
Analysis of the citizen's participation concept used by local decision makers: the case of the Aysén watershed in southern Chile

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Abstract: Citizen participation has become a commonly used term in political speeches in the last two decades, especially in relation to sustainable development and the environment. Indeed, several documents related to environmental management propose that the best alternative is through all citizens' participation. However, participation may have different meanings for different people. In this context, we analysed its meaning for local decision-makers in the southern Chilean region of Aysén and how it affects their view of local development. We interviewed key informers belonging to public services in charge of the environmental management of the Aysén watershed. Interviews were subsequently analysed through qualitative content-analysis techniques. Our results show that public services understand citizen participation as 'information'; i.e. the public is a passive receptor of information generated by the government. We propose that this understanding of participation does not allow for the integration of social actors, with negative effects on local sustainable development.

Keywords: eco-social studies; participation; qualitative methods.

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1 Introduction

1.1 *Social actor's perception and ecological systems*

'Citizen's participation', especially as related to sustainable development and environment, has gained a lot of momentum on political discourses, even in spite of a high diversity of definitions (Fraser et al., 2006; WCED, 1987). Indeed, environmental policies have increasingly incorporