's fishing season started yielding a good catch, the people of Keta were confident that their socio-economic situation will improve. However two days in the season, a fetish priestess ordered fishermen to stop their fishing activities since the bumper catch in previous days were mermaids (sea gods) and had threatened with death and afflictions anyone who would dare flout the order. Currently dozens of boat owners in the area, out of fear from their lives, are obeying the order to the detriment of their livelihood and their dependents."*

According to the newspaper story, a priestess went to the home of a chief to inform him of the wrath that would be unleashed on the whole town if fishing activities were not halted immediately. She requested that a ritual be performed to appease the angry gods. Afterwards she went to some boat owners to talk with them. According to the article the fishermen were not fishing, while they also discussing the issue, arguing that the ban needed to be lifted. However, the chiefs could not meet to take action because of an ongoing chieftaincy dispute. The article concluded by stating that the District Chief Executive was investigating the issue.

Source: Kraan (2007: 2, 10-11).

2.5.2 Interactions between traditional sector, civil society and public sector

In a third case, this one from civil society and with an NGO at the helm, relevant stakeholders in both civil society and the public sector are called upon to get involved (Case 3).

Case 3. Sustainable use of lagoon fish resources

Some of the factors that explain the decrease in fish resources in Ghana's major lagoons have been addressed above. According to some observers, drastic measures are needed in order to protect the remaining populations of several species of fish in Ghana's lagoons. Writing with specific reference to the diminishing population of Blackchin Tilapia (*Sarotherodon melanotheron*) in two lagoons, the proposed measures are built up around and reflect traditional management practices (see Section 2.3.1):

(1) Existing mesh size regulations should be enforced,

(2) District Assemblies, assisted by the Fisheries Department and traditional authorities, should be responsible for determining the total allowable catch (TAC) for lagoons in their area, together with the appropriate fishing gear and efforts to reach the TAC,

(3) Traditional authorities or District Assemblies should ensure legally backed enforcement of a system of appropriate controls and fines,

(4) Efforts should be made to restore mangrove covers, and

(5) Fishermen and their children should be educated to appreciate the importance of resource management.

Furthermore, it is proposed that fishermen should be diverted into other jobs, e.g. masonry and carpentry, in order to diminish the problem of poverty.

Source: Entsua-Mensah et al. (2000).

In an interesting experiment in connecting the traditional and modern parts of Ghanaian society, chiefs are members of the District Assemblies (Case 4).

Case 4. Chiefs and the District Assemblies

When the country's administrative system was overhauled some years back it was decided to take a bold step and address also the perceived problem of chiefs and the traditional sector that was lagging behind. As was rightly argued, chiefs and chieftaincy represent an essential part of the societal make-up, and need to be brought into the mainstream.

Accordingly, it was decided to set aside a number of seats in each District Assembly for local chiefs. As representation on the District Assembly is a political arena, members are elected from political parties in national votes. This clearly was a problem, as chiefs are above party politics, and had to be understood by all as that. Thus, as chiefs could not be elected, they had to be appointed. The Dt. level administration proposes candidates and the Government reviews and appoints them.

This is the theory. The reality is somewhat different. To understand this, it is necessary to appreciate some key aspects of the chief's persona and how he or she functions. A key function of chiefs is mediation between aggrieved villagers. The two parties sit in front of the chief and present their argument. The chief listens, and may ask for clarification on an issue or two. Then he or she

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pronounces judgment in the case. An essential feature of this traditional legal process is that the chief does not enter into any arguments *pro et contra* with the two parties. That is, there is no discussion between the two parties and the chief on the merits of the case. The chief simply hands down his judgment.

This approach is diametrically opposed to how the political process functions, in the District Assemblies as elsewhere in the modern sector of society. Here there is no absolute truth. Everything can be – and is – challenged and contested by everybody. Put somewhat pointedly, the position that wins a debate oftentimes becomes the truth. Also figuring importantly in determining the outcome is power on the part of the political parties and sometimes alliances between stakeholders.

This rationale for arriving at conclusions and decisions are very different from how chiefs operate. The often logical implication of this is that chiefs do not function very well in the public, including in open debate in the District Assemblies. They do not easily present their views and argue their positions against those of the other members. In fact, chiefs are often quite passive, and thus their views and experiences are often not heard and brought to bear on the issue at hand. Traditional and modern structures are accordingly, it would seem, not mediated and brought together in the District Assemblies.

Source: Field notes, November 1995 (Soeftestad 1995-96).

2.5.3 Interactions within the public sector

Cases involving the public sector in an active capacity should include the EPA. It has, however, not been possible to locate any cases where EPA interacts with people at the local level, whether directly or indirectly via other actors. As mentioned above (see Section 3.5.2), the EPA has entered into very few formal (and, one would assume also informal) partnerships with relevant stakeholders at the local level, including chiefs, NGOs and traditional authorities.

2.6 Outcomes

The actors included in this case, as located in the traditional, sector civil society and the public sector, make choices based on own preferences, objectives, goals and mandates. Other factors that enter into the equation are costs and benefits assigned to alternative actions and outcomes, as well as strategic considerations. These are the outcomes for each of the actors (individuals and collectives) that have been addressed in this case:

- *Fishermen*. On the one side it is business as usual, while, on the other hand, fishermen are witnessing social and environmental changes: a gradual increase in competition of diminishing resources, degraded marine and freshwater environments, and conflicts. This situation is being acerbated by traditional authorities like the 'chief fisherman' and chiefs that may seem to be less and less able to handle the problems and issues that occur when traditional societies are becoming integrated into modernizing states (see Cases 1-3).
- *NGOs*. NGOs give prior emphasis to engaging at the local level, but in general reach out to all relevant stakeholders including chieftaincy. They do not, as a rule, relate to the public sector, especially EPA, and to a smaller extent with chieftaincy. Instead they engage directly at the local level (see Case 3).

- *Chiefs.* Chiefs (and, by implication, chieftaincy) can be understood as custodians of the traditional sector. As such the fundamental rationale guiding the way they manage their office is to maintain status quo. They are concerned with traditional values, and do not easily relate to and embrace the modern sector and today's problems. Internally, the 'chief fishermen' and the chiefs are not well trained and experienced in addressing conflicts, partly because they are loosing authority, but also because of external factors that cannot be addressed appropriately by chieftaincy, including conflicts between artisanal fishermen and industrial fishermen, and conflicts between Ghanaian fishermen and those from different ethnic groups and/or different countries. Thus we see how fishermen take matters in their own hand (see Case 1), on the one hand, but also how informal rules and chieftaincy seem to be strong at the local level (see Case 2), and correspondingly ill-adapted to address politics at higher levels (see Section 2.5.2, Case 4; cf. also Case 3).

- *The District level.* An effort to connect modernity and tradition through involving chiefs in politics has failed. This point to the complexity of the relationships between the traditional and modern sectors. The institutions and organizations in either sector do not overlap much. While the theory is that the modernizing sector is based in – as well as being an extension of – the traditional sector, in particular chieftaincy, to operationalize this is a very different matter altogether. It is fair to question whether it is indeed possible to connect the two in practical politics and nation building (see Section 2.5.2, Case 4).

- *EPA.* Sees itself as representing a new message and new approach, starting with the top. Bypasses chieftaincy and tries to relate directly to local people, which fails. Has a limited agenda focused on environmental protection and not including local people, or certainly not as active actors with a stake and relevant capacities. EPA states that entering into partnerships is necessary in order to achieve their environmental protection goals. Accordingly, EPA aims to enter into partnerships with a large number of organizations and other stakeholders, including: parliamentarians, judiciary, government ministries, public sector agencies, District / Municipal / Metropolitan Assemblies, private sector, NGOs, mass media, religious organizations, traditional rules, women, youth, universities and research organizations, and community groups. Likewise, at the international level partnerships will be set up with, inter alia, multilateral donors, bilateral donors, international NGOs, regional and sub-regional organizations and sister agencies (EPA n.d.). The reality is somewhat different. According to Amlalo (2006): "Few formal partnerships exist. Support for coastal conservation activities have been received from the private sector as well as from Government. Some financial [organizations] have supported NGOs in marine conservation activities."

Choices made by these and other actors (including persons and collectives) result in aggregate patterns of interaction and outcomes that have been evident for a number of years. The joint World Bank - EPA sector work on integrated coastal zone management (on which one of us worked), presented five overriding concerns for environmental management: (1) coastal erosion, (2) domestic sanitation,
(3) industrial water pollution, (4) fisheries degradation and (5) wetland and mangrove

degradation (World Bank 1996; cf. World Bank 1998a, 1988b). [18/] The situation has not changed much since then, if anything it is more serious today.

These patterns of interaction and outcomes, in turn, are important for understanding current management practices with regard to Ghana's coastal zones, as well as agree on what needs to be done to achieve a more sustainable management.

3 Case: Colombia [19/]

This case study is framed in the context of an island on the Caribbean coast. The extraction of a natural resource for consumption and living that takes place here is part of an interesting organizational arrangement which includes the environmental protection agency CORALINA (Corporation for the Sustainable Development of the Archipelago of San Andres, Old Providence, and Santa Catalina Islands).

On Providence Island, harvesting of the endemic species Black Crab (*Gecarcinus ruricola)* is an important symbol of cultural identity and economic practice. Concerns about sustainable management are posed because organizational constraints cannot restrict harvesting, and there are many incentives to overuse crabs as a CPR. This is a situation in which there are external regulations imposed by the State, as well as group externalities. Despite the high economic dependence on the resource, the organizational failures are fixed through a combination of roles among stakeholders. This leads to a discussion of organizational failures and challenges in natural resource management.

3.1 Attributes of the bio-physical world

Colombia lies along both the Caribbean and Pacific oceans, both of them with unique ecological characteristics. Providence Island is located in the north-eastern part of the Caribbean oceanic territories. The Providence scenario is particular in many respects, not just in terms of its biological and ecological conditions, but also in terms of its people, traditions, and the history of the people as descendants of slaves from British colonial times.

Old Providence Island is part of the Archipelago of San Andres insular oceanic territories. It has a land area of 57 km2, and consists of tropical dry forests and a marine area of about 300,000 km2. Corals, mangroves and seagrass beds ring the island (Howard et al. 2004).

The prevailing ecosystem conditions have allowed for the existence of some endemic species like the Black Crab. Sjogreen (1999) studied the Providence Island species biology and estimated a total annual catch of 1,000,000 crabs. Alayón and Llach (2004) determined an annual catch of 1,069,200 to 1,282,660 crabs, calculated from the number of catching trips done each month by part-time and full-time catchers. In other words, the Black Crab population faces a number of human induced threats, including loss of habitat though current agricultural practices associated with labeling of crabs as pests, road kills during the annual migration event, and, obviously, crab catching.

3.2 Attributes of the community

Native islanders, who descend from early settlers, are protected by the Constitution as an ethnic minority. A majority of the population, namely 57 percent, is of Afro-American descent. In 2001 the unemployment rate was 53 percent. Poverty was widespread: 32 percent of households reported no regular source of income and 48 percent of the population subsisted on US $1 or less per day. The economic activities are tourism, tourism-related commerce, government employment, fishing and small-scale farming (Howard et al. 2004).

[18/] The degradation in fisheries, in particular, is noteworthy (cf. Atta-Mills et al. 2004; Bennett 2000).

[19/] Adapted from Alayón (2006), cf. also Alayón (2005) and Alayón and Lcach (2004). Based on data from fieldwork in the period 2004-05.

Demographics and social issues, such as unemployment and lack of opportunities, have had the consequence that harvesting of the Black Crab today constitutes an important strategy and economic alternative, and it is thereby an important cultural practice for most of the island's families. This presents a major hurdle to conservation efforts and to achieve sustainability of the resource, and it is a challenge to get the local people involved in conservation issues given that the incentives are not very clear or very attractive.

3.3 Institutions / Rules-in-use

Colombia's framework environment law established the National Environment System (SINA) and declared the archipelago a biosphere reserve. The "Seaflower Biosphere Reserve" has been part of UNESCO's World Network of Biosphere Reserves since 2000. This law also created CORALINA, and made it responsible for biosphere reserve planning and implementation. As a result, various regulations have arisen concerning fishing and crab catching to ensure the sustainability of the resource, given the fragility of the ecosystem and the fact that they do not tolerate heavy exploitation (Gorricho 2003).

Harvesting is not allowed during the breeding migration season from the end of May until the end of July. In this period the crabs descend from the mountains to spawn in the sea before they go back to the mountains. This means that the catch effort diminishes considerably at the same time that the vulnerability of the resource increases.

There are formal rules imposed by CORALINA and there are local informal rules concerning appropriation. The informal rules include, for example, social control over the size of crabs, the no-catching season of females, and social control that prevents or diminishes wastage. The catchers do not consider these informal rules real or acceptable.

3.4 Actors

3.4.1 Users

Most crab catchers are native islanders, and therefore the resource has been a traditional economic activity much like fishing. Many of the 127 individual catchers and 60 family catchers survive mainly on the income generated from harvesting, processing and/or sale (Alayón and Llach 2004). Some capture crabs to sell alive, while other are involved in processing and selling the meat.

In terms of the users' attributes (Ostrom 1997), there is a common understanding about the resource dynamics, but this does not extend to the impact of the individual actions on the other users and on the resource itself. The assumption is that the resource will not be depleted or disappear, because of the traditional belief involving respect for God's creation that do not have an end.

On the other hand, the discount rate is high, which means that there is not a high valuation concerning the future, and this is enforced through a misperception concerning the limits of resource extraction. The time horizon corresponds to the day-to-day practices in a subsistence economy. However, the harvesting intensity depends upon the alternatives the catchers have. Those that depend directly on crab catching for consumption and living are full-time catchers, while those who catch only occasionally, that is, during the breeding migration season, are part-time catchers.

In this way, if the resource were to become depleted, catchers with more economic opportunities will not be as affected as full-time catchers. This heterogeneity in incomes among catchers is evident in the way they perceive each others as full-time catchers (high dependence on the resource) and part-time catchers (dependent on a bundle of income opportunities).

Regarding autonomy, catchers have some common norms in terms of not wasting crabs once they are caught. Users are free to establish their own rules, and they have tried to organize themselves for purposes of resource management. However, such organized collective undertakings seem not to work on the island. As pointed out by Wilson (2004), it is a far cry from talking to actually achieving this.

3.4.2 CORALINA

The rules imposed by CORALINA lead to conflicts with the community because of the prohibitive character of regulating certain types of subsistence-based activities. The conflict is supported by the construction of a collective imaginary framework by the community with strong negative charges against the organization that diminishes its legitimacy. This stereotype limits dialogue and negotiation of agreement among the stakeholders. However, although people may argue against CORALINA they still recognize it as the foundation of environmental regulation.

A Black Crab project staff member stated that:

> [P]eople that work in CORALINA is not only CORALINA, I believe they are people that are linked to the community and other activities and that are members of the community and their families are catchers too. They are part of all, so the way as they can see the control is different. [20]

CORALINA is the main actor in resource management, being part of the community and at the same time acting out various roles. This is important to understand in order to address the role of organizations in resource management because of two different but complementary points of view: (1) informally, in terms of the local appropriations such as social control mechanisms for monitoring and the integration with the community and (2) formally, because of the implementation of a series of regulations and legislations aimed at sustainable resources management.

3.5 Interactions

The interactions in this case are analysed from some attributes in the organizational design from CORALINA's side, and the way the interactions have evolved in terms of CORALINA's successes and failures.

The Black Crab catchers have had the possibility to contribute in designing operative rules, and also participate in collective election arrangements with CORALINA when it uses a participatory approach. Catchers enforce some rules, for example, monitoring during the breeding migration season, so they are involved in the supervision while at the same time being users. The rules enforced by CORALINA through gradual sanctions are an issue among the catchers, and between them and CORALINA. They can be social control mechanisms or sanctions imposed by CORALINA, depending upon the type of problem with the management of the resource.

It is important to understand that sanctions imposed by CORALINA are similar to social control, because the people who work for CORALINA are related to the catchers, and in some cases are part-time catchers too, thereby the sanctions consist in rebuking the catchers for their critical actions.

These sanctions do not define the extraction rights of the resource because it seems that this way of operation or management is not viable, and neither does it seem to be necessary, because the boundaries of the system are not well defined. However, the sanctions restrict the extraction, according with common practices, seasons and place of harvesting.

Finally, the conflicts between CORALINA and the users discussed above have never been very important. Accordingly, complicated conflict-solving mechanisms do not exist, and the resource users are free to generate their own self-organizing processes, even when they do not function, which is probably because the need has not arisen yet.

The analysis of the principles proposed by Ostrom (1998) shows that despite the difficult rules of fulfillment and the differences between CORALINA and the catchers, in general the organizational design is successful, mainly because it follows the local conditions of the resource and the community.

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[20] Documentalist with the Coralina Black Crab Project. Personal interview in *Light House.*

3.6 Outcomes

As preliminary conclusions, the anthropological and participatory approach enabled the research to build a dialogue concerning the users' environmental situation framing the conflict, understand the users' socio-cultural, economic and political contexts, their institutions, their languages, and their viewpoints, and elucidate their positions, interests, and needs as well as the conflict's weak spots.

Starting from the integration of the analytical levels among users and institutions for resource management, it was possible to identify the main relationships that define aspects like legitimization of rules and decision-making for resource management.

It is evident that the biological conditions of the resource impacts the way in which crabs are perceived, because the relatively large number of crabs on the island largely determines its appropriation.

According to the analysis of resource attributes (Ostrom 1997), it is possible to determine from reliable local indicators that crabs are abundant but diminishing, and that the activity generates enough income to make a living. Therefore this has an important effect on the *effectiveness* of the institutions, as it points towards the idea of the perception of a dilemma on the users' side. It is not easy to believe that there is a problem when all users benefit and it does not seem to cause a decrease in the resource.

The relationship between users and the resource is not only identified through the extraction processes, but also through symbolic appropriations, like the identification of themselves with their role, and the importance of the resource in the configuration of the symbolic territories and spaces, and the knowledge and feelings they have toward the species.

CORALINA represents the public sector on the islands. People do not like it, or at least this is what they say. It is viewed as an external agency, and it causes conflicts with the community. But when we look deeper, we find another kind of relationship not evident at first. People want to work for CORALINA because working for the state gives higher status than working in traditional activities. [21]

Islanders recognize the importance of CORALINA, and they follow most of the rules imposed by it. In this sense "CORALINA seems to be part of the community," as local people put it. So, CORALINA comes across as a bridge between the community level and the nation state, plays an important role, and uses a participative approach. This helps it in becoming accepted at the community level, and contributes to its legitimization. As is clear, local people seem to have an ambivalent relationship with CORALINA.

Participatory approaches are an important way in which CORALINA plays out its role. This approach consists in involving local people in CORALINA's projects: talking with people about projects, involving people in decision-making processes, creating common spaces for discussion, and all of this related to natural resources management and sustainable development. For CORALINA, it is difficult to get assemblies with enough quorums but this strategy does work in the legitimization process.

An analysis could be made at the following three main levels: (1) socio-economic actors (users of natural resources), their beliefs about institutions, and subsistence needs, (2) institutions like values, norms and formal rules and (3) the importance of participatory approaches in the 'making of institutions,' for their legitimization, and the strategies that help the system to work.

The challenge of this case is to do a feedback from the conditions of resource management to the relation and understanding behind CORALINA's rules, and the norms of the catchers toward extraction of the Black Crab. Even though there are some contradictions in this relation, resource management and appropriation of the resource as a common pool resource seems to be sustainable, despite its vulnerable condition because of the continuous extraction, and the rules imposed by CORALINA seem to be fulfilled.

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[21] When CORALINA was set up outsiders were hired and this led caused problems. Today only local people are employed.

However, in order to improve resource management, it is necessary to maintain and empower this relation. Finally, it is important to understand the role of some contextual variables like the existence of optimal habitat conditions for the species, which must be achieved looking for internal sustainability, that is, the importance of reaching consensus regarding the management system as well as with the other actors involved.

Finally, Gorricho et al. (2005) argues that the local subsistence practices represent a viable strategy for optimal development of the social processes, although the precariousness of the process for decentralizing the political system is still a limiting factor.

4 Discussion

In this section we use an application of the IAD framework (see Section 2) to analyse specific situations of environmental and socio-cultural change and development in two selected coastal situations in Colombia and Ghana. We focus specifically on the public sector agencies CORALINA in Colombia and EPA in Ghana. The discussion is also informed by certain other analytical approaches and methods, specifically stakeholder analysis and social analysis. [22]

4.1 Introduction

For all its outward similarities, including that we are dealing with coastal zones that are at the interface between sea and land, and with similar resources and human adaptations, there certainly are a lot of differences. Available efforts to present these overall ecosystems for purposes of comparison are very few, and are limited: World Resources Institute (2003a, 2003b) has collated comparable data on the coastal and marine ecosystems, with emphasis on biodiversity and protected area data, together with some general data on fisheries, while FAO (2003, 2004) provides detailed comparable data on the fisheries sector – broadly understood – in the two countries. Comparable statistics on the institutional and organizational aspects of life in these coastal ecosystems are not available.

At the outset of this discussion we would like to point out some important aspects of this comparison: (1) in the Ghana case the whole coastal zone is addressed, albeit in a general way and (2) in the Colombia case only a very small part of the coastal zone – which differ in important respects, including biology, ecology and history, from the rest – is addressed, and in a detailed way. These facts place limitations on the ability to draw conclusions on the situation in the two countries at the macro-country-level.

By means of the IAD framework we identify the following key aspects in the two situations:

- *Attributes of the bio-physical world*. Colombia: Providence Island is an insular oceanic territory, volcanic in origin, and noted for its natural richness and diversity. Bi-modal weather with two seasons, winter and summer. The breeding migration season, when the Black Crab spawns, takes place in the period May-July. Ghana: Tropical climate, with variations between the western and eastern coast. Two rainy seasons, early summer and fall. The *harmattan* wind is important. The whole coast is an important fishing area, with a number pelagic and demersal species that are exploited commercially,

- *Attributes of the communities*. Colombia: Approximately 127 catchers and 60 families depend on catching crabs for consumption and living. Ghana: There are around 200 fishing villages along the coast, the majority of which consist of people from a couple of ethnic groups. Fishing is done collectively in larger teams. The 'chief fisherman' plays an important role,

- *Institutions / Rules*-in-use. Colombia: Informal rules associated with crab catching are: (1) behavioural norms, that is, wasting of the resource after catching is not accepted, (2) a belief that females that have spawned taste bad and are therefore not caught and (3) there is a rule about not catching juveniles. Ghana: Informal rules include beliefs, magic, ritual and

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[22] These are analytical tools based in the social sciences but adapted to the concerns and specific requirements for information and data about social concerns in connection with development cooperation and investment operations (cf., e.g., World Bank 1995b, 2005, 2007).

voodoo, a majority of which are inadvertent. There are no sanctions. The formal rules prescribe outcomes that are permitted, prohibited or required, and they carry sanctions. Two sub-categories of formal rules are identified, namely chieftaincy and property rights,

- *Actors*. Colombia: The two main actors are: crab catchers and CORALINA. Ghana: The two main actors are artisanal fishermen and EPA. Other relevant actors include: chiefs and chieftaincy, NGOs and District-level politicians/administration,

- *Interactions*. Colombia: Between users, where full-time catchers sometimes do not accept the behaviour of part-time catchers in terms of extraction activities. Also between CORALINA and users. Ghana: There are clear constraints on who interacts with whom and over what. Four brief cases present aspects of the interactions between the identified actors, and

- *Outcomes*. Colombia: Despite the many incentives users have to overuse natural resources, there are a number of factors in the extraction arena that play important preventive roles. They include the relative abundance of the resource and the interaction with CORALINA. All of this point to a situation in which the different stakeholders make decisions and where the rules seem to be followed. Ghana: There are fairly dramatic and accelerating changes, environmental as well as socio-cultural: Artisanal fishing is slowly experiencing problems; NGOs – a recent societal category – are engaging in the areas of biodiversity and environmental protection with some promising results; the traditional role of the chief has undergone drastic change and curtailing over a number of years; efforts at the district level to decentralize governance make it more inclusive and potentially effective in addressing problems, however the relationship with chieftaincy remains to be solved; and EPA has been only partly successful in tackling the problems it was set up to manage.

