CiVinet

The capacity of civil society organisations and their networks in community based environmental management

Governance models and roles of CSOs

Inventory report

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Content

1. Objectives of this inventory

The CiVi.net project focuses on community based solutions to protect and enhance ecosystems and the different ecosystem services they provide, such as biodiversity, clean water, recreation, etc. The CiVi.net case studies thereby represent a variety of different environmental issues and problems for which communities have found successful governance models for ecosystem and environmental resource management.

The first analytical step of WP5 was to characterize and systematize these different solutions from an institutional point of view (rules and main actors) and to highlight the specific role that civil society organization (CSOs) play within the governance structures.

The objective of this inventory report (D5.1) is to give a first, elementary overview of the analyzed governance models within the four different case studies and to deliver the basis of the further more detailed analysis of WP5. Besides the value for the scientific research, this inventory report also makes a contribution to the common understanding of the whole CiVi.net project so that each case study partner will have an idea and deeper understanding of other problem solving approaches in community-based environmental management. According to our experiences, part of the solutions are developed or adapted in the project phase. Therefore, a more detailed analysis on theoretical aspects on the governance models and roles of CSOs, as well as the detailed results of our research in each case study, will be presented in the final report. This inventory report presents so far only the result of the first 10 month of research in the project and mainly is based on data gathered during a six week stakeholder visit in month 3 and 4 of the project.

The structure of the report is as follows:

- in section 2 we describe the theoretical background and present the framework that we use for the governance analysis;
- in section 3 a short overview is given on the employed methods and the data basis;
- in section 4 the inventory of governance models is presented, including a description of the relevant CSOs and their role within each of the four case studies, and, finally;
- in section 5 we briefly outline the further analytical and research work of WP5.

This report is complemented by supplementary materials to substantiate the inventory: The travel report on the first case study visits and the interview guidelines we used during those visits.

2. Theoretical background and framework development

2.1 Theoretical background

The broad variety of community based models of resource management investigated within the CiVi.net project led to the conclusion, that for description, analysis and comparison of our case studies, the theoretical point of departure has to reflect these diversities. Since some relevant aspects of our case studies did not correspond to the conditions set by the analytical framework developed by Elinor Ostrom, we consequently widened our approach to include other theoretical foci within the field of New Institutional Economics (NIE). Rather than presenting a single dogmatic theory, NIE can be understood as a set of theories dealing with organizational arrangements, property rights, modes of governance, social norms, enforcement mechanisms, bounded rationality, adverse selection, moral hazard, surrounding uncertainty, monitoring costs, incentives to collude, hierarchical structures, bargaining strength, transaction costs, etc.

New Institutional Economics (NIE) therefore provides a rich theoretical background allowing us to elaborate a framework for the analysis of governance models which includes property rights analysis (e.g. Williamson 2000; Bromley 1991a; Bromley 1991b).

In the following, we first shortly outline general types of governance and property rights as perceived by the NIE. Then we give a short overview of Williamson's framework for governance analysis and describe how we draw from this model to build our own analytical framework for the analysis of the specific governance structures in the case study regions.

NIE and Governance

New Institutional Economics usually conceives governance as an: "effort to craft order, thereby to mitigate conflict and realize mutual gains" (Williamson 2000, p. 599). Furthermore, governance is understood as mechanisms for building institutional structures (Vatn 2010) i.e. altering, adapting and developing institutionalized order. It tries to explain how societal priorities are set, mutual goals are defined, the definition of rules for reaching these goals is done and controlling of outcomes takes place. Therefore, governance helps to resolve conflicts and facilitates societal coordination.

Types of governance

Research on governance is a wide subject and is offering a huge spectrum of definitions and theoretical approaches, depending on research disciplines and their cognitive interest, for example: governance in institutional economics, governance as social arrangement, good governance, governance in policy-research, governance in an administrative context, global governance or multilevel governance. Also, as the project title implies, network

governance would have been a viable option. However, as the project does not focus on democratic governance models but on economic governance models, we need an understanding of governance that focuses on institutions and on economics, Therefore, we choose the approach of Vatn (2010) for our governance analysis. This analysis will then be backed up by a network analysis.. It will be presented in the final project report, while the present inventory gives a more detailed observation on the different actors involved, building the groundwork for the final network analysis.

Following Vatn (2010), three types of governance can be differentiated: hierarchies, markets and community management.

Hierarchies are based on the system of command. And they constitute structures to concentrate power. Final resource allocation usually happens according to these power structures. By contrast, markets provide systems of voluntary exchange. The formulation of goals rests with the individual agents, i.e. persons, households, firms, etc., who participate in market transactions. The final allocation of resources is determined by the largest willingness to pay. Thirdly, community management is a system based on co-operation. The individual decision units, i.e. persons, households, firms, etc., formulate both, individual and common goals. The rules for the common property management are defined in a common effort. They determine the specific rights to access and withdraw resources (cf. also Ostrom 1990). One challenge then is to deal with unequal access and asymmetric power relations which are nevertheless a characteristic of many communities. When comparing markets and community management, markets tend to facilitate individual preferences while community management tends to support social preferences.

In reality, most common are hybrids of these different governance types. This means although one type may be prevalent in a system, elements of other governance types can show as well. For CiVi.net these hybrids in governance are also relevant: although all analyzed case studies can be mainly defined as community management, some elements of the other types – hierarchies and markets - are present in the analyzed systems as well. For example, in the Tocatins case study the voluntary carbon market is influencing in the governance model. In Santa Catarina, the stakeholder have to deal with the prices for milk and milk products and changes on agrarian markets. As the name “Cardoso Island State Park” supposes, in this case study state hierarchies are influencing governance structure, as well as in the Osa Conservation Area (ACOSA) in Costa Rica.

Property rights aspect in governance analysis

Another important aspect in governance analysis is related to property rights, as they define who has the rights to access or use environmental resources. A system to categorize environmental resources in terms of who can exert property right on a specific resource type is provided by public goods theory (e.g. Bromley 1991b). Here, according to two main characteristics, namely rivalry and excludability in consumption, four main types of goods (or natural resources) can be distinguished: public goods, common goods, club

goods and private goods. Only over private goods complete property rights can be exerted due to complete rivalry and excludability in consumption, while all other types of goods lack either one or two of the characteristics.

In dependency on the type of goods, different types of property regimes can be differentiated. Relevant in our context are state property, private property, and common property (Bromley 1991a). These property regimes then again can be related to the different governance types mentioned above, namely hierarchy, market and community management. Especially the management of public and common goods poses a high challenge, as they often are used as open access resources with the threat of overexploitation and degradation due to imperfectly defined property rights (cf. Hardin 1968). Here governance structures based on community management are of particular importance and relevance (cf. Ostrom 1990) as they can constitute an alternative to centralized government management based on hierarchy or purely market based approaches. In reality, many communities have struggled successfully against threats of resource depletion and degradation by developing self-governing institutions and locally evolved institutional arrangements while approaches relying exclusively on market strategies or government intervention have failed.

Williamsons´s approach

During initial inquiries and the proposal setup we intended to derive our analytical model mainly from Elinor Ostrom and her eight design principles for the creation of institutions of collective action. Consequently this analytical framework was detailed in the Description of Work (DoW). However, Ostrom´s approach is limited to the management of common pool resources that turned out to be insufficient to cover the realities within our case study areas. Similar, Vatn´s (2010) distinction of governance types (hierarchies, markets and community management) is quite strict and exclusive. The CiVi.net case studies, in contrary, are far more complex. As mentioned before, they are complex realities and in consequence, they are hybrids of governance types. Besides, they are not dealing with a clear management of common pool resources and also the community situations are not that simple like in the Ostrom approach. Therefore, we took the decision against the formerly proposed Ostrom approach, using a different approach within NIE instead. As the governance structures of the CiVi.net case studies are moreover a policy-mix Williamson´s model of four levels is more convenient for the analysis. The following argument supports this choice.

NIE turned away from the traditional research questions of Neoclassical Economics about the allocation of resources and the degree of resource utilization, and rouse new questions like the one about the reasons why institutions emerged the way they did and not otherwise. Thereby, the term ‘institution’ is referring to a formal or informal governance structure that is made up by actors and rules. Organizations can count as formal

institutions that combine actors and rules. Actors can be individuals or groups of individuals. Rules then describe how the actors are supposed to interact with each other. Rules can be formal or informal (e.g. formally stated somewhere vs. rules that do not exist in writing but are known to all actors). Informal rules include social norms. Property rights are one specific type of rules. Often they are formal rules (de jure), but they can also take the form of informal rules (de facto) (Williamson 1975).

Thus, while neoclassical economics was dismissive of institutions, new institutional economics turned on two propositions (cf. Williamson 2000): i) institutions matter, and ii) the determinants of institutions are susceptible to analysis by the tools of economic theory which brings sharper micro-analytical reasoning.

In Williamsons NIE approach, there are four levels of analysis: Social embeddedness, institutional environment, governance, and resource allocation and employment. The higher level always imposes constraints on the level immediately below, but there is also feedback from the lower to the higher levels (see Figure 1).

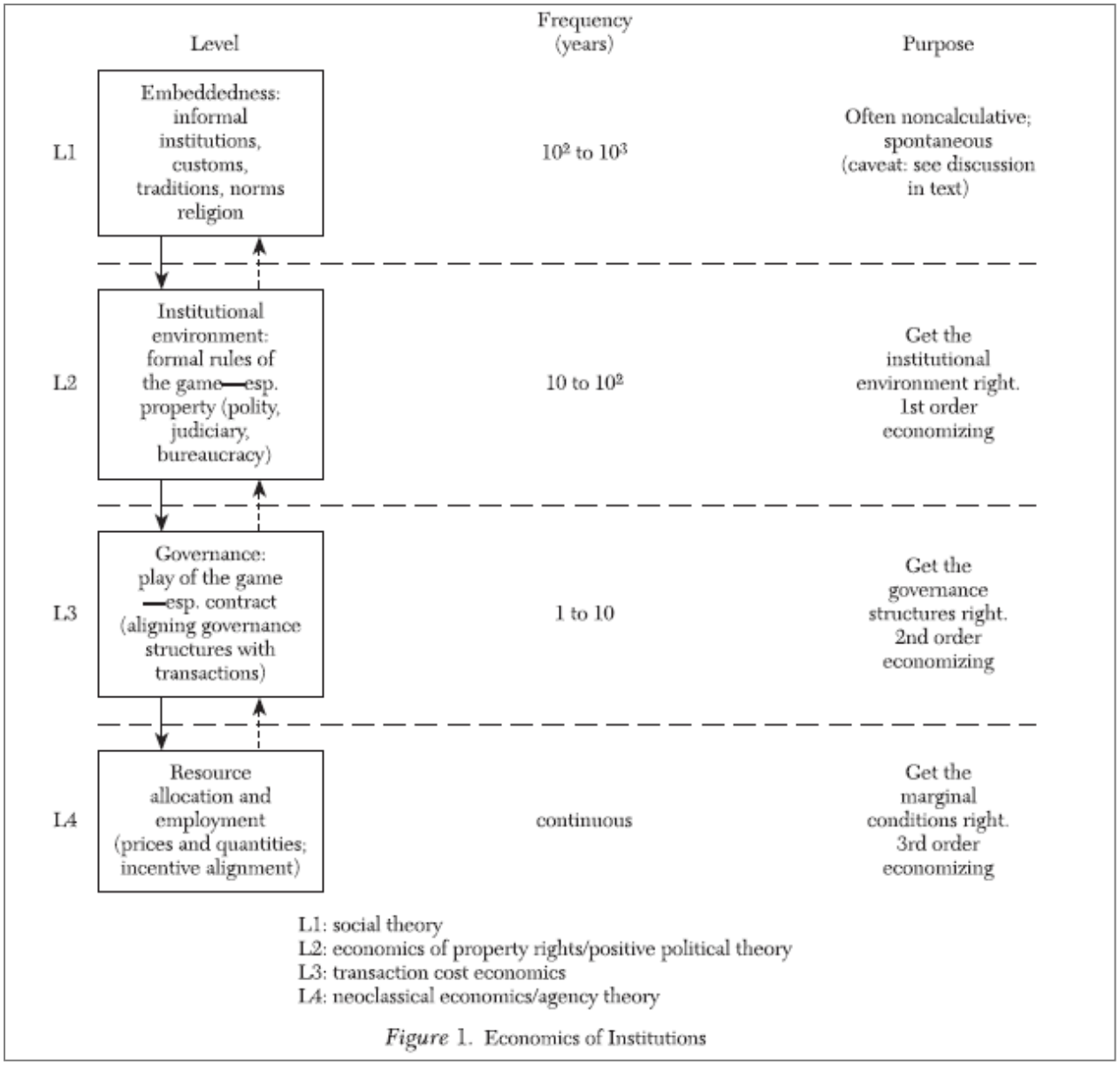

Figure 1: Economics of Institutions (Source: Williamson 2000, p. 597

Level 1, social embeddedness, is taken as given as changes happen only very slowly. The analysis applies on the level of society and includes analyzing different kinds of embeddedness (cognitive, cultural, structural, and political). The analysis involves the mechanisms through which informal and formal institutions arise and are maintained throughout time.

Level 2, institutional environment, deals with the formal rules such as constitutions, laws, etc., and also includes the analysis of existing power structures. The definition and the enforcement of property rights and contracts are important features. At this level,

although change is difficult to effectuate, crisis and shock can lead to sharp breaks in the established procedures. Level 2 is also referred to as the “rules of the game”.

Level 3, governance, is the level where institutions of governance are analyzed. Analysis of property rights remains important, but a perfectly functioning legal system for defining and enforcing contracts is not contemplated as much of contracts can be dealt with directly by the involved parties. When compared to level 2, change can happen more quickly, usually, when contract renewal takes place. This level is also referred to as the “play of the game” through contracts and transactions among actors.

Level 4, resource allocation and employment, finally is where neoclassical analysis works. This includes marginal analysis and analysis of production functions, prices, and outputs.

From the perspective of our research questions, the model is suitable, as it combines different theories. It includes social theory (level 1), economics of property rights/positive political theory (level 2), transaction costs economics (level 3) and neoclassical economics/agency theory (level 4).

2.2 Framework development

Like in NIE, CiVi.net WP5 is concentrating its analysis mainly on the institutional environment (level 2) and the governance structures (level 3): the ‘rules of the game’ and ‘the play of the game’, played by the variety of involved actors. The developed framework

for governance analysis in WP5 is displayed in Figure 2.

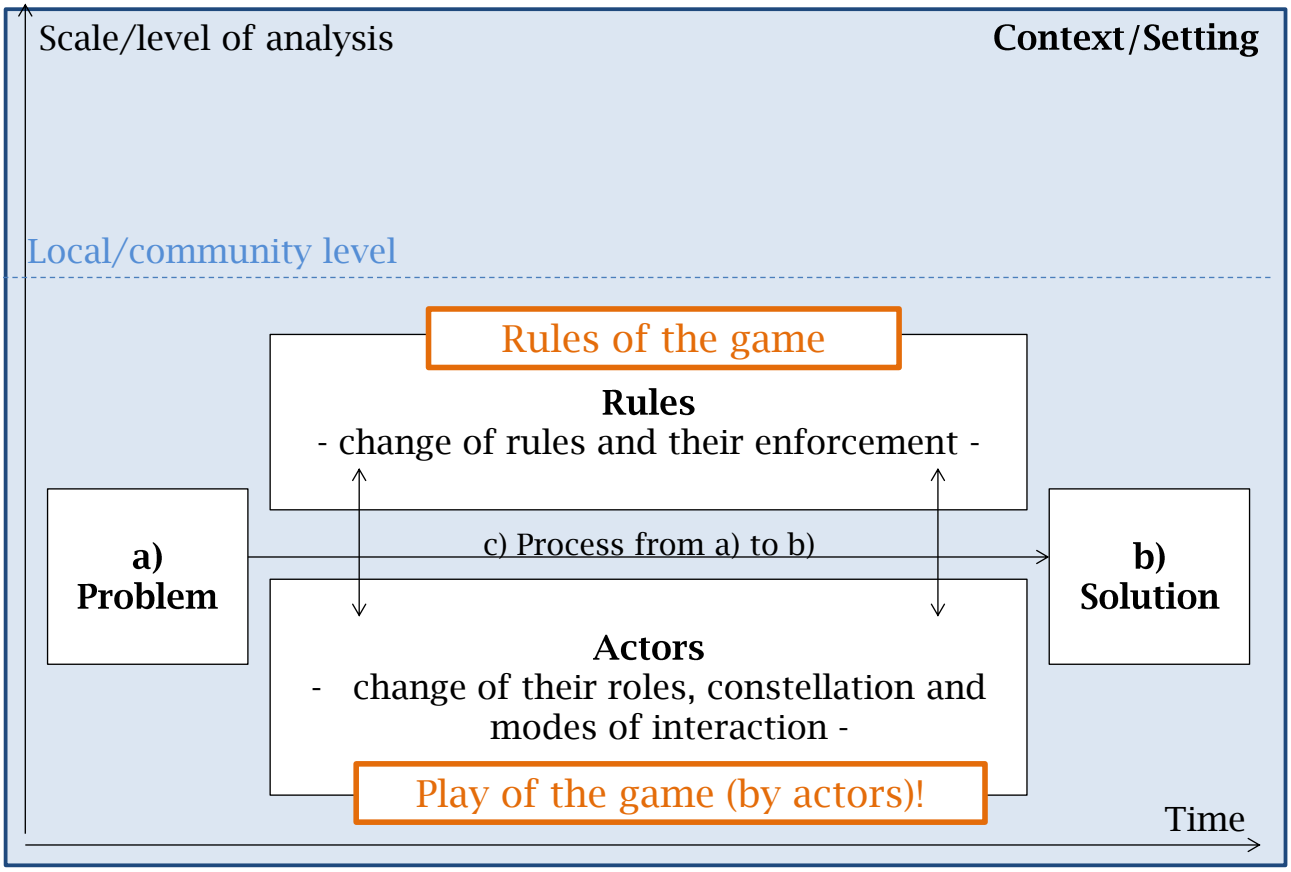

Figure 2: Analytical framework for governance analysis (Source: Own illustration)

The framework includes all the components that are necessary for an institutional analysis of the governance structures (institutions) made up by actors and rules against the contextual setting.

For the analysis we focus on the local community level in the case studies (spatial context). However, other levels like the regional or national level are also considered, if they are relevant. The analysis is also time-dependent as the analysis focusses on the process that took place between point a) and b), where a) is the point in time when the environmental problem became a pressing issue in the case studies and point b) is the point in time when the solution to the environmental problem finally was worked out by the communities (timely context). The analysis of the process that took place to get a community from point a) to point b) is in the focus of the detailed governance analysis in WP5 which will be fully presented in the final report (D5.3). Thereby, we focus on i) rules and how they and their enforcement have changed over time and ii) on the actors and how their roles, their constellation and their modes of interaction have changed over time. Or in the language of NIE the main questions are: what are the rules of the game and how is the game played by the different actors? Finally, as the process does not take place in isolation, we also consider the context, which includes the political and legal, cultural, socio-economic, and

environmental settings, in which the process is embedded and which varies in the different case studies.

In view of the involved actors, of particular interest for the analysis are CSO. As emphasized by the European Commission in its Communication: 'General principles and minimum standards for consultation of interested parties by the Commission' (COM (2002)704) from 11 December 2002, "there is no commonly accepted - let alone legal - definition of the term 'civil society organization'." This is mainly due to the heterogeneous nature of groupings that are usually subsumed under the concept, that widely differ in terms of institutionalization, size, scope or capacities. In its White Paper on European Governance, the European Union identifies nevertheless a list of organizations that are generally understood as composing the civil society, including trade unions and employers' organizations ("social partners"), non-governmental organizations (NGOs), professional associations, charities, grass-roots organizations; and organisations that involve citizens in local and municipal life with a particular contribution from churches and religious communities.

Based on these considerations, for the CiVi.net WP5 analysis we define a CSO as a: 'generally formal, non-governmental, non-military and non-commercial group of persons who are engaged to a common agenda of societal relevance, which implies some relation to conflicting social interests'. This definition clearly delimits CSOs from other forms of engagement at the civil society level, such as loose groups or single actors, as well as lobby groups with rather economic or commercial than societal objectives.

In the following section (section 3) the employed methods and the data basis are described that we used for the governance analysis.

3. Methods and data basis

The development of the governance framework and the inventory of governance models and CSOs was the result of an evolutionary process. The process started with the case study visits in January/February 2012 (see Annex). During a period of about six weeks, altogether six members of the RTD partners from the CiVi.net team, working in WP4 and WP55, visited the four case study regions in Brazil and Costa Rica.

The basic aims of the case study visits were mainly to get an overview of the regional conditions, the environmental problems faced, the related ecosystem services (ES) as well as most relevant human activities affecting these ES and the existing solution strategies, (consistent of specific management instruments (the focus of the analysis in WP4) and governance models (the focus of the analysis in WP5). Besides, it was important to meet with local stakeholders and do site visits.

As foreseen, participatory movies were produced with the local stakeholders where they could express their point of view of the environmental problems and the respective solution strategies.

Finally, during these visits, the first stakeholder workshops took place in each case study region. These workshops were organized and conducted by the CSO partners of the CiVi.net project. Besides the presentation of the project and the project partners, the workshops were used to discuss ideas on the possible transfer regions and what exactly should get transferred there.

The data collected during the case study visits were used to elaborate this inventory. It is based mainly on the participatory movies, interviews (see interview guidelines in the Annex) and participatory observation of the researchers, but also on complementary materials provided by the CSO partners in the project (e.g. project reports, etc.).

Participatory movies refer to the production of a short movie by the stakeholders on their own. It "is an iterative process, whereby communities use video to document innovations and ideas or focus on issues affecting their environment and community." (Lunch 2007, p. 28)

Guided and supported by a professional film maker, after a learning phase, the participating stakeholders produced their own movie. This helped to open channels for communication on the local level, promoted dialogue and discussion, helped to exchange ideas and solutions and fostered involvements, and sometimes even consensus building or conflict management, at the community level. In case of the CiVi.net project, the movies present the solutions strategies for the management of environmental problems from the community´s perspective.

Guided interviews are qualitative interviews that are roughly structured by interview guidelines. The rough structure of the questions permits an individual approach to the interviewee. It is usually chosen when more than one topic has to be treated during the same interview. During the conversation, the interview guidelines are a resource to prevent that the conversation gets lost in topics that are not related to the analyzed issue. However, the guidelines are only a framework and the interviewer is free to decide which question s/he is going to ask in which sequence and in which manner. It is important to keep this kind of flexibility to allow also for aspects to come up during the course of the interview that were not anticipated by the interviewer but are brought up by the interviewee during the conversation (Flick 2004).

Participatory observation is strategy that combines document analysis, interviews, direct participation and observation as well as introspection (cf. Flick 1995, p. 157; Schöne 2005, p.172). The methodology is applied in the natural living environment of the observed persons, which means that the researcher is participating as an observer in every day live of the persons or groups he is interested in (Lamnek 1995, p. 243). Participatory

observation in the first place is important in the early research phase to get context knowledge, to understand the point of view of the observed actors and to identify their patterns of action (Fenno 1986, p. 3, Schöne 2005, p. 176).

Besides the data that were gained through the methods described above, there were also other materials that informed the development of the analytical framework for governance analysis. That included already available publications and reports from earlier work in the case study region by the CiVi.net CSO partners, presentations and minutes from the stakeholder first workshops that took place during the case study visits of the CiVi.net RTD partners, and other materials. Based on these materials an overall travel report was compiled to document the first case study visits in the four case study regions. The travel report can be found as supplementary material to this inventory report.

The development of our governance model and the CSO took place after the case study visits. Final adjustments were discussed at the second project board meeting in São Paulo in June 2012, in Brazil. At this meeting, we presented the framework draft to the project consortium and made the final decision together. Within WP 5, working with governance models mainly follows a two stage approach. Firstly, the governance model could be elaborated after the field visits as the elements were known better. They are therefore derived from realities. At a second stage, the governance model is used in further field work, mainly to structure interview guidelines and also observation and preliminary results for the inventory.

It is important to ground the analysis in the existing realities of the case studies and to fully understand processes and stakeholder interactions, the solution finding process, the implementation of original rules and institutional arrangement, as well as the CSO´s role and capacity to enforce the rules. Insights about existing conflicts and tensions can be gained which helps to assess the stakeholder in the field and communicate with them.

In the following section (section 4), the analytical framework for governance analysis (see above section 2, Figure 2) is applied for the analysis of governance models in all four case studies in the CiVi.net project. Each sub-section (4.1 to 4.4.) deals with one case study. Thereby, each sub-section is organized into two parts. In the first part we always give a general overview of the existing governance model, while in the second part we more specifically address the role that CSOs play as one particular actor in the governance models.

4. Inventory of governance models and roles of CSOs

Following our framework presented in section 2.2, for each case study, first, the problem (see a) in Figure 2), that means the environmental problem, problems about resource and/or land use or other problems also relevant as drivers, are presented. This includes also a description of original rules, actors and property rights. Second, the solution for the

problem in terms of the developed governance model is presented (see b) in Figure 2). The solution in each case study is socially accepted and solves or at least improves the environmental problem. For our inventory, we describe this solution by means of the improved environmental conditions and the livelihood situation in the local community. Besides the actors (including the involved CSOs), we consider the rules that existed already before the problem occurred, as well as the rule change that was necessary to develop an adequate to address the problem and work out a solution strategy. Third, we also give some information on the relevant context. Mainly this relates to the legal settings in view of existing property rights. If relevant also other aspects are discussed. As roles of involved CSOs are of particular interest for CiVi.net due to the specific funding scheme of the project (research for the benefit of CSOs) we dedicate an extra sub-section to discuss the specific capacity these types of actors contributed to the development, implementation and enforcement of the solutions.

4.1 Marujá (Ilha do Cardoso), Brazil

Governance Model

a) Problem

In 1962, the State Park of Cardoso Island (PEIC) was created on the Lagoon-Estuarine Complex of Paranaguá-Iguape-Cananéia in the very south of the State of São Paulo. On its 22,500 hectares it concentrates the largest area of continuous Atlantic Forest Biome and mangroves which forms altogether a sensitive ecosystem with a huge biodiversity. Despite the creation of the park, the ecosystem continued to be under a lot of pressure coming from uncontrolled construction and settlement development, as tourism in the region became more and more intense. The growth of tourism triggered migration to the region which increased the problem and also lead to land speculation, because more area was covered with tourist summer residencies and there were also plans to build a luxury spar.

Consequences for the communities that are only accepted in the park until the state finds a solution to resettle them like our case study community Marujá, were mainly the negative results from this tourism and the growing population of the community. Waste and sewage management became a serious problem as existing infrastructure were not adequate to deal with the increasing amount. Although there were some rules laid out by the State Park administration, these rules were not commonly known by the community members and enforcement was weak in general.

But more importantly, with the creation of the park, the people living there also lost their right to stay there as residents. The owner of the land is the Brazilian Government, while the residents only own the houses they constructed there. The whole park is under state property and local residents cannot acquire legal titles for the land their houses are built on.

b) Solution

The solution for these environmental problems had two components, a management plan was worked out and a community organization was founded by the community members called AMOMAR (Asociação dos Moradores do Marujá). To solve the problems a set of rules were negotiated between the community of Marujá and the park administration that were fixed in the management plan of the park. AMOMAR was a supporting key element in this process, as it was an already existing instrument of the community's self-organization. The whole process was pushed forward by one local leader who was very engaged with bringing all the parties together. During the process, the community also could manage to negotiate their right to stay in the park as long as the set rules were not violated. The community could also influence the way new rules for the park management were decided on, implemented and monitored. However, the management plan also narrowed down the spectrum of activities the Marujá residents were allowed to do to earn their living in the park. For instance, agriculture production, hunting, extraction of wood and plants was prohibited. Construction of additional houses was prohibited as well. However, traditional fisheries and tourism still allowed them to make their living, although the overall number of tourists had to be reduced. Also, a tax was introduced to cover the costs for water and waste management.

Context

The legal context of this case study is all the legislation establishing rules for the State Park, referred to as "State Park Law" as well as the management plan that is setting the new rules for the park, its residents and visitors. The most important law concerning the park is the SNUC (National System of Conservation Units), created by the Federal Law Nº 9.985/00. In the SNUC the characteristics of each protection category are defined like how strict the protection status is and what kind of human activities are accepted or not. There are mainly two categories: the full protection or indirect use conservation units, also called integral conservation units (Unidades de Conservação Integral), and the direct use conservation units, also called conservation units for sustainable use (Unidades de Conservação De Uso Sustentável).

Another important law for PEIC is the Forest Code (Código Florestal). The Forest Code is a law established by the National Congress which main aim was to protect the Brazilian Forest from exploitation. It defines the forest on national territory as a natural resource of common interest for all the inhabitants of the country. Therefore, property rights on forest have to respect the legal restrictions set by this law.

