

Dissertation Proposal

Civil Society Initiatives and Positive Financial Instruments for Remunerating Ecosystem Services

A New Institutional Economics Approach

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The role and innovative potential of civil society initiatives in the payments for ecosystem
services (PES).
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1. Introduction

The Millennium Ecosystem Assessment (MA) is so far the most comprehensive study on the actual condition of the world's ecosystems and their services, including projections on future development. The United Nations (UN) commissioned the MA in 2001, which was assessed by more than 1300 scientists from over 95 countries.

One of the main conclusions from the MA revealed that more than 60% of all inspected ecosystem services are depleting far quicker than can be regenerated (Katoomba Group 2008). Positive financial instruments as an economic incentive for confronting resource degradation are internationally discussed as Payments for Ecosystem Services (PES). So far there is no universally accepted definition for PES. However, a widely accepted definition defines PES as “ (a) a voluntary transaction where (b) a well-defined environmental/ ecosystem service (ES) or land use likely to secure that service (c) is being ‘bought’ by a (minimum one) service buyer (d) from a (minimum one) service provider (e) if and only if the service provider secures service provision (conditionality)” (Wunder, 2005:3).

In general remuneration for ecosystem services is more and more becoming a popular and well-established approach for conflict resolution between land users and environmental problems (Kemkes et al., 2007). Solutions for confronting environmental problems are increasingly searched for with an economic perspective – as a substitute for the classical administrative law. “The key characteristic of these PES deals is in the focus on maintaining a flow of a specified ecosystem “service” – such as clean water, biodiversity habitat, or carbon sequestration capabilities – in exchange for something of economic value” (Katoomba Group 2008:3).

For a PES transaction to be classified as a positive financial incentive instrument, it is important that money does not simply change hands for an ecological service from service buyer to service supplier. Instead, to be an economic incentive, remuneration has to take place for services that otherwise would not have been generated (or ecological services that otherwise would not have been preserved). That is, one could only talk about a PES deal if the ecological service is additional to the “business as usual” plan.

PES instruments can be financed, designed and implemented by state agencies as well as civil society initiatives. Civil society initiatives are gaining in importance with respect to being a key player in PES deals. This is fostered firstly by a more and more sophisticated discussion regarding sustainable development of society in general. Secondly, environmental problems are increasingly discussed as complex cause-and-effect chains, with them being not only relevant from an ecological perspective but also from a societal point of view; society shapes environmental problems and vice versa.

The relevance of civil society initiatives had also upsurged with the rather disappointing performance and output from governmental approaches for confronting environmental problems.

It can be assumed that governmental PES instruments are designed and implemented differently from non-governmental approaches (e.g. civil society's approaches for designing and implementing PES deals).

The focus of this dissertation will be on non-governmental initiatives designing and implementing PES instruments.

Wunder et al. (2008) remarked that only few efforts were made to systemically document the characteristics and effectiveness of different PES programs, and even fewer efforts to compare them. It is important to mention explicitly that this dissertation proposal does not aim at comparing governmental and non-governmental initiatives with respect to their effectiveness in handling environmental problems empirically. Rather a new institutional economics analysis will be applied - via theoretical concepts such as transaction cost theory and principal agent theory – on non-governmental initiatives and their approaches to PES deals. Based upon that potential advantages and disadvantages, strength and weaknesses of non-governmental institutions in managing environmental problems will be discussed and analysed.

2. State of the Art

The exchange of ecosystem services and ecological goods between service supplier and buyer incurs transaction costs, which must be taken into account when designing and implementing PES instruments.

Transaction costs arise for different reasons. With respect to transactions in the agrarian sector, transaction costs can be prohibitively high due to the characteristics of the concerned goods and services, especially with respect to transactions of agrarian goods and ecosystem services and secondly because of certain characteristics, moral concepts and ideals of the acting stakeholders.

The remainder of this chapter will elucidate the transaction cost theory, followed by a discussion about governance structures as a fundament for solving the transaction problem. Depending on the transaction, different governance structures solve the transaction problem unequally well.

2.1 The Transaction Costs Approach

Transaction cost theory is based upon the assumption that any coordination of economic activities via the market, i.e. using the price mechanism or the “invisible hand” is costly, as reflected by the recognition of transaction costs (Coase, 1937).

The term transaction cost is a multifaceted notion with quite a few different definitions for or statements about the drivers of transaction costs. Arrow (1969) referred to transaction costs as “the cost of running the economic system”, defining them connaturally to Coase as the “...cost of using the price mechanism”(Coase, 1937:390).

Transaction costs can be prohibitively high, which finally might result in market failure i.e. the market fails to coordinate a transaction between the involved actors and might possibly be replaced by a different coordination instrument.

According to Coase, firms exist as an alternative system to the market mechanism and their emergence can best be explained by the transaction costs theory. In general, firms do not rely on the market mechanism, but rather organise their economic activities as a hierarchical

coordination (Coase, 1937). The advantages or disadvantages of markets and firms coordinating economic activities and exchange are determined by the respective costs of coordination. For Coase, the main advantage of establishing a firm is the reduction in the transaction costs of using the price mechanism. He therefore reckoned the market and the firm to be mutually substitutable coordination mechanisms, thus defining the firm in relation to the market.

Williamson (1975, 1985) made advancements on the transaction cost approach by Coase. He described different forms of coordination and labelled them as „governance structures“.

2.2 Governance Structures

According to Williamson, all alternative governance structures can be analysed with respect to transaction costs and their potential to reduce them. He also described hybrid forms of coordination, such as franchising, leasing or long term contracts (Williamson, 1985).

Transaction costs are systemically determined by specific key characteristics of the transaction. With respect to these key characteristics, it is possible to deduce certain favourable forms of contract with respect to transaction costs. “Transaction economies are realized through assigning transactions (which differ in their attributes) to governance structures (which are the organizational frameworks within which the integrity of a contractual relation is decided) in a discriminating way. Accordingly: a) The defining attributes of transactions need to be identified. b) The incentive and adaptive attributes of alternative governance structures need to be described. Even though marginal analysis may sometimes be employed, implementing transaction cost economies mainly involves a comparative institutional assessment of discrete institutional alternatives – where classical market contracting is one extreme, while centralized hierarchical organization is the other extreme; and mixed modes of firm and market organization are in between” (Williamson 1985:41ff).

The key characteristics of a transaction induce a coordination problem, which can only be solved with the help of an adequate governance structure. This implies that governance structures are generally accepted as a mechanism for solving coordination problems between the supplier and buyer or as a mechanism for reducing transaction costs.

Based on the various inherent transaction characteristics of the ecosystem services and ecological goods, governance structures can be contrasted with each other in regards to their potential to actually reduce transaction costs.

Some of the transaction specific key characteristics will be discussed in the following section: Within ecological systems there are many causal interconnections, interactions that often adapt the form of a random process. Ecological systems do not operate deterministically but are rather chaotic (Matzdorf, 2004) and often referred to as being **complex**. Also within the scientific community only few validated knowledge regarding the right treatment of the available nature exists (Hagedorn, 2001).

The interdependency and complex cause-effect relationships of ecosystems and their output can only be evaluated by a limited number of criteria. This implies that a complex environmental goal resulting from an environmental scheme can only be assessed by certain proxies that are used as indicators. The measurement of the target achievement of an environmental scheme involves transaction costs. Depending on the available proxies and indicators, the evaluation of goal compliance can be unfeasible or prohibitively expensive (Jack et al. 2007).

