Chapter 1
Institutional Framework for Analyzing Sustainability in European Agriculture and Rural Areas

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ABSTRACT

The aim of this chapter is to develop an institutional framework for analyzing and improving sustainability. More specifically we discuss (i) developing a framework that consists of different institutional levels and a set of indicators for measuring the relevant features of each institutional level; (ii) investigating what are the dimensions of sustainable agriculture and rural development and related suitable indicators; (iii) the relationship between the institutional framework and sustainability; finally (iv) we tried to design better institutions for improving the sustainability in agriculture and rural areas. The chapter also underlines the relevance of looking at sustainability in a more empirical way. It strongly emphasises the necessity to support the theoretical approach with the use of indicators and reference levels. More specifically, the chapter indicates general and more comprehensive typologies of indicators that are commonly used to evaluate sustainability and sustainable development in agriculture and rural areas.

INTRODUCTION

Both institutions and sustainability are concepts with different interpretations. Institutions are very important to the triptych of economic, environmental and social dimensions of sustainable development. Many studies on sustainability or sustainable development (which we treat as synonyms) consider the institutional structure to be exogenous (cf. Schleyer et al., 2007: 13-16).

DOI: 10.4018/978-1-60960-621-3.ch001

In the case of markets the problem then becomes one of 'getting the prices right' so that agents will behave in a 'correct' (i.e., efficient and sustainable) manner. *Getting the prices right* follows logically from the prior problem of *getting the institutions right.* However, institutions are not always right (cf. Bromley, 1999: 3).

Given the complexity of institutions we need a framework that not only presents the different levels of institutions and but also the indicators for measuring the performance of these levels linked to sustainablity. This framework will be used for analyzing the role of institutions in getting a sustainable agriculture and rural development.

Despites his broad concept sustainability has become one of the main point in the policy-makers agenda, especially in the field where "natural resource use" is strongly implied (i.e. agriculture and rural areas). For example, the aim to enhance a sustainable agriculture is one of the foundations above which the rural development policies have been developed in the European Union in the last two decades.

The phenomenon sustainability encompassing three dimensions: economic, social and environmental. On the one hand these three dimensions of sustainability are complementary and to some extent overlapping. On the other hand, there are also trade-offs. For example prices of inputs and outputs do not always include the costs of the environment, and farmers do not always take into account the harmful environmental externalities that their activities cause. Further farmers can have insufficient knowledge about the effects of their activities on the environment and the use of natural resources.

The purpose of the Chapter is to develop an institutional framework for analyzing and improving sustainability in agriculture and rural areas. Our reasoning is settled in the European context even if some implications could be drawn for other socio-economic contexts (e.g. LDC).

This paper proceeds as follows. In Section 2 we present the institutional framework. Indicators to measure the quality of institutions are presented for each levels. Section 3 investigates what are the dimensions of sustainable agriculture and rural development and what potential indicators. Section 4 is oriented on designing better institutions for improving the sustainability of European agriculture and rural areas and the environmental dimension of sustainability. Finally in Section 5 we provide some concluding remarks and recommendations for further research – including informatics - in this domain.

THE INSTITUTIONAL FRAMEWORK

Figure 1 shows the institutional framework. This Figure is partly based on Williamson (2000: 297), but there are some important differences specific for this Chapter. The main difference between our framework and Williamson's is that we add a level the 'incentives structure' distinguishing between them and the resource allocation decisions. These incentives can be based on rewards or punishment and on intrinsic or extrinsic motivation. *Intrinsic* or internal motivation is internal to the individual concerned and involves for instance the pleasure one gets from a task itself or from the sense of satisfaction in completing or even working on a task. *Extrinsic* or external motivation are monetary incentives, a grade for students, career concern, rules (of law), or direct order (as in a hierarchical governance structure). The incentives can continuously be changed, and when taken together with other levels, they are very important for the economic outcomes, but also for sustainability. For that reason we add this level. The third column gives an overview of the theories that are relevant at each institutional level.

The fourth column gives the purpose of the institutional levels. At all levels we have to deal with asymmetric behaviour, bounded rationality, opportunistic behaviour and how to achieve credible commitment. The relevant theories give insight into how we can reduce or avoid the negative