Besides these two main legislative documents, the management plan mentions the following rules for PEIC:

1. Laws concerning property rights

- Creation of the PEIC (Decreto Estadual nº 40.319/62)

- Tombamento da Serra do Mar - Resolution - CONDEPHAAT nº 40/85;
- Ministerial Act Portaria Ministerial Nº. 139/94 – Cession of the Cardoso Island by the Union to the State of São Paulo

2. Laws concerning Atlantic Rain Forest

- The Forest Code
- Federal order Decreto Federal Nº 750/93 - Cut / Supression of the Atlantic Rain Forest
- Integration of the Core Zone of the Atlantic Rain Forest Biosphere Reserve (Zona Núcleo da Reserva da Biosfera da Mata Atlântica) - UNESCO – 1991;
- Integrates the Site of Natural World Heritage (Sítio do Patrimônio Mundial Natural) recognized by UNESCO in 1999;

3. Laws concerning State Parks and Conservation Units

- Regulation for State Parks in the State of São Paulo (Decreto Estadual nº 25.341/86)
- Report about the Environmental protection of the Cardoso Island (Relatório sobre a Proteção Ambiental da Ilha do Cardoso) approved by the State Council of Environmental (Conselho Estadual do Meio Ambiente – CONSEMA), Government Gazette Diário Oficial do Estado/95
- Federal Law Lei Federal Nº 9.985/00 – National System of Conservation Units SNUC(Sistema Nacional de Unidades de Conservação).

There are some informal rules regarding the indigenous population on the island for which the formal rules do not apply. The local residents could also negotiate some informal agreements with the park administration, mainly concerning property rights and construction.

The Association of AMOMAR

The analyzed CSO in this case study is AMOMAR. AMOMAR is our organization in the model that had a specific capacity in the development and implementation of the solution, as is a self-established, self-organized association, driven by environmental and social concerns for the community. Therefore, it was able to interfere in the rule definition and rule enforcement by participating in the elaboration of the management plan for the park. It was successful in articulating the community's concerns to the authorities, in this case the state park administration. AMOMAR started 30 or 40 years ago and in 1998, its assemblies were institutionalized, to be more official, and to be able to get resources for projects like the installation of a sewage system. Fighting for the permanence of the traditional residents in the park, trying to improve their living quality and preserving the park were and still are the main objectives of the association. Every traditional resident is automatically part of AMOMAR. Twelve members are elected to form a directory and a

controlling council. This directory meets once a month, while the whole community is meeting whenever it is necessary, about once or twice a year. AMOMAR mainly organizes communitarian activities and is acting for the community as a whole when communicating with the park administration. The CSO is acting predominantly on the local/regional level. However, it counts with international support in some development projects. For example, a German NGO ("Steinschleuder") was financing and helping in the construction of the community´s sewage system.

4.2 Santa Rosa de Lima, Brazil

Governance Model

a) Problem

Santa Rosa de Lima is a community in the Encostas da Serra Geral region in the Santa Catarina State, in the south of Brazil. This region was mainly colonized in the second half of the 1800 century by immigrants coming from Germany and Italy, by incentives from the Brazilian government which fostered land distribution to small landholders but gave little support to develop agricultural activities. The region is very rich in terms of biodiversity as the area originally was fully covered by the Atlantic Forest, one of the ten top world hotspots of biodiversity. With the arrival of the farmers, the Atlantic rainforest got destructed until it was declared national patrimony in 1988.

Cattle raising for dairy production, pork production, tobacco plantation and eucalyptus and pine tree plantation became important sources of income for the local communities. With the intensification of agricultural activities, environmental problems such as air and water pollution, soil degradation and loss of native forest increased. Mainly these problems related to common grazing practices that were very area extensive and for which additional forest land was cleared. Because of only low average incomes, the livelihood situation of farmers was rather bad. In terms of property regimes, the land in the region is mainly privately owned and the farmers are normally holding the official land titles for their land.

b) Solution

To fight the environmental problems and to present opportunities to improve income and livelihoods for the farmers, a group of students and professors from the Federal University of Santa Catarina in Florianópolis (UFSC) formed an initiative (the GPVoisin) to introduce a new way of grazing system into the region which was called 'Voisin System). For this they worked together with the local farmers in the community of Santa Rosa de Lima. The Voisin System is a specific grazing system for cattle, aiming at intensifying the use of pasture land, so the same number of animals can be supported by less area, reducing the need to clear more forest land for additional pastures. Due to a better soil coverage also soil erosion and run-off – a common problem in the area due to the steep slopes – can be reduced. As the pastures are fenced and the cattle no longer can directly access surface water also improvement of the water quality of rivers and streams could be improved substantially. As the land of the family farmers is private property, every farmer is free to decide if s/he wants to implement the solution strategy.

Context

There is a set of rules by the environmental legislation (e.g. for water protection, soil protection, land use regulations). Mainly the rules are set by the already mentioned forest code (*Código Florestal*) and affect the farmers in their rights of planting and cutting trees on their property. The law determines two types of private protection regarding forest and vegetation: the permanent preservation areas (Área de Proteção Permanente – APP) and the legal reserve (Reserva Legal – RL). The APPs are forest or vegetation areas around hydro-resources, hills, hillsides and shoals as under permanent preservation and defines types of forest with special functions (e.g. soil erosion prevention, dunes, etc.). The RLs are percentage of forest or vegetation that are necessary to be preserved in the proprieties, depending on the biome types.

The Voisin Group at Federal University of Santa Catarina (GPVoisin)

The analyzed CSO as one actor in the governance model of this case study is the GPVoisin group at UFSC. The GPVoisin as an institution was the initiator of the idea of introducing the new grazing method into the region and played an important role for the implementation. In the beginning, it was difficult for them to change the rules and help farmers get going and warm to the idea. Gaining more confidence, the group had the role of an advisor/consultant and of a multiplicator who, for instance, helped to spread the solution by organizing field days to make the concept known to other farmers. Finally, the group also got engaged in the capacity building of farmers, always taking care of a practical approach to be close to the farmers. The pilot grazing systems were implemented in a 'learning by doing' fashion. The Voisin was founded in 1998 by a professor at UFSC, inspired from a research exchange at the University of Vermont, USA. He brought the idea

to use the Voisin System also for farmers who produced milk. The professor assembled a group of students interested in the topic, who were willing to do the field work. This meant implementing the Voisin System on the farms of interested farmers, organize workshops and give technical support to the farmers. Most activities were based on honorary work only. The group is mainly active on the local/regional level, in the Encosta da Serra Geral Region. It also gets some international support through networks and alliances with other universities.