The complexity of ecosystems and their services induces an overall problem on how to measure the actual condition of the concerned service. Frequently the qualitative and quantitative stock of an environmental good can only be assessed deficiently ex ante by applying a scheme. In addition, the ex post commitment and compliance of the acting land user is hardly traceable. This leads to a **problem of monitoring**. The supervision of whether a land user actually adheres to the agreed schemes and instruments and supplies the contracted goods in the agreed quality and quantity involves transaction costs. Both, measurement problems and monitoring problems induce **behavioural uncertainty** on the part of the service supplier. The issue of behavioural uncertainty leads to the problem of **hidden action**, which in turn causes a **moral hazard** risk. This issue will be discussed in detail below.

The complexity of ecosystems and a lack of knowledge regarding direct interrelationships within different ecosystems cause an **uncertainty with respect to the appropriateness of the schemes** i.e. there is uncertainty as to whether the chosen instrument actually leads to the desired result.

Furthermore, a forecasting error zone exists with respect to environmental goods and services. Neither the land user (i.e. the service supplier) nor the regulator can anticipate with certainty, which environmental problems will arise, as well as when and where they will arise, for they rely on some random variables such as the weather. Parametrical uncertainty arises due to exogenous influence factors not under the control of the involved stakeholders but which however can influence the course of a transaction directly due to its interference with the performance of the obligation. Actors have to react and ex post contract conclusion agreements have to be renegotiated (Beckmann, 2000). This results in the costs of adjustment.

The different governance structures coordinating the exchange of ecosystem services are unequally suited for coping with the transaction specific characteristics and problems as well as how they allow for ex post agreement and contract adjustment.

In order to reduce transaction costs, applied governance structures should reduce asymmetric information between the various stakeholders. “Unless counteracting institutions have been devised to cope with these information asymmetries, various *adverse selection* and *moral hazard* problems may occur that can substantially increase transaction costs. At the minimum, these increased costs can be expected to reduce the volume of beneficial trades or productive activities. In the worst case, when no counteracting institutions have been devised, information asymmetries can eliminate some types of mutually productive activity entirely” (Ostrom 1993:55)

To analyse and compare distinct governance structures with respect to potentials and advantages in solving transaction specific problems of coordination, one has to take account of the transaction specific characteristics of the environmental good concerned as well as the behaviour and personality traits of the engaged actors.

Various values and moral concepts of the involved stakeholders are important factors that must be kept in mind when designing and implementing PES instruments and their respective governance structures.

Values, moral concepts and perceptual patterns of the acting land user with respect to the approached environmental problems are relevant to their willingness to actually comply with the agreed and contracted norms and rules (Hagedorn 2001).

One of the crucial assumptions of transaction cost theory is **bounded rationality** as well as **opportunism**. Principal agent theory is based on the assumption of **information asymmetries** between the engaged stakeholders, leading to **opportunistic behaviour**.

The concept of bounded rationality assumes that individuals intend to behave economically rational; however their capacity to actually do so is limited by the cognitive ability of their minds to gather and process information and the finite amount of time available to make decisions. Individuals thus lack the ability and resources to reach an optimal solution, the one that would prevail under ideal conditions with perfect information.

Gathering and processing of information is costly. Therefore, exhaustive information sourcing is from an economic point of view not optimal (Simon, 1978).

Williamson argued that the existence of bounded rationality leads to the problem of incomplete contracts for almost all transactions and in particular for complex transactions. Contracts are therefore unavoidably incomplete (Williamson, 1996). Bounded rationality becomes in particular a challenging problem for contract design once uncertainty and complexity are present (Williamson, 1975). The creation of virtually complete contracts involves considerable transaction costs due to the ex ante information gathering. As soon as unforeseen incidents occur, contracts would have to be adjusted ex post, causing possibly high adjustment costs.

Sundry governance structures respond differently to the problem of bounded rationality. Relational contracts for instance regard the problem of bounded rationality as ex ante. Therefore, only a basic agreement is set up. In the course of time, the basic agreement becomes more specific and precise leaving room for further adaptations in the future.

Opportunism refers to the usage of asymmetric information and to taking selfish advantage of it. Opportunism and asymmetric information are outlined in the principal agent theory. Most commonly, the agent has better or more information with respect to his own abilities to comply with his tasks than the principal (Picot et al. 1999, 2003).

In general, there are 3 main varieties of power imbalances due to asymmetric information that foster opportunistic behaviour: “**hidden characteristics**”, “**hidden action or hidden information**” and “**hidden intention**”. Each category entails different contract risks. The reduction of informational asymmetries between agent and principal incurs agency costs (Picot et al, 1999).

Hidden characteristics occur ex ante of contract conclusion. The principal does not know the exact quality of the good or service of the agent, which might bring about the problem of **adverse selection**. The agent however can reduce the problem of adverse selection with **signalling**. The principal can reduce the problem of **adverse selection** with **screening** or **self-selection** (Picot et al., 1999).

The problem of **hidden action** or **hidden information** occurs, if the demanded and settled efforts of the agent are hardly observable. This problem thus occurs ex post of contract conclusion. The troublesomeness of **hidden action** and **hidden information** is strengthened due to the complex characteristics of ecosystem services and only limited possibilities for monitoring and evaluating contract compliance (or at least to do so at reasonable costs). This leads to the problem of **moral hazard**, i.e. the agent might exploit any informational asymmetries for his own interests. Informational asymmetries can be reduced with help of appropriate monitoring systems or through the harmonization of principal and agent interests (for instance by means of positive financial incentive instruments, premiums, profit sharing).

Hidden intention occurs ex post of contract conclusion. The possibilities, interests and intentions of the agent are not well-known. **Hidden intention** causes the problem of **hold-up**, which is also closely related to resource dependency or capital specific investment. The harmonisation of interests among stakeholders will help to mitigate the problem.

Incentive compliant governance structures will also help reduce the problem of asymmetric information. In this case, the interests of the agent are channelled to coincide with the interests of the principal (Monsees, 2008).

3. Analytical Framework

This dissertation proposal aims at assessing the strength and weaknesses of non-governmental initiatives in designing and implementing PES instruments. For which areas of conservation are civil society initiatives especially capable of solving problems and where not? The focus of this thesis is transaction costs; or rather the potential of civil society initiatives for reducing transaction costs.

Assessing and comparing governance structures with respect to their potential to lift transaction specific problems calls for the analysis of the characteristics and implications of the concerned ecosystem services and goods as well as the explication and estimation of the moral concepts and behavioural traits of the involved stakeholders.

“Previous experience with incentive-based mechanisms has demonstrated that the properties of the ecosystem and/or pollutant under consideration – in the environmental context – influence how a policy should be designed and what type of outcomes should be expected.” (Jack et al. 2007:9466).

The various and often divergent moral concepts and values of the engaged stakeholder must be taken into account when designing and implementing PES instruments and their respective governance structure. The values and moral concepts with respect to environmental and conservation schemes of the acting land users for instance are considered to be important factors influencing commitment, cooperation and acceptance of the rules of the environmental schemes (Hagedorn, 2001).

As mentioned, one of the principal drivers of transaction costs relates to informational asymmetries between involved stakeholders. Akerlof (1970) mentioned that in the absence of adequate institutions and governance structures for reducing informational asymmetries, many economic activities would not be undertaken.

The reduction of informational asymmetries incurs costs on both sides – i.e. for land users (agent) as well as buyers of ecosystem services and their output (principal). The informational asymmetries are determined by (1) the characteristics of the ecosystem service or good to be transferred and (2) by the characteristics, values and moral concepts of the stakeholder

engaged in the deal. Hence, there are two complex systems that must be dealt with by one governance structure: firstly, the human behaviour and secondly complex ecosystems and their services. The aim of this thesis is to discuss the potential and relevant advantages of civil society initiatives for the design and implementation of PES instruments, and to verify empirically if civil society initiatives actually exploit these advantages and potentials fully.

