



Markets in environmental governance. From theory to practice



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ABSTRACT

The aim of this paper is to clarify what is meant by ‘markets for ecosystem services (ES)’. The defining characteristic of markets is interaction through trade. Two main dimensions are identified as basis for classifying markets in ES. Firstly, we have markets with and without intermediaries. Secondly, some markets for ES are created by defined liabilities like caps on emissions while other trades come about voluntarily. Altogether six forms of markets are identified, with two being incomplete. The paper also offers an analysis of the most important existing markets for ES using the developed classification. Regarding payments for ecosystem services (PES), most are not markets, not even incomplete. This is so as most resources are raised through taxes or fees – command not trade. Moreover, most payments are best characterized as subsidies. Cap-and-trade systems like those for carbon qualify as markets, but depend crucially on the politically defined cap. Moreover, it is this cap that protects the environment. While the idea with markets in ES is to ‘escape’ command and control, it is observed that C&C is essential for these markets to work.

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1. Introduction

The growing importance of carbon trading, biodiversity offsets, payments for ecosystem services etc. are examples of what may be seen as increased confidence in markets as the best way to handle environmental problems. They are seen as more efficient than traditional command and control policies – e.g., Pagiola and Platais (2007). The expected capacity of markets to create more resources for protection is another argument for their expansion. While a highly supported turn by many, we also observe that it is a contested development (e.g., Spash, 2011). This is reflected moreover in recent debates regarding increased use of markets in relation to biodiversity protection (e.g., COP 10, 2010).

A starting point for this paper is that the distinction made between market-based instruments and command and control – between markets and state – seems misconceived. The root to this problem appears to be the lack of a clear distinction between *actors* and *systems for interaction* between actors. Moreover, the way the issues are framed results in underestimating the role of the collective – the state – in creating and maintaining markets as well as an overestimation of the role markets can play in ensuring delivery of services/protection of habitats.

This paper is therefore motivated by a need to clarify the concepts we use when describing various markets or ‘market like’ phenomena. The aim is firstly to develop a classification scheme of various forms of

markets for ecosystem services¹ including an analysis of what can be termed market transactions and what cannot. Secondly, I will analyze a series of existing systems for transacting in ecosystem services. Here I ask which of them can be described as trades and what types of markets dominate. I also aim at presenting potential explanations concerning the observed distribution between categories. I finally aim at clarifying the main capacities respectively limitations of markets for delivering or protecting ecosystem services.

2. Governance Structures

Before I start on developing the classification scheme, a conceptual framework is needed. I will use the concept of a governance structure as a basis for my undertaking. It can be defined in the following way – see also Vatn (2011):

- The *type of actors* involved, characterized by their goals/motivations, capacities, rights and liabilities;
- The *institutional structures facilitating the interaction* between the actors.

The literature emphasizes that governance is more than government as it includes a wide variety of actors and forms of interaction (see Lemos and Agrawal, 2006). To understand how markets may

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¹ I note that the concept of ecosystem services is controversial as it directs the attention toward individual preferences/anthropocentric values only (e.g., Spash, 2009). While an important issue in itself, it will not be explicitly discussed in this paper.

function – what may distinguish markets from other governance structures and different types of markets from each other – a typology of actors and interaction formats is necessary.

Starting with types of actors, one may distinguish between public bodies/agencies – both national and local – firms, non-governmental organizations (NGOs), inter-governmental organizations (IGOs), communities and individuals. From a governance perspective, the various actor types are seen as characterized by specific goals and by certain capacities and competencies. Looking at goals or motivations, we observe great variation across actors – e.g., a public body is ideally seen as an organization to support the interests of its constituencies; a firm serves the interests of its owners through maximizing profits; an NGO typically serves a mission reflecting its cause/the interests of its members. Regarding capacities, actors are partly defined by ‘physical’ and partly by institutional factors. The former refers to resources like access to various types of capital. The latter refers to the rules that govern internal decision-making and the relations to the external world (Scott, 2008; Vatn, 2005).

Regarding internal decision-making, we observe that both public bodies and firms are command systems (e.g., Williamson, 1999). NGOs and IGOs may be similarly defined if we focus on the running of their secretariats. Actors are moreover defined by their relations to the external world – their rights and liabilities. Rights specify areas of autonomous choice for actors while liabilities define limitations to such choices – what cannot be done or what has to be done.

Actors interact with other actors. These interactions may be characterized as commands – implying that an actor has the right to direct actions of other actors. Trade, on the other hand, is a voluntary transaction of exchanges undertaken between (formally) equal parties – typically in the form of goods and services exchanged against a payment. Certainly, the distribution of rights to resources – an act of command – forms the basis for all trades. Yet other formats are norm-based interactions like reciprocal arrangements. We also observe gifts and donations as important forms – e.g., Sahlin (1999). These other formats are less formal than both commands and trades.