4.3 Tocantins, Brazil

Governance Model

a) Problem

Tocantins is a state in the center of Brazil. In terms of ecosystems, the state is particularly rich in the Cerrado Biome, the Brazilian Savannah. Originally, the entire surface of Tocantins was covered with this biodiversity rich ecosystem. However, the state is strongly affected by deforestation activities due to the expansion of agricultural areas, and the illegal harvest of firewood from native trees as a main source of energy for local factories.

b) Solution

The solution strategy developed in the Tocantins case study is the SOCIALCARBON® Standard methodology which was developed by the Brazilian CSO Ecológica Institute (EI) who is also a partner in the CiVi.net project. The SOCIALCARBON® Standard was developed as an extra premium for carbon credits for the voluntary carbon market. The SOCIALCARBON® Standard is used to evaluate the social impact of carbon offset projects and thus helps to ensure a wider sustainability of the production and marketing of carbon credits.

In order to qualify for the SOCIALCARBON® Standard, carbon offset projects are required to meet and get certification of the following criteria:

1. Monitoring and continued improvements of project performance. Periodical and independent verification is set up to stimulate continuous improvements and allow the diagnosis and monitoring of the projects' sustainability.
2. Independent auditing conducted through SOCIALCARBON® reports by a certifying entity to evaluate the quantity of carbon offset along established carbon accounting standards for certification of emission reductions (e.g. VCS, ISO, CDM, etc.).
3. Apply the SOCIALCARBON® methodology in order to meet requirements for social sustainability of the project.

The application of the SOCIALCARBON® methodology is based on the sustainable livelihoods approach and includes guidelines for initiatives undertaken with local stakeholders and a conceptual framework that provides a comprehensive overview of the

situation, combining resources, perspectives and strategies. The methodology considers six basic resources: Social, Human, Financial, Natural, Biodiversity and Carbon (see Figure 3.

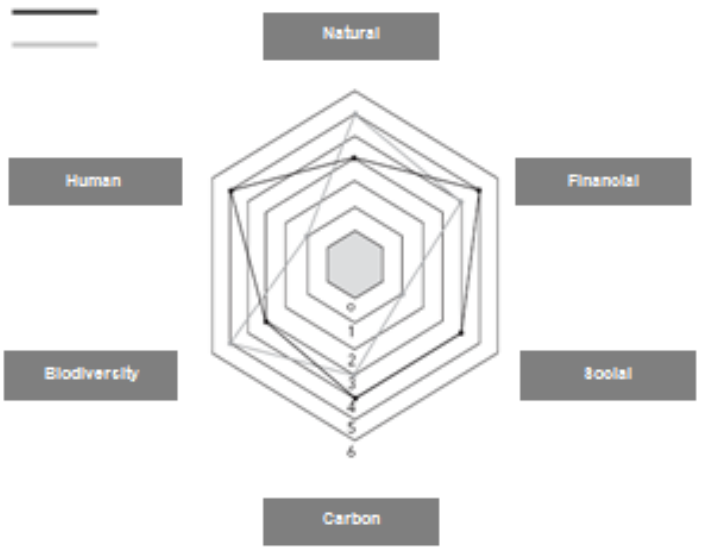

Figure 3: Example for a SOCIALCARBON® hexagon

The methodology embarks on the identification of indicators to measure the six resource dimensions. These indicators receive scores ranging from the worst scenario (level 1) to the ideal situation (sustainable use of resource – level 6) and facilitate the visualization in a spider-net hexagon diagram representing the baseline situation and its change over time.

Data used to score the indicators is collected through participative methods such as meetings, interviews and questionnaires. The related SOCIALCARBON® report must be elaborated with the support of an approved organization i.e. a qualified institution, authorized by EI. This procedure ensures that the involved entities are carrying out the SOCIALCARBON® concept and fundamental steps of the methodology.

In the analyzed case study, timber has been replaced by rice husk as major energy source to be used in the ceramic industry in the state of Tocantins. Switching to a more sustainable carbon neutral energy source has allowed the certification and marketing of Verified Carbon Units on the voluntary carbon market. Additionally the SOCIALCARBON® methodology has stimulated the reinvestment of related income and resulted in the introduction of a series of social and workplace improvement and benefits for the ceramic industry workers, as well as a reduction of particularly hazardous works.

Similar to the case study in Santa Catarina, the land in this case study is privately owned and the implementation of the solution strategy is the ceramic industry owners individual decision.

Context

The overall legal setting for this case study is given by the SOCIALCARBON® standard and the voluntary carbon markets where the credits are traded. There are two types of carbon markets, the voluntary and the regulated carbon market. The major regulated carbon market is the European Emission Trading System EU-ETS. While there are other regulated carbon markets emerging, the EU-ETS is the only one of significant size that has been operational for several years. The EU-ETS allows a limited number of offsets from outside the regulated industries to be used for compliance. The only carbon credits allowed as offsets in the EU-ETS are credits created under the UNFCCC Clean Development Mechanism (CDM). These credits are traded as commodities in a trade exchange. The Voluntary Carbon Market (VCM) is not governmentally regulated. The rules and regulations of the voluntary market are developed by private entities, mostly NGOs and are similar to those of the CDM. In the VCM demand is mainly driven by corporate social responsibility commitments to CO_2 reductions and offsetting. There are several different standards in the VCM and the price of a ton of CO_2 depends strongly on the type of project and is determined in over-the-counter deals. Generally in the VCM projects with higher co-benefits for the local environment or population achieve a higher price. By comparison, the VCM is approximately 10% of the size of the CDM market. While CDM registered credits are sometimes used in the VCM, the VCM standards are not eligible for the regulated market.