Targeted and regional focus

Wunder mentioned that non-governmental initiatives generally operate more locally focused than governmental PES schemes (which are larger in scope due to their state wide activities). Furthermore non-governmental initiatives do not expand their PES instruments after the initial trial phase, as many PES schemes provided by the state do (Wunder, 2005).

Differences in the scale between private and governmental PES schemes also exist because PES programmes from civil society initiatives are more focused i.e. only one or a few ecosystem services, whereas governmental programmes often try to target various ecosystem services simultaneously (Wunder, 2005).

Ostrom also discussed the importance and in particular the advantages of a local focus with regard to time and place. She defined the components of ‘time and place information’ as “(1) local social and physical environmental characteristics, (2) various types of production strategies employed in a region, (3) human or physical capital presently underutilized in an area, and (4) existing institutional arrangements...” (Ostrom, 1993:50). A profound understanding of the regional situation and conditions is advantageous. Profound knowledge of the local circumstances consists of commonly generated, used and diffused information on the characteristics of the physical capital, as well as expertise of social and local conditions that are in place. Ostrom argued that a combination of “time and place information” and scientific knowledge is important. Furthermore she noticed that most commonly it is very difficult to diffuse the good understanding of “time and place information” to public bodies, since they operate supra-regionally. It is in contrast easier to disperse scientific knowledge to stakeholders (Ostrom 1993). “A key task of institutional design is to formulate rules that enhance the likelihood that both types of information will be brought to bear in the various phases of infrastructure development” (Ostrom 1993:54).

The participation of all relevant stakeholders during the design of PES and implementation periods fosters the direct exchange of information between agents and thus helps to create and diffuse local time and place information and scientific knowledge. The participation of stakeholders and a good diffusion of information in general will lead to better results because it simultaneously generates an improved understanding of the common goals (Ward und Lowe in Vatn, 2001).

Ostrom asserted that governance structures aimed at generating and diffusing information among stakeholders will help reduce transaction costs (Ostrom, 1993).

It can be assumed that regional initiatives will automatically foster some networking among participants and that the relevant stakeholders will get to know each other. This is likely to influence the diffusion of local knowledge positively.

Ultimately, a local focus and the direct participation of stakeholders are likely to reduce asymmetric information among actors. Instead, a better understanding of common advantages and goals will be generated. Hence, civil society initiatives with a local focus and/or participatory approaches can have an important influence on the reduction of informational asymmetries and thus on transaction costs.

Theoretical assumption: Civil society initiatives often operate at a local level and focus on only one or a few ecosystem services.

Flexibility

In general it is difficult to arrange accurate governance structures right from the beginning. The concept of the homo oeconomicus, i.e. human individuals acting rationally, with fixed preferences and optimizing on all available opportunities with perfect foresight and information in order to maximise his well-being, is obsolete (Rost, 2008). This concept is in particular an inappropriate assumption for economic activities within the environmental sector. As discussed, transactions rather involve complex ecological services and goods and economic agents act with bounded rationality.

Concepts describing humans as fallible learners assume that individuals actually do make mistakes in their decision making. However, they are able to learn from their mistakes (Gibson et al., 2001). “Looking at actors as fallible learners within specific institutional arenas leads to the presumption that the institutional arrangements that individuals use in governing and managing problematic situations offer different incentives and opportunities to learn. In some settings, incentives lead them to repeat the mistakes of the past or only to seek short-term advantages. In these settings individuals learn to become more opportunistic over time. In other settings, actors learn quickly from their past actions and can adopt more effective strategies over time. They may learn the importance of a reputation to be a trustworthy participant and norms of behaviour that, when adopted by most participants, leave them all better off” (Gibson et al., 2001:9).

However, problematic arrangements in governance structures do not only arise due to the fallibility of humans, “...errors can be attributed to both the fallibility of humans and the difficulty of obtaining an optimal blend of technical expertise and knowledge of the local people, their needs, and the physical systems involved. The costs of the errors are affected by the same variables that affect coordination costs: attributes of the individuals involved, attributes of the infrastructure facility and attributes of the institutional arrangements” (Ostrom, 1993:68).

It can be expected that civil society initiatives are in general more capable of actually implementing the process of learning and continuously adapting the institutional arrangements to errors experienced as opposed to governmental initiatives. Firstly, because of the local focus, they could adapt institutional governance structures to local circumstances. Secondly, it can be assumed that civil society initiatives are more flexible in their policy making and in their general adaptation capacities to uncertainty or changing dynamic context conditions.

In looking at the policy design within the environmental sector, it becomes obvious that governance structures designed and implemented either by national governments or at the level of the European Union are characterised by a high degree of standardization (i.e. without local focus) and only limited adaptability to the dynamic context (Hagedorn, 2001).

Theoretical assumption: Civil society initiatives are flexible and dynamic in their adaptation strategies toward a dynamic environment. Furthermore, they take advantage of the learning processes. Both these points help to generate and implement suitable governance structures.

Social Capital/ Trust

“The enjoyment of good reputation among business associates and within a peer group reflects a kind of social capital that is particularly important in long term business relationships and repeated transactions. Result-oriented incentive systems must regard this because exogenous factors influence the result and a transfer of risk from the principal towards the agent exists” (Monsees 2008:188, own translation). This holds in particular true for complex ecosystems and their services, as their production depends strongly on exogenous factors such as climate conditions. The land user thus has only a limited influence on the actual goal achievement and hence on the performance of the contract. There is a parametric uncertainty as to whether the land user actually can supply the demanded ecosystem service i.e. can fulfil the contract. The contract might become invalid if, for instance, the service supply cannot provide the demanded good due to a change in exogenous factors ex post of the contract agreement. As a result the land user might not be remunerated for his hard work because he could not comply with the contract or the contract is adapted to the change in the exogenous environment.

As discussed before, it is assumed that civil society initiatives act more flexibly and can adapt their governance structures better and faster to changing conditions in a dynamic environment. Hence, they can also react quickly to parametric uncertainty.

However, what is important is the trust the involved stakeholders have that the contract will be adapted ex post as soon as parametric uncertainty comes up. This holds especially true with complex ecological goods and their services being strongly dependent on exogenous factors like weather conditions and etc. The service supplier has to trust the service buyer that contracts will be adapted ex post if the demanded service cannot be delivered due to exogenous factors.

It can be assumed firstly that the trust among stakeholders is particularly high if civil society initiatives are involved. Civil society initiatives have the advantage of having a clear motivation, which in most cases will not be distrusted. In contrast, governmental initiatives do not always have a clear motivation and are often not transparent, especially when the governmental player is in multiple and contradicting principal agent relationships simultaneously (Beckmann, 2008: 189ff). The principal as well as the agent is likely to withhold information, hence reinforcing the problem of asymmetrically distributed information.

It can be assumed that land users consider civil society initiatives as upholding high intrinsic motivation. Their motivation for remunerating ecological services appears to be traceable and comprehensible. In contrast, governmental initiatives are often not transparent and governmental measures are often assumed to hold some political pressure. In particular with respect to environmental goods and services, a high intrinsic motivation on behalf of non-governmental initiatives is conjectured as a basis for action.

Furthermore it can be expected that civil society initiatives designing and/or implementing PES deals in close cooperation with all relevant stakeholders (or direct participation of all stakeholders) would also foster a relatively high degree of mutual trust.

Theoretical assumption: Stakeholders have faith in civil society initiatives, which are assumed to act due to high intrinsic motivation. Furthermore, stakeholders are confident that contracts will be adapted to changing circumstances ex post.