3. Classifying Markets for Ecosystem Services

Turning to the development of a classification system for various forms of markets involved in governing ecosystem services, I start by drawing a line between market and non-market structures.

3.1. What Is a Market for Ecosystem Services?

A market is a constellation of actors involved in trades over specific goods or services. Trades are moreover characterized by being voluntary transactions. Some define markets as a place where goods are exchanged at fixed prices (Schotter, 1994) defining markets as competitive. I will, however, define markets by the format of the interaction only – whether it is a trade or not. This way I want to emphasize the specific motivations involved through the characteristics of the interaction. I moreover note that the competitive market is a purely theoretical structure – assuming standardized commodities and zero transaction costs. Making this a basis for defining markets in ecosystem services circumvents core challenges that markets may face in this field.

Regarding our field of enquiry, I note first of all that many ecosystems/ecosystem services are idiosyncratic. Hence, if market transactions are at all relevant, there may only be one seller, and actors are not price takers.² While maybe markets for ecosystem services are somewhat extreme in this respect, the logic of the transaction is the same as in more competitive circumstances – i.e., to realize a net gain through trade.

² The Coasean ‘situation’ (Coase, 1960) – where the trade was between one cattle rancher and one crop farmer – is seen as an archetype example of markets in environmental ‘services’. It cannot be termed a market transaction, if we follow Schotter.

Due to high transaction costs, there may also be only one buyer as buyers may typically make joint action – e.g., a community buying water services from up-stream land-owners.

Ecosystem services are difficult to commoditize – e.g., Muradian and Gómez-Baggethun (2013). Not only are they often idiosyncratic, they typically exist as interlinked processes. Hence, demarcating them – drawing boundaries – is haunted with problems. This may make it difficult to trade or trades have to be made on the basis of proxies like land area under a certain practice etc. The situation will anyway make the costs of transacting high. The latter will also be influenced by the fact that ecosystem services are common goods and hence receivers are typically many.

I use here common goods as a wider concept than that of public goods, including also common-pool resources (Ostrom, 1990). This means that ecosystem services may be both rival and non-rival. Certainly, there are situation where also exclusion is possible. Nevertheless, the dominant situation is that of high exclusion costs. This observation is important also due to its motivational impacts – e.g., the issue of free-riding.

Finally, there is a need to comment on the question of trades being per definition voluntary. Everyone that involve themselves in a trade has a basis from which they can do so. They have ownership rights to certain resources over which they can trade. I have already noted that ecosystem services are difficult to demarcate. They are moreover typically deteriorated or sometimes even destroyed as side-effects of the use of owned resources. As evolving phenomena, rights or liabilities for such side-effects do not exist at the outset. This points toward two different settings for trading – one based on actors taking responsibility for changing the delivery of environmental service without being formally liable to do so, and one based on a defined liability. In the case that trade is involved, I note that the basis for acting voluntarily is very different in the two cases. I will return to this issue.

We should also note that an actor’s opportunity set influences what trades it may have to engage in – e.g., Macpherson (1973) and Bromley (1989). Poor people may be forced to sign contracts that people with more income/resources could avoid. While trades are between formally equal parties, the level of freedom to choose may vary substantially.

3.2. A Simple Classification

Seeing markets as a governance structure implies focusing classifications on the type of actors involved and the format of their interactions. I will start with the simplest structure possible; one with buyer(s) and seller(s) trading directly with each other over a (bundle of) good(s) or service(s). This governance structure – GS1 – I will term a direct market and can be depicted as follows:

GS1–Direct market : Buyer(s) ^{a)} ⇌ Seller(s).

This is a market if the interaction a) is a trade. In our case a simple example could be a farmer paying beekeepers to place beehives close to his/her fields to ensure good pollination.³ Note, however, it will be a market independent of who the buyers are – whether they are individuals, firms, public bodies etc. It is exactly here that the literature is confused when making distinctions between market and state.

If a state operates as a buyer – e.g., trade with forest owners over protection activities – the format of that interaction defines whether we can talk about a market or not. States do not only command. If the state organizes its interaction with others as an auction, a trade is constructed. In addition, arrangements where the state or public body negotiates a contract with somebody delivering a specified service –

³ Trades may be facilitated by a broker. As opposed to a trader – who makes trades him/herself in the product – a broker does not. Hence, I define a trade between a buyer and seller as direct as long as there is no intermediary trade in the good/service.

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