Ecológica Institute

The Ecológica Institute (EI) is a Brazilian CSO that, for 10 years, has been aiming at mitigating the effects of climate change through scientific research, environmental conservation, and community-based sustainability activities. EI is part of the CiVi.net consortium and also serves as an example for the innovation potential residing in CSOs. It has developed the SOCIALCARBON® concept which has initiated industry-wide shifts to more sustainable practices, strengthened community livelihoods, and integrated rural and small-scale producers into market activities. EI was founded in the year 2000, two years after its two co-founders had started the first carbon sequestration project in Bananal Island in Tocantins. In 2003, as a second set of activities, EI started to promote the switch of industries from non-renewable to renewable energies under the Projeto Queima Sustentavel, by mainly supporting ceramic industries in replacing native firewood by renewable biomass as energy fuel. EI and its innovations led to the creation of the Sustainable Carbon Ltda. a for-profit SME working as a project developer and accredited to use the SOCIALCARBON® Standard in carbon offset projects. It is therefore an organization that was able to change the rules for the local stakeholder. EI therefore can be seen as an innovation breading CSO stimulating not only significant carbon offset projects, but resulting in SME spin-offs and related job creation.

4.4 Osa region, Costa Rica

Governance Model

a) Problem

In our case study region on the southern pacific coast of Costa Rica are, the Osa region, the Térraba and Sierpe river deltas are the most important mangrove and wetland ecosystems of the country. The mangroves provide a variety of ecosystem services like carbon capture, water provision, sediment and nutrient retention, water quality maintenance and flood protection as well as recreation, tourism, research and education. However, not all existing wetlands of the region are under protection as National Wetlands Reserves or RAMSAR sites and therefore they are suffering from destruction and degradation. And even the wetland that have been declared a protected area, do not always have the required management plan. Additionally, a complete inventory of wetland is still pending for the region The wetlands are particularly threatened by real estate developments for hotels and resorts due to the increasing number of tourists attracted to the region. To land more tourists in the region also a new international airport is planned with more detrimental effect on the wetland ecosystems. Most wetlands are public lands.

b) Solution

The solution strategies developed for the Osa region combines different participatory approaches focusing on wetland preservation through the active engagement of local communities. This community involvement includes awareness raising, education and reforestation measures, as well as participatory events related to management plan development. These multi-level environmental advocacy efforts are driven by local CSOs, accompanied by local state conservation agencies. The combined participatory approaches effectively induced a feeling of local responsibility for sustainable management of wetland ecosystems on the grass-root and community level. A key contributor to this community involvement efforts is Fundación Neotrópica, a Costa Rica based CSO that is also a partner in the CiVi.net project.

Context

The legal setting for this case study is the existing legislation for wetland protection. Besides international rules like the RAMSAR convention, mainly the rules of the national and regional agencies (SINAC and ACOSA) in charge of the management of the protection areas in Costa Rica, are important. In 1994, SINAC was created to combine three separate organizations that had previously managed the implementation of laws relating to protected areas like national parks, wildlife and forestry reserves at the national level. It led to the establishment of overall eleven conservation areas, covering the entireness of the country. The one relevant for the case study region, ACOSA, has been created in 1991 by the Decreto Ejecutivo N. 20790-MIRENEM. Other important national laws are the

Forestry Act of 1996 (Law no. 7575) and the Biodiversity Law of 1998 (Law no. 7788), leading to more participatory conservation activities, amongst others.

Fundación Neotrópica

The Fundación Neotrópica (NEO) is a private non-profit organization. It was founded in 1985 by a group of Costa Ricans alarmed by the risk of social conflicts following the creation of many conservation and protection areas under Costa Rica's SINAC system. The aim was to contribute towards resolving socio-environmental conflicts and promoting sustainable development and community ownership, through research as well as the development, implementation and dissemination of actions that offer viable options for the sustainable use of natural resources. The focus lay in particular on those areas of Costa Rica that face the largest socio-economic difficulties. From the beginning on, activities were primarily local community-based projects aiming to promote sustainable development, as well as applied research that supports actions with communities.

Today, NEO's main expertise lies in the implementation of actions that promote environmental and socio-economic development in problem areas. This includes awareness raising, education and training activities. In addition, expertise is also developed in new research areas, such as Ecological Economy and Political Economy, the application of participatory processes in environmental conflict resolution and the dissemination of concepts, such as multi-criteria evaluation, assessment of environmental services business and the Ecological Footprint. NEO therefore interacts with different government institutions as well as local organizations to arrange the rules implementation and enforcement.

NEO is both working in its headquarters in San José and in the Center for Studies and Community Empowerment Alvaro Wille Trejos (CEEC-AWT), its field station located on in the Osa region in the community of Rincón. The CEEAC-AWT is a local research and community center that serves NEO's activities in the region and offers accommodation to international researchers and environmentalists. A second center is currently being implemented in the Nicoya Region (North-West from San José).

Two strategic mandates were established from the beginning and diligently continue today: field projects with communities to establish integral sustainable development models, and applied research that connects those communities with national policies and ecosystems.

NEO is the initiator of the two community-based solutions that have been implemented in the Osa region in view of promoting sustainable management of the ecosystems and responding to the raising pressure on the local environment and communities: The Mangle Benin and the ECOTICOS projects, that are both analyzed in the CiVi.net project as successful community-based ES management models.

Due to the longstanding activities in the Osa region, NEO has established itself as a local knowledge broker, with significant impact on mitigating, mediating and coordinating interests and policies. While not being conceived as neutral actor, but rather advocating environmental conservation it is nonetheless valued for its efforts to reflect community concerns and its help to disseminate information on policy developments and local environmental challenges relevant to local communities.

5. Next steps

D5.1 (this inventory report) is essential for the next steps in the project. It is a first approach to reach the main research tasks of WP5, namely the in-depth analysis of the governance models and the role of the CSOs in the different case study regions which will be fully documented in the final overall analytical report (Task 5.5, D5.3). It is also an important preparation for the transfer phase (Task 5.3) and for the experimental workshops (Task 5.4), when the transferability of the governance models shall be tested.

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7. Supplementary materials

- Travel Report on first case study visits
- Interview guidelines for case study visits