4.2 Similarities

There are some clear similarities between CORALINA and EPA:

- *Origin*. They originated at a macro-level, that is, the national level, with input from the international level,

- *Concerns*. The bundle of causes, interconnections and effects in the environment that inspired the founders – and continue to inspire present staff – are the same,

- *Overriding focus*. Both are environmental protection agencies and represent the state and its judicial system at the local level. That is, their ultimate roles are the same,

- *Obstacles I*. They face the same general difficulties in terms of uncertainties at the level of the environment, because the data at disposal always seem to be insufficient to guide action. This is a key reason whey both are concerned with integration, vertically to include stakeholders at various societal levels, and horizontally to bridge societal sectors (primarily public sector and civil society), and

- *Obstacles II*. They face the same general difficulties in terms of legitimisation processes. That is, the key stakeholders that they aim to engage, people at the local level, on the one hand, and people in the modern sector, on the other hand, represent very different views and rationales, in terms of what CORALINA and EPA is or should be, together with positions on means and goals.

4.3 Differences

At the same time there are a number of differences between CORALINA and EPA that are equally noteworthy, and actually more so in the context of this paper.

4.3.1 Mission statement/rationale and mode of engagement

EPA has a very clear focus on environment, ecology, the rule-of-the law and the judiciary. There is a strong emphasis on a number of environment-related conventions, policies and regulations that pertain to correct or better management of coastal resources, and to investment projects and other developmental activities in support of or pertaining to them (Amlalo 2006).

CAROLINA shares the same goals, but takes a different approach. That is, it shares the goals, but differs on the means with which to reach them. CORALINA has adapted to local conditions and circumstances. Despite the fact that CORALINA represent the national government, the isolated conditions have led to the evolution of local mechanisms which in many cases differ from those found in other environmental agencies in Colombia.

Where EPA is indirect, CORALINA is direct. Where EPA operates mainly at a macro-level, CORALINA addresses the local level. Where EPA's engagement with local people appears to be largely limited to advocating the importance of public education on sound coastal environmental practices, CORALINA moves beyond this and aims to achieve this more directly and also more effectively. Where EPA is concerned with formalities and form/structure, CORALINA seems to focus more on content, practice and results.

4.3.2 Location and staffing

EPA is headquartered in the capital Accra, and has small offices in each of the four coastal regions. Given the size of each region, the population size, and the number and complexity of issues, the distance down to the local level is still substantial, and accordingly the extent of interaction and involvement with this level. [23] Staffing is based on merit and seems to favour university level degrees, and there is thus a strong emphasis on professionalization.

CORALINA is largely located at the local level on Providence Island. Moreover, there is a policy on hiring local people whenever possible. The criteria for hiring is an indication that CORALINA places high value also on local knowledge and practical experience, and it would seem to be broader than in the case of EPA.

4.3.3 Societal complexity

Society in Ghana is quite complex, including along the coast. It is, admittedly, not easy to separate out the various relevant elements, but for heuristic purposes the following simplified schema may be useful. There is first, the traditional sector, comprising specifically chieftaincy and religion and their associated institutions. Second, there is the emerging civil society, comprising of NGOs. [24] Thirdly, there is the modern or modernizing Ghana, comprising of the public sector, including specifically organizations like EPA. In terms of stakeholder analysis this translates into a potentially large number of actors with specific interests in aspects of the coastal zone, including the resources available (real and potential), and their present and future use.

In the case of Providence Island, the situation is rather less complex. The area is small, as is the population, with virtually everybody engaged in traditional small-scale subsistence practices like fishing, Black Crab catching and farming. The very different history of this society, including its origin and evolution, together with the location (an archipelago located far from the mainland), and the relationship with the mainland, goes a long way to explain these differences. The social organization on Providence Island is basically horizontal and non-hierarchical, and there is little or no difference between traditional and modern sectors.

4.3.4 Conflicts and conflict management

In Ghana conflicts and conflict management is inherent in chieftaincy. It is one of the major tasks that chiefs – including chief fishermen – are responsible for. An essential aspect of their approach to conflict management is to seek to achieve mediation between the aggrieved parties, that is, the focus is on trying to avoid an outcome where one party lose all and the other party win all. [25] This concern with addressing and solving conflicts serves to characterize chieftaincy as a consensus-building and –

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[23] This is aside from the fact that EPA does not place a high emphasis on engaging the local level directly (cf. para 4.3.1).

[24] Civil society in Ghana (specifically NGOs) is – as in many developing and transition countries – partly built upon as well as reflects traditional society and values, but is at the same time inspired by Western organizational models and values.

[25] Admittedly, one aspect of modernization is that a Western set of very different values and institutions concerning conflict mediation and the overall rationale of the judicial process are taking hold, where there is a clear black-and-white difference between two parties, in Ghana as in other developing and transition economies.

consensus-maintaining institution, and chieftaincy accordingly is fundamentally concerned with maintaining status quo. The occurrence of various forms of conflicts in the fisheries sector is perhaps especially noticeable. [26]

On Providence Island, there appear to be not very clear mechanisms for addressing conflicts. But then again, one can argue, has it been very necessary until now. Furthermore, it appears that the incipient and important social issues today that perhaps can be characterized as conflicts occur between local people and CORALINA. These conflicts are thus new, and as has been argued above, when they seem to find an amicable solution, this is perhaps less because of the use of any conflict-mediating approaches, [27] as much as because of the double-sided nature with which local people view CORALINA: it is at one and the same time an outside interference and a blessing as it provides jobs and money.

4.3.5 Public sector / state

The presence of the macro-level at the local level is another factor to consider. In the case of Ghana, up to, and largely through, the colonial period chiefs and chieftaincy performed what was necessary in this respect along the coast. [28] By the time the colonial period ended chiefs had largely lost their former political and judicial powers, and the independent Ghana transferred these powers to the elected leaders (Atiemo 2006). Initially, though, the reach of the state, specifically its presence at the local level, was very little. In recent years substantial results have been achieved by means of decentralizing decision-making as well as devolving statutory powers to the region and district administrative levels. As a result, today the position of the state at the local level would seem to be quite strong.

On Providence Island, which geographically is very remote from the mainland and has a very small population, the state and its extended arm, the public sector, hardly reached at all up to fairly recently. Today this is different, but with a twist. It would seem that CORALINA, avowedly formally a line agency with a specific and limited focus on environmental management, appears to have taken on functions – less pronounced and probably not explicitly called for – that go a long way toward representing the state in a broader sense. Thus, it is probably correct to say that the state is represented on the archipelago, albeit perhaps in a limited way. [29]

4.3.6 Integration of societal sectors and levels

The situation along the coast in Ghana being quite complex, and EPA's mission being very limited, it is clear that EPA does not manage to integrate the various stakeholders and their views around a joint agenda. This is so only partly because the task in itself is overwhelming. A fundamental factor is that the traditional sector (incl. specifically chieftaincy) and the modern sector (incl. EPA) are based in/on value systems that seem to be less shared than they are divisive. As for EPA itself, a major reason appears to be that EPA has set for itself a very specific task, namely environmental protection, and does not give much attention to, for example, the integrated nature of the relations between people and the environment, and it does so to a large extent through formal judicial and regulatory means which involves, for example, local people only directly.

In the more small-scale situation on Providence Island in Colombia, it appears that CORALINA manages to do exactly that, that is, provide a uniform interface for the various stakeholders, concerns and means, and pull it all together in a joint effort to achieve the stated goals.

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[26] For brief overviews over the evolution of the fisheries sector in Ghana, leading to increase in mechanization, scale of operations, new gear and increase in efficiency, and how this have contributed to increase in conflicts, cf. Bannerman (2000) and Satia and Horemans (1993).

[27] This would perhaps be unlikely given the differential nature of these two stakeholders.

[28] As the institution of chieftaincy originated with the *Ashanti* and over time spread to most other ethnic groups in the country, it can be discussed when chieftaincy had spread along the whole coast, and how strong it was at this early time.

[29] We might be allowed to surmise that the nation state's interest in the archipelago may be primarily for strategic and economic purposes.

4.3.7 External linkages

Ghana's EPA is, like its namesakes around the world, a direct reflection of the focus internationally on environmental issues that began in the early 1970s. In fact, it was founded in 1972 as a direct consequence of the seminal UN environment conference in Stockholm earlier that year (Allotey 2002). [30] What this mean is that EPA to a large extent reflects outside, specifically Western, approaches on how to conceptualize issues, set goals, and devise relevant means. [31] It should also be mentioned that several coastal wetlands are declared as RAMSAR sites.

CORALINA has a similar point of departure. It also has at least one very clear external link at the present time: the whole archipelago is declared an UNESCO biosphere reserve. It has, however, largely managed to marry this with local seemingly home-spun approaches and values, possibly to a large extent because of its essential location at the local level.

4.4 Property rights

Property rights is a type of institution that evolve in most societies. They entail principles of inclusion as well as exclusion, that is, some people have rights over a specific resource and others not. There are various theories over how property rights came about and evolved. For the purpose of this discussion it serves to understand them as practical ways of controlling access to valuable goods. Property rights according to this are conventions that have been accepted as norms by concerned parties, and often have become laws, whether informal (traditional sector) or formal (modern sector). Among the different types or categories of property rights we are primarily concerned with CPRs and rights to such resources. Other categories of property rights are private property and state property.

In some situations there are categories of property rights are not available, or are less developed. Two important factors here would seem to be low population density and a culture that is fairly new. Both these factors would seem to apply to Providence Island in Colombia, where there so far is only a general and somewhat vague sense of coastal and marine resources 'belonging' to the inhabitants. Along Ghana's coast, on the other hand, the situation is very different. Here, on the land side, CPRs and common property regimes are pervasive, and are part and parcel of chieftaincy. Local chiefs are custodians of land (including lagoons and wetlands) that belongs to the village. In the case of the sea the situation is different since fishing is a fairly new occupation. Thus, up to fairly recently the whole continental shelf was considered by local people as open access, areas to which chieftaincy did not apply and chiefs had only a limited reach. With the large increase in number of people involved in this sector, increase in outtake and consequent depletion of resources, there is now a need for arriving at marine CPRs (see Section 2.5, Case 1).

4.5 Designing management regimes: issues and requirements

CORALINA and EPA are concerned with proper environmental management and with sustainable development. Let us now look at the other key actor or stakeholder in our framework, namely local resource users, and examine these concerns from their point of view.

In the institutional schemes analyses Ostrom (1998) proposes that an effective institutional management regime regulates aspects found in the so-called design principles (see Section 1.2.1). These principles include, as was pointed out above, the knowledge of physical aspects of the system, and at the same time the interaction of institutions and the different stakeholder levels.

In terms of the physical characterizes of the system we talk about well-defined limits, the number of users and different actors, and at the same time the boundaries of the natural system. Despite the differences between the two cases, the uncertainty concerning the boundaries of the natural system is a common problem in assessing the efficiency of the rules. In Colombia the main stakeholders in the Black Crab management system are the crab catchers and CORALINA, while in Ghana the main

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[30] Apparently it was the first of its kind in all of sub-Saharan Africa.

[31] This strong international link has continued as evident, for example, in the preparation of National Environmental Action Plans (NEAP) and Local Environmental Action Plans (LEAPs).

stakeholders are located at several societal levels: (1) village – subsistence practitioners and chiefs, (2) region and district – chiefs / chieftaincy and Dt. Assemblies and (3) national – EPA.

The coherence between given rules and local conditions and behaviour is more complex in the case of Ghana, where the heterogeneity of the actors is bigger, and also because of the macro level at which EPA operates. On Providence Island, the way in which CORALINA establishes a formal regulation and control involves local beliefs, users' attributes, users' behavioural norms, and specific conditions of the resource.

In the two cases, despite the difficulties of establishing collective election arrangements, people who are affected by the operative management rules can modify them from two different perspectives. In Colombia this is done through the participative character of CORALINA, which faces many obstacles, but the opportunity to take part in the decision making is open to the users, and the agency recognizes users' right to organize. One of the most important aspects of CORALINA's work is its strategies toward supervision. Because of the obstacles and the supervision costs, the users are involved in monitoring the conditions of the resource and the user's behaviour while at the same time exploiting the same resource themselves. In this way a social control mechanisms has been established.

In Ghana, again the macro level presents us with major challenges in involving local realities and logics in the design, however, in the cultural context, beliefs and appropriations in the legitimation of actions are well defined and understood among actors (see Section 2.5, Cases 1-4). In both Colombia and Ghana, whether there will be sanctions and their character depend on the issue at hand, but serious conflicts are not found. In Ghana, and specifically with reference to fisheries, we have to distinguish between 'traditional' and modern conflicts. The former are located at the local level and are addressed by the chiefs or chief fishermen at this level. The latter, where the aggrieved parties typically are artisanal fishermen and industrial fishermen, are referred to the Arbitration Committee, a body set up by the government.

In the final analysis the challenge still exists in both cases; some lessons from the field have given us an opportunity to discuss some efficient mechanisms as a general analysis. Many users' characteristics are at the same time modified by the type of macro legal regime in which the users are positioned, including the international norms for protection of natural resources that apply in the form of Reserve of the Biosphere management (Colombia) and RAMSAR sites (Ghana). These macro regimes could facilitate local self-organization if they give precise information on the resource systems, together with mechanisms to reinforce the local efforts of supervision and enforcement (Blomquist 1992, in Ostrom 1997).

The probability that participants establish more effective rules for resource management is greater in macro regimes that are active and continually involved, compared with those where the problem related to natural resources are ignored, or, to take an extreme situation, where it is assumed that all management and administration decisions must be taken by central authorities (Ostrom 1997). In this way, one can understand CORALINA as a bridge between the community and the political-administrative macro regime, resulting from the combination of nation state concerns and international regulations relating to biodiversity protection. In both cases, despite the difficulties in the way CORALINA functions, it gets closer to facilitating collective efforts because of its character.

In Ghana, we would suggest that NGOs may be able to take on at least some of the same go-between, bridging and mediating functions. Some key elements for functioning NGOs are: (1) be autonomous from state, public sector and traditional sector, (2) individuals must have right of entry and exit on a voluntary basis, (3) membership has to be inclusive and follow accepted standards for governance and equality and (4) decision-making processes have to be transparent. Chieftaincy and village associations do not meet these criteria. Village associations because they are characterized by village and clan solidarities and are closely related to a chief. Chieftaincy because it is a local governance structure that does not distinguish between legislative, executive and judicial roles.

A growing social infrastructure of NGOs will hopefully increase the chances that local people will be able to build mutual trust and respect, stimulate open debate, increase their networks of social relations, expand the circulation of information, and bring about more considered decisions (Moore

2004). The objective would be, then, to cause or create an increasing number of bonds and networks between different groups (i.e., social capital).

A more detailed comparison of both cases would include a discussion also of failures, together with their implications. Furthermore, in both Colombia and Ghana the rational agent is questioned, and this opens for a discussion of the way in which subsistence economies should be understood and positioned within the context of poor developing and transition economies.

4.6 Some concerns and considerations

At this point it may be appropriate to include some comments of a meta-nature. That is, provide some outside views on the logic of the overall argument, including the cases presented, the data used, and comparison using the IAD framework.

4.6.1 On the cases

It is important to understand the specific historical, cultural, environmental and other factors that together have caused these two unique coastal systems, which both makes sense as viewed from within their own settings. The geographic and human terrain that CORALINA operate in is very small and is moreover contained (it is an archipelago); while the coastal zone in Ghana is very large in comparison, as well as very complex.

Because of the differences in tasks and size of the two organizations, it makes more sense that CORALINA places emphasis on direct engagement and involvement with the local people, while EPA values indirect relationships, possibly often by means of the various partnerships it aims to set up.

In these two cases we find that different analytical levels are chosen. In the Colombia case a small-scale and fine-grained level is chosen, corresponding to a community of resource users. The Ghana case has a different approach: here four levels of analysis are employed: community, district, region and nation state. The analysis on each of these levels is quite general and broad-grained.

4.6.2 On data, comparison and the IAD framework

The Ghana case is located at a macro-level to a higher extent than the Colombia case, a corollary of the focus of the research that produced the two sets of data. An important aspect of this is that the Colombia case addresses a very specific and small geographic area, while the Ghana case covers the whole coastal zone of Ghana.

The Ghana case is more focused on social / institutional and cultural issues, while the Columbia case is more focused on ecology. Furthermore, in the Colombia case CORALINA is viewed from the bottom up, while the Ghana case adopts more of a macro-perspective and views EPA from the top down.

These differences in the available material admittedly make a comparison difficult to perform. This applies in general and specifically when applying an analytical framework like the IAD framework. We trust we have managed to steer clear of most of the problems.

Finally, institutional analysis faces a major challenge in identifying the appropriate level of analysis. Specifically in the case of Ghana, we have forsaken the ideal of a simplified analysis located at one level for an analysis that operates on up to four levels. This increases the complexity, and possibly the predictability of the framework, but by the same token it certainly makes for a richer analysis that is truer to the reality that we experienced in our fieldworks.

5 Conclusions and recommendations

Based upon the preceding discussion, in this section we address, first, some general observations and conclusions with regard to the two cases in Colombia and Ghana, before turning to more specific conclusions on selected issues, and ending with some general conclusions and recommendations. These

conclusions and recommendations are directed foremost at the key stakeholders identified and addressed in the two cases, as located in the traditional sector, civil society and public sector.

5.1 Colombia and Ghana

The situations in Providence Islands in Colombia and Ghana's coastal zone are different in many respects, as is to be expected. The key environmental variables are comparable in many ways, but when it comes to local culture, including religion, history, social organization and relations with the outside, they differ in many respects, and this explains at least part of the way the differences we find in the interaction between environment and culture.

CORALINA and EPA represent implementations of top-down, western-inspired management models that serve the interest of the nation state, and, by extension, certain views and values at the international level. Accordingly, they do not necessarily serve the interests of its citizens, in particular poor people. Or, more to the point, perhaps, it is not clear that the local people understand or easily accept the macro-level rationales that dictated the creation of these two agencies. These management models fit well with other (western-inspired) changes, including specifically the decentralization and devolution of decision-making powers to the regional and district levels.

There are, however, differences in how and to what extent these western-inspired management models are applied. EPA basically has applied these principles wholesale, and appears to have made few efforts at adapting to local as well as national historical, cultural, social-organizational and other realities. In contrast to this, CORALINA appears to have made important efforts in this direction. To take one concrete issue, namely interaction with local people: EPA do not interact directly with local people, and what interaction there is is indirect, and typically takes the form of environmental education, and also covers the area of preparing and overseeing the application of a series of regulations and laws pertaining to standard setting with regard to the environment. CORALINA, on the other hand, interacts directly with local people; and, moreover, *hires* local people.

In Ghana the work on protecting the coastal environment since the early 1970s, spearheaded by EPA, has met with partial success. However, when it comes to key developmental issues like poverty, exclusion and conflict, EPA have not only not managed to address these issues, one might possibly even argue that it has contributed to increasing and acerbating these problems.

In a certain way criticizing EPA is to direct the criticism at the wrong place. EPA was conceptualized and defined in a different day and age. In the 1970s environmental protection meant protecting the environment and nothing more. People, cultures, values, needs and preferences had nothing to do with it. The idea that different groups in society, understood as stakeholders, had a say in how the environment was managed was alien at that time. These were external factors, at the very least dependent variables, and did not figure as part of the equation. Since some years it has become increasingly clear that this is a very limited, narrow and plain wrong approach. It follows that any criticism should instead be levelled at the national political level.

In addition to these important changes in how we today perceive the relationships between the environment and human cultures, the changes in Ghana's coastal zone have been dramatic in the sense that they have outdone any efforts at planning. The key explanatory factor is population growth. In 1993 the population in Ghana's coastal zone was around 16,5 millions (World Bank 1996). [32] According to some sources, the coastal population at the present time is more than 23 million, and may rise to almost 40 millions by 2030. [33] In the face of these two major changes, namely new ideas about how to relate to and involve the local population, together with a dramatic population growth, it is clear that an agency like the Ghana EPA, with a mandate and a mission that was conceptualized in the early 1970s, will experience problems.

On Providence Island, the social scene differs from that in Ghana in one fundamental respect, namely that is not very complex, certainly not in comparison with the situation in Ghana. The total population is very small in comparison, there are fewer societal sectors, and there are fewer stake-

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[32] This corresponds to a population density of 263 persons/sq km, while the national average was 67 persons/sq km.
[33] Source: www.populstat.info/Africa/ghanac.htm.

holders. This means that the situation in Ghana requires some further comments as regards chieftaincy and civil society / NGOs.

The idealized position of chieftaincy in Ghanaian society means there is little effort at addressing it realistically. We would argue that a precondition for assessing the role and function of chieftaincy in society today, and to have constructive dialogues on how to bring it into the future, is a willingness, in particular on the part of the state and public sector, to take a step back and be able to address it from the outside, as it were. Chieftaincy should continue to stay where it is and be structured by informal and community-based mechanisms, and should not be involved in or connected with the public sector. Chieftaincy as such may continue to decline in importance, while chiefs may survive in one form or another. This speaks to the argument above on separating chiefs and chieftaincy.

A small but growing number of NGOs are active in various aspects of environmental management in Ghana's coastal zone. They have basically followed one of two strategies: (1) initiate a process to establish joint management arrangements between different resource users and (2) focus on human capacity and development of social infrastructure. Both approaches would seem to be important, should be employed in tandem, and should be supported by the nation state and the traditional sector. On Providence Island in Colombia there are, as of yet, no NGOs. However, it is likely that local people at one point will find it useful to organize themselves, for example, along the lines of their key subsistence practices, namely fishing and Black Crab catching. If so, we trust that CORALINA will realize that this is in the best interest of the overall management model that they follow, accept such new actors, and work closely with them.

Among other important stakeholders in Colombia and Ghana we mention specifically the Dept. of Fisheries. These agencies could possibly play a more important role, that is, if they were able to broaden the focus to include also the societal constraints and incentives that determine the future of artisanal fisheries.

Three basic insights come out of this comparative analysis:

1. while CORALINA and EPA started from the same basic approaches and premises they have implemented this differently, and have today different rationales and mission statements,
2. CORALINA is the sole representative of the government and has thus taken on broader tasks and responsibilities than EPA, which is but one of several public sector agencies with a mandate to manage aspects of Ghana's coastal zone, and
3. CORALINA appears to have been more successful than EPA.

The last issue, in particular, begs the essential question that needs to be asked at this point: Why is this so? Is it because of the rationale and structure of the organization itself? Are there external variables that are relevant? Do these external variables exist both in space and time (e.g., is history an important explanatory variable)? With due consideration for the much more complex task in the case of Ghana's coastal zone, we believe it is possible to explain this, certainly part of the way. However, first we take a detour to the issue of whether to utilize existing organizations or alternatively create new ones.

5.2 Reforming and creating organizations

In one case (Colombia) there is a culture that is isolated, new, with few institutions, no organizations and small kinship-based groups as the main social-organizational units. Being small-scale, and also being an island culture, it is integrated. Crab catching as a subsistence occupation is fairly new, is organized around individuals and nuclear family groups, and the rules and norms surrounding it are emerging.

In the other case (Ghana), the culture and society is not isolated, is very old, with strong traditions, and with many and complex institutions. Kinship, at several levels from village and beyond, is very important, in fact, Ghanaian culture across the several different ethnic groups in the coastal zone has several of the characteristics of a hierarchical society. Fishing has been practiced for some hundred years, and the ethnic groups that are involved in fishing are much older than that. This subsistence

occupation, including the many that are indirectly dependent upon fishing, accordingly is woven into a complex web of norms, rules and values that structure, constrain and facilitate it.

The essence in the former case is that it starts from scratch, as it were. That is, Providence Island has few institutions and no organized civil society. Thus, a key concern here would seem to be whether and how to *create* relevant organizations. [34] In Ghana, on the other hand, where there is no dearth of institutions and organizations in the traditional sector, but where they at the same time are increasingly lagging behind as the country (esp. the coastal zone) is fast modernizing, the key situation is more complex. Essentially, there would seem to be a choice between *reforming* [35] existing organizations or alternatively *creating* new ones.

Regarding whether to embark upon *reforming* an existing organization, be it located in traditional sector, civil society or the public sector, we would voice caution. First of all, if there is a choice between this and creating a new organization we would in general advice against the former, and certainly if a fundamental reform is planned. The problem with existing organizations – certainly those located in the traditional sector – is that they are so often ingrained in specific institutions that it is unlikely that a reform will succeed. Also, as each situation will be unique, it is likely possible only to a small degree to provide guidance on how to proceed. In the case of CORALINA and EPA, we do not find it interesting or even relevant to consider whether they should or could be reformed. More specifically, in the case of CORALINA we do not believe it is necessary, while for EPA we do not think that it is useful or correct (in the case of EPA it is relevant to question whether it actually would be possible).