Monitoring and inspection costs

Monitoring and inspection costs increase due to asymmetrically distributed information between the service provider and service buyer. Investment in monitoring and inspection is needed to guarantee that the contracted ecosystem service is actually provided. Monitoring and inspection costs can be considerably high particularly for complex ecosystem services and goods.

More regionally focused PES instruments help in measuring the success of the chosen instruments and hence foster any monitoring and evaluation processes. This, finally, helps to correct and adapt the chosen PES scheme continuously (WWF Deutschland 2001).

As mentioned, monitoring and evaluation of schemes and their results can be difficult or prohibitively expensive with respect to complex ecosystem services and goods. Mutual trust between the relevant stakeholders is particularly important for ecosystem services whose service productions are hardly measureable in qualitative or quantitative terms. Contract fulfilment, i.e. delivery or protection of the demanded ecosystem service is hardly verifiable. Trust among stakeholders, which could be established for instance through “kinship” or direct cooperation and contact to the reference group, is likely to be generated through civil society initiatives with participatory approaches (vgl. Ostrom 1993).

Tenbrunsel and Messick (1999) noticed that an increase in surveillance and monitoring might even decrease compliance. They reasoned that a reduction in perceived autonomy on the part of the service provider diminishes adherence to the criteria and standards. According to Ward and Lowe as cited by Vatn (2001) participation and attendance of acting stakeholders during the design and implementation processes of PES schemes might lead to improved results, as a common and shared understanding of the set aims is triggered.

In complement, Vatn (2001) argued that deviations from the target achievement or any non-compliance in the PES schemes are due to the implementation of the wrong or inadequate incentives. “This kind of ‘perverse’ action may follow from the fact that the incentive used does not follow the logic of the situation as conveyed by the agent”(Vatn, 2001:8).

Civil society initiatives with a regional focus and participatory processes in their designing and implementation processes of PES deals are well-suited to adjusting incentives to the moral concepts of the involved land users.

4. Research Strategy

Based on the theoretical assumptions formulated in chapter 3 the research questions will now be derived.

According to the precedent discussion it can be assumed that both a regional focus as well as direct participatory approaches that embed relevant land users in the design and implementation of the PES schemes helps to reduce asymmetrically distributed information and hence transaction costs.

My aim at the completion of this thesis is a cumulative dissertation with three publications. The focus of the dissertation goal is centred on civil society initiatives and how they design and implement PES schemes. Do civil society initiatives actually use their advantages to decrease transaction costs?

The research proposal will be discussed in more detail below.

4.1 Research Design

Research Questions		Methodology
• Strength and weaknesses of non-governmental initiatives during the design and implementation processes of PES schemes • How and where can non-governmental initiatives help to decrease asymmetrically distributed information and transaction costs?	Generation of further research hypothesis	Literature review Linking of the New Institutional Economics Theory (NIE) – with the focus on transaction costs and civil society research
• Which ES are targeted by civil society initiatives? • At what geographical scope do civil society initiatives operate? Local, regional, national?	Establishing an example pool of PES stemming from England and Wales, Germany and the US. Generation of further research questions.	Data bases (Maecenata and Bundesverband Deutscher Stiftungen; Charity Commission; U.S. Foundation Center und Guidestar U.S.) Online Survey Document analysis QCA to generate further research questions
• Which governance structures are exerted by non-governmental initiatives? • Which governance structures are particularly successful and effective?	Case Studies (approx. 10 Cases)	Contrasting case comparison Expert interviews Grounded Theory

The first two parts will be used to develop further hypotheses, which will mainly be based on the further literature review and the appraisal of the PES data pool. The third part focuses on the applied governance structures based on a detailed case study appraisal.

4.2. Civil Society Initiatives and the New Institutional Economics

The first part of the dissertation proposal focuses on non-governmental particularly civil society initiatives from a new institutional economic perspective.

What advantages do civil society initiatives have with respect to the design and implementation of PES schemes? What are their strength and weaknesses? What are – at least

from a theoretical perspective – the characteristics of ecosystem services that are particularly good targets for civil society initiatives and why? How important are transaction costs and how can they be reduced?

