NATIONAL GOVERMENT, LOCAL NORMS AND COMMUNITY: A COMPLEX EQUATION FOR ENVIRONMENT IMPROVEMENT. THE CASE OF SIERRA DE SANTA MARTA

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Several natural resource systems, such as forests and river basins, are complex systems. They produce multiple goods and services, each of which has its own set of inputs and outputs in its production, and the production of goods is often non-linear. Andersson and Ostrom (2008) underline that such complexity challenges any attempt to create institutions to manage natural resources, especially those that propose free-market privatization, top-down centralized control, or bottom-up decentralized control as the ''only'' way to organize (Ostrom 2007). Also, many environmental goods are common-pool resources, which are sufficiently large that excluding potential beneficiaries from using them for consumptive or non-consumptive purposes is non-trivial, and each individual consumptive use reduces the resource units that are available to others (Ostrom et al., 1994). As Andersson and Ostrom (2008) remarked, without effective institutions to limit who can use diverse harvesting practices, highly valued, common-pool resources are overharvested and destroyed.

This paper refers to community control over common-pool resources, especially to the evolutionary process of norms and rules creation, in the perspective of Ostrom's Institutional Agenda, by which the author proposes move from touting simple, optimal solutions to analysing adaptive, multi-level governance as related to complex, evolving resource systems. This agenda is adopted also in the perspective of Page (2010) to whom complexity can be loosely thought of as interesting structures and patterns that are not easily described or predicted. Systems that produce complexity consist of diverse rule-following entities whose behaviors are interdependent; interact over a contact structure or network and often adapt by learning in a social system.

This learning process is quite important for the analysis of public policy and programs which objectives are to protect and to improve eco-regions or areas where communities have their social, cultural and productive lives. In this scenario the conflict is always potentially present in virtue of the tendency of government departments or ministries to ignore community norms of access and use of common pool resources. The tendency to create protected areas, without the participation of the population that is directly linked to them it is one of its major consequences. But as Bray et. al (2005) noted, community management in a variety of forms – direct ownership, government concessions, or other long-term co-management arrangements – has the capacity to be as effective or, under certain conditions, more effective than government ownership.

In the case of the Sierra de Santa Marta, Veracruz, Mexico, which is part of "Los Tuxtlas" biosphere reserve created by federal government law and under its responsibility, it is possible to analysis the impacts of central decisions in communities with high proportion of native populations, nahuas and popolucas, which have its own norms of access and use of environmental resources, and suffer deprivation and exclusion.

One of these impacts is local conflicts, but also, creative answers in areas not official protected but important for the ecological equilibrium of its social live areas. The aim of this paper is to review these local forms of organization, like the peasant reserves in

communities of Pajapan and Soteapan or the protection given to areas in process of bio-regeneration (acahuales) in the basic rural organization of Mexico, the ejido, in Mecayapan, and to analysis the government responses to these communities. All this, in line with Campbell et. al. (2006), who established that simple solutions do not exist for managing complex ecologies, and with Ostrom (2008), who remarks that institutional theorists need to recognize what ecologists recognized long ago: the complexity of what we study and the necessity of recognizing the non-linear, selforganising and dynamic aspects as well as the multiple objectives and the spatial and temporal scales involved in the ecological preservation and equilibrium question.