According to our assessment, CORALINA has enough built-in flexibility that it will manage to adapt (which we understand as a type of evolutionary reform) to organizational changes in civil society (specifically NGOs). Regarding EPA, we believe it should be left largely as is, except when it comes to its strategies for partnerships and networking, where changes are urgently needed. To manage such changes, EPA would need to be better resourced, in terms of staff and their capabilities, as well as funding. As in the case of Colombia, if present developments trends in civil society are continuing, and moreover are supported and nurtured by the nation state, this factor will be able to provide important services and correctives to EPA to reorient its focus and reassess priorities and use of resources.

Chieftaincy in Ghana may serve as an example of the complexity of reforming organizations. Over the years there have been numerous efforts at reforming it, from the side of chieftaincy itself and the nation state (on the latter, see Section 2.5.2, Case 4). [36] In general, then, so far this does not seem to have resulted in much by way of a tangible outcome. There is a unique aspect of chieftaincy that would seem to go a long way towards explaining the problem with reforming it, as well as the overall problem of how to define its future position in the modernizing nation state. This is what chieftaincy *actually* is? Many people, especially outside of chieftaincy, understand it as an organization. Against this we will venture to suggest that chieftaincy is being reified, that is, that it is treated as real and tangible, when it really exists only through the position of the chiefs. Each chief embodies the qualities and values that this traditional position is imbued with. When we speak of 'chieftaincy' we really refer to a set of values and norms – in effect, institutions – that are aggregated at the levels of districts, regions and the nation state. Thus, we should perhaps more correctly view chieftaincy as an institution – or a set of institutions – in the sense that this term is used in this paper, with the chiefs as custodians. This position, far from being intended as a denigration and belittlement of chieftaincy, is intended to point to its force in Ghanaian society today. Chiefs – and chieftaincy – exist beside and beyond politics and administration of the matters of the state, and represent a different order and

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[34] This associates the term 'social-engineering,' an apt parallel to our concern here. However, it carries some associated meaning of top-down thinking and approaches that we would not want to be associated with.

[35] Alternatively, 'reforming' is referred to also as 'modernizing.'

[36] These include conferences, seminars and workshops organized by chiefs at various levels, including by the National House of Chiefs, and one of us has participated in such activities (cf. Nabila-Wulugunaba 2006). They also include research and advisory activities by international organizations. At the present time Konrad-Adenauer-Stiftung in Ghana and Centre for Indigenous Knowledge and Organizational Development (CIKAD), among others, are involved in such work.

rationale altogether. Organizations and institutions in traditional and modern sectors exist on different tracks that run parallel to each other. Efforts to connect the two are not likely to succeed, and should not be considered. Rather, these sectors should be understood as separate and complementary rationales that can influence, strengthen and complement each other.

To 'create' an organization or anything else in the social domain should not necessarily be understood in a literal sense. Certainly if we are concerned with seeing positive changes that will last over time, this process of creation should be understood in the sense of evolving over time. To create an organization is – like management of an organization – an ongoing process.

A third alternative may lie in some type of combination, namely both reforming organizations and creating them. Within this scenario we would like to argue for an approach where the emphasis is on crafting relevant organizations that *complement* and *support* existing ones. In the case of CORALINA and EPA, for reasons spelt out above, we might consider leaving them as they are, and rather focus on how to craft relevant organizations, either in the public sector or civil society.

The concern with reforming and creating organizations has to be placed in context. The outcome of much of the current interest in organizations and their performance would seem to be that: (1) what is available is not useful or only partly useful and (2) an *active* outside engagement and involvement is necessary to bring about acceptable reform or result in creating a new organization. This is only partly correct. First, there are existing organizations that show promise and have potential, and that may need only a little support (e.g., by way of regulatory reform or funding) to perform better. Secondly, there are organizations, especially in the traditional sector and civil society, where outside interference is likely to produce more harm than good. Thirdly, as a possible alternative or complement to reforming and/or creating organization, there are organizations available externally, that is, internationally, that may be helpful. There are a number of such organizations, specifically international NGOs that are supportive and could be involved (e.g., IUCN).

Furthermore, it is necessary in each case to arrive at an understanding or agreement of *who* should be responsible for determining: (1) whether to reform or create organizations, (2) the exact content and process to be followed and (3) the goal(s) with these activities. Is this to be a responsibility of the stakeholder that determines a need for reforming and/or creating an organization? Alternatively, is it the responsibility of the macro level, specifically the nation state? One would assume that the nation state and its public sector takes for granted that it has this prerogative. Against this it needs to be stated clearly that successful organizations are never created by decree and from the top down. The only acceptable way of going about this is that all relevant stakeholders – including, in particular, those that may be affected negatively – jointly take the necessary decisions, and, moreover, are involved in implementing them.

Finally, and expanding upon the above arguments, there is the issue of whether to go about such organizational reform and creation in what could be referred to as a 'passive' or an 'active' way, as viewed from the outside. The correct approach, from the perspective of arriving at outcomes that are viable over time, would seem to be to provide passive support. Such passive support would include, for example, advisory functions, funding (with no or few strings attached), providing the necessary degrees of freedom in operations, granting responsibilities and tasks, and taking care of the necessary legal reform. [37] As viewed from inside the organization to be reformed or created, support is a priori considered to be active, and could, for example, take the form of social mobilization or social movements on the part of present or future staff and beneficiaries. [38] Furthermore, we are here in particular concerned with organizations available in civil society or to be created in civil society. A well developed civil society, especially if it builds upon and operates in tandem with traditional sector, can represent a necessary balance to the public sector, and in some cases serve as a needed competitive political system.

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[37] Active involvement, on the other hand, would include, for example, that the outside agency is directly involved through staffing and/or secondment.

[38] In terms of group behaviour, this associates the theory of collective action, which addresses the variables and factors that determine standards for social integration as well as the opposite, namely conflict (Olson 1965; cf. Ostrom (1990)).

Whether creating an organization or reforming an existing one, with the aim of arriving at outcomes that work from the point of view of local people, the fundamental principle and approach is to *start* with local people. Secure property rights, Community-Based Natural Resource Management (CBNRM) and co-management are at one and the same time conditions, goals and approaches that would seem to engender and nurture such positive outcomes.

5.3 Securing rights

Securing property rights for local people are important. The questions that need to be asked are, in particular from the point of view of poor and otherwise marginalized people: what rights, how, and by whom? First, what rights? If traditional CPRs are available these obviously should be protected and formally granted by the nation state. If traditional CPRs are not available, or only in a rudimentary way, they should be defined through a process that involves all relevant stakeholders, and subsequently granted. It is important to understand that common property regimes take a long time to evolve, and in today's complex situation this is not very likely. For this to happen, an active involvement from the outside, including the nation state, is necessary. [39] Furthermore, common property regimes can be very complex, for example, in how they differ between rights of ownership and rights of access or use.

Second, how to achieve secure property rights? Several stakeholders have to be involved, specifically the users and the nation state. As a precondition, the latter's motivation or rationale need to be clear: from the point of view of the nation state there are a number of premises that would determine how to relate to this issue, among them: economic, political, strategic, and a concern with sustainable development and resource management. As well, there are short-term and longer-term considerations to be made. The choice of granting local people some form of property rights would presumably be informed by a concern with a longer-term perspective on achieving sustainable development, together with a belief in the importance of supporting citizens in becoming increasingly responsible for making their own future and a political concern with governance, equity and due process.

Third, who is responsible for achieving secure property rights? This is as easy to answer as it is difficult to do. All relevant stakeholders should be involved in this process. It is perhaps pertinent to ask who should take the initiative. Realistically speaking this would be the nation state. Failing that, and in situations where an active and strong civil society is present, an NGO could, for example, take action. On Providence Island there are no NGOs at present, but as argued above it is likely that they will appear. In Ghana there are a few NGOs that have been working in the coastal zone since some years. They seem to some extent to function partly as intermediaries between local people and the outside, and partly as correctives to the established truths. The relationships between the involved stakeholders are crucial, and should be one of respect for each other's competences, and be based on understanding and acceptance of shared interests, while performing different tasks. In other words, we are talking about CBNRM and co-management as practical tasks and as political agendas.

5.4 Community-based natural resource management and co-management

Community-Based Natural Resource Management (CBNRM) and co-management were introduced above. Let us first address these terms in some detail.

CBNRM follows from the recognition of rights to specific resources discussed above. There is no agreed-upon definition of CBNRM, but a number of efforts that aim to circumscribe it. Here is one:

> The sense of the first part … is that the 'community' in question have the legal right, the institutional base and the economic incentives to take substantial responsibility for the sustained use of local natural resources. The second part … refers to management of these local resources. [40]

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[39] Recalling Case no. 4 (see Section 2.5.2), it would be very interesting to know how this example of an emerging CPR fares today.

[40] Source: CBNRM Net's web site at: www.cbnrm.net/resources/terminology/terms_processual.html. Cf. also specific comments on CBNRM at: www.cbnrm.net/resources/terminology/terms_cbnrm.html.

We view CBNRM partly as practice or a set of practical tasks, partly as a political agenda and partly as rural development strategies.

There are two main reasons why different stakeholders might want to engage in CBNRM activities: (1) maintenance of ecosystems with their multiple benefits to communities, regions, nation states and the world and (2) protection of biodiversity.

The potential of CBNRM is that it:

- Starts with communities, taking them into confidence and having confidence in them,
- Engages peoples ideas, experiences, values and capabilities on behalf of resource conservation objectives,
- At the same time seeks ways for communities to become better remunerated and served, and
- Accommodates local interests, needs and norms compatible with long-term preservation of ecosystems and their biological resources.

For CBNRM to become effective it needs to be institutionalised, and CBNRM initiatives need to address several issues (Soeftestad 1998): [41]

- The process of establishing an enabling policy and institutional environment, at macro and micro levels, fostering the emergence of community-based organizations to manage natural resources,
- The participatory process of organizing effective community-based groups, both at the local and the regional level,
- Effective operational linkages, both horizontal and vertical, between the public sector, the private sector, and community-based groups in the management of natural resources,
- Alternative approaches to conflict management with regard to use of natural resources, at all levels, and
- Capacity building.

This brings us to co-management. [42] As in the case of CBNRM, there is no agreed upon definition. We understand co-management as:

> Collaboration between stakeholders that are dissimilar to each other in various respects. Mostly found between stakeholders located at the local level and the sub-national/national level. That is, co-management takes place between stakeholders located on different levels, along a vertical axis. [43]

Expanding on this, co-management essentially means sharing of power and responsibility between the participants. For a more detailed effort at understanding co-management consider the following:

> A situation in which two or more social actors negotiate, define and guarantee amongst themselves a fair sharing of the management functions, entitlements and responsibilities for a given territory, area or set of natural resources. More specifically, co-management is: (1) a pluralist approach to managing natural resources, incorporating a variety of partners in a variety of roles, generally to the end goals of environmental conservation, sustainable use of natural resources and the equitable sharing of resource-related benefits and responsibilities, (2) a political and cultural process par excellence: seeking social justice and 'democracy' in the management of natural resource, (3) a process that needs some basic conditions to develop, among which are: full access to information on relevant issues and options, freedom and capacity to organize, freedom to express needs and concerns, a non-discriminatory social environment, the will of partners to

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[41] The following is an adaptation of material presented at a seminal international workshop on CBNRM, hosted by the World Bank, and co-organized by one of us (Washington DC, USA, May 1998). The workshop recommended that a networking capability be set up, namely the Community-Based Natural Resource Management Network (CBNRM Net) (cf. Soeftestad 1999). This global community of practice for people that work on CBNRM in various capacities – including as funders, managers, practitioners and researchers – is available at: www.cbnrm.net.

[42] Co-management is variously also referred to as: collaborative management, cooperative management, joint management, mixed management, multi-party management, participatory management and round-table management.

[43] Source: CBNRM Net's web site at: www.cbnrm.net/resources/terminology/terms_structural.html.

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negotiate, confidence in the respect of agreements, etc., (4) a complex, often lengthy and sometimes confused process, involving frequent changes, surprises, sometimes contradictory information, and the need to retrace ones own steps, and/or (5) the expression of a mature society, which understands that there is no 'unique and objective' solution for managing natural resources but, rather, a multiplicity of different options which are compatible with both indigenous knowledge and scientific evidence and capable of meeting the needs of conservation and development. (Borrini-Feyerabend 2000)

For co-management to succeed it is essential that all stakeholders that take part and communicate with each other. How to engender, support and facilitate communication between all stakeholders? The further apart stakeholders are located, not in terms of space but in terms of societal categories (specifically traditional and modern sectors), the more important – as well as difficult – it becomes to establish and maintain such communication. The tried and true approach to this is to create dedicated channels of communication, and this is exactly what transparency and governance is all about. An important reason for establishing such channels is that they prevent conflicts. Lack of communication means lack of knowledge, which in turn can result in conflicts.

We have earlier argued in favour of approaches that build upon transparency, equity and governance. One way of doing this is by means of employing participatory approaches aimed at achieving necessary change. Importantly, participation should be understand, on the one hand, as a *means* to achieve, for example, increased transparency, equity and governance, and, on the other hand, as a *goal* in and off itself. Participatory approaches in this way become a foundation and starting point – as well as a goal – for co-management. It follows that the focus is less on theory and how the nation state functions or should function, and more on what works at the local level and between the local level and the macro levels. And co-management is not just about achieving specific goals, for example, in terms of shared management of a resource. It is as much about maintaining this shared management over time. Co-management, like democracy, is a tenuous arrangement – and often a narrow balancing act – between opposing interests and choices. Co-management, like democracy, is never about reaching a specific goal; it is about a *process* to bring together stakeholders and is as such valued in terms of the process itself.

There is an increasing interest in co-management approaches, and experiences are accumulating. Some of the key lessons learned include: (1) including all stakeholders is necessary but difficult, (2) there is no single model available for building social capital and developing local co-management agreements and (3) implementing staff need to be well-trained to be able to encourage open debate, foster consensus, and guide without leading.

5.5 Final words

As key players in the management of the coastal zones in Colombia and Ghana, CORALINA and EPA would be well advised to consider the above comments on property rights, co-management and CBNRM, and determine whether and how to utilize these in their work. Other stakeholders in the two countries that have been discussed above, as well as some that we did not find occasion to introduce, may also consider the impacts of these views and positions. At the same time, we would like to reiterate that the relevant context for the above analyses is the nation state, and what conclusions and recommendations can be elicited from the paper is only partly addressed at CORALINA and EPA. For the rest, it is up to the nation state, and with the support of interested stakeholders, to take necessary action.

The focus here is on reforming or creating organizations that work for the poor. A necessary precondition to such work is thorough institutional analysis. In such analysis it is crucial to understand that the continuous interaction of institutions and organizations are key to both institutional and organizational change. We have argued that important preconditions for this approach to succeed include the following (not intended as a prioritized list): (1) equality, governance, inclusiveness and transparency in how the nation state operates and relates to its citizens, (2) an understanding of how common property regimes function at the local level, and a willingness to address and reform legal regimes (whether traditional or modern) and thus change wrongs so that local people have a measure of control over the resources that they utilize (this includes efforts at decentralization and devolution)

and (3) operational, that is, practical, approaches – including co-management, CBNRM and secure property rights – to how to work with local people on devising practical, simple and sustainable approaches to utilize and manage natural resources sustainably.

Finally, it is important to understand that the overall agenda and approach cannot be planned, certainly not in great detail. It is possible to give directions and signposts, but the road taken and the final outcome will be a result of the process itself, that is, the necessary solutions and decisions will appear as the process unfolds. We have shown how this is happening in Colombia and Ghana, partly by design and partly through activities in civil society. It is now left to us that are outsiders (meaning in relation to the local level) to support the overall process in various ways and capacities.

The future belongs to the people, and it is the job of the nation state and its public sector, and with the support of outside interested and concerned parties, to facilitate and support local people in their aspirations. In development cooperation, a guiding principle behind policy level work and investment operations has since long been that the recipient country should have 'ownership' of the outcome and result. In the interest of sustainable development, human rights, good governance and securing basic needs, these same nation states, that is, developing and transition countries, should consider applying this principle to its citizens that are involved in local resource utilization in the primary sectors.

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[44] Several of the references can be downloaded on the dedicated web page for this paper, as pdf files or else be accessed on the Internet (see Footnote 1 for URL). Documents available on the Internet were accessed in October 2007.

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