The institutional economics discussion with respect to transaction costs and principal agent theory as well as the explanation on civil society initiatives and their potential to decrease transaction costs will be based preliminarily on a literature review. The discussion shall then complement the disquisition on ecosystem services and payments for ecosystem services. Which ecosystem service can be targeted by civil society initiatives and how can transaction costs be reduced? This part will also be based on a literature review. It is expected that ecosystem service characteristics, which are strongly related to transaction costs will be identified here. Furthermore I expect that possible governance structures, which are somewhere between the theoretical ends of market and hierarchy will also be identified.

4.3. Identification of ES

The second part of this dissertation proposal focuses on ecosystem services targeted by civil society initiatives. What ecosystem services are often targeted by civil society initiatives? Do civil society initiatives operate most commonly on a local scale, or rather regional or national scale? Do the targeted ecosystem services correlate with the ecosystem services that – from the theoretical discussion – are particularly well targeted by civil society initiatives?

The data pool of relevant civil society initiatives involved in designing and implementing PES schemes, which will be established by the CIVILand team, will provide data for testing the research questions.

Identification and inventory-taking of civil society initiatives involved in designing and implementing PES schemes will be revealed via the appraisal of data bases of civil society initiatives (Germany: Maecenata and Bundesverband Deutscher Stiftungen; Great Britain: Charity Commission; USA: Foundation Centre and Guide Star). Furthermore other relevant players will also be identified with help from our board of partners. Relevant actors will be contacted in request for naming relevant initiatives dealing with PES instruments. A multi level network is hoped to be established this way with further actors contacted (pyramid scheme). In Germany and England and Wales only a few actors using positive financial

incentives to remunerate ecosystem services exist. It is therefore expected that a saturation of mentioned actors will soon be reached.

An online survey and telephone survey will be conducted to obtain information for the project and potential relevance for our research proposal. Thus, a “pool” of potential case study examples will be developed, revealing also the quantitative importance of PES schemes from civil society initiatives.

The data pool will then be used to investigate which ecosystem services are targeted by civil society initiatives and the geographic scope at which they operate (local, regional, national etc.).

4.4. Examination of governance structures

The third part of this dissertation proposal focuses on governance structures. Which governance structures are implemented by civil society initiatives for the design and implementation processes of PES instruments? How do the traits of the ecosystem services and the characteristics of the involved stakeholder influence the chosen governance structures? Which governance structures appear to be particularly efficient and successful?

Research will be conducted on a case study basis. The different case study regions will not be compared (i.e. Germany, England & Wales and the United States) but instead a selective sampling of case studies regardless of their geographic origin will be conducted. Selective sampling refers to an approach where case studies are not chosen randomly. Instead, case studies that are expected to reveal the most relevant information will be looked at in more detail (Truschkat et al., 2005). Desk research will help in identifying the relevant case studies. Well performing and not so well performing case studies will be compared and contrasted with respect to the origin, motives, values and moral concepts of participating stakeholders and how their success is influenced.

Grounded theory will be used to justify theoretical assumptions regarding trust, moral concepts and motives of the acting stakeholders. Expert interviews will be conducted with acting stakeholders of non-governmental initiatives as well as land users.

The methodology that will finally be used for data collection and data exploration is yet to be determined and worked out.

5. Time Schedule

	2009		2010				2011				2012				2013	
Publication I																
Discussion on civil society initiatives																
Discussion on new institutional economics																
Concept ecosystem services																
Concept PES																
Publication writing I																
Publication II																
Identification of relevant stakeholder																
PES pool generation																
Data inspection																
Publication writing II																
Publication III																
Selective sampling of case studies																
Expert interviews																
Case studies																
Exploration of case studies																
Publication writing III																
Dissertation																
Introduction and conclusion																
Final version																
Great Britain																
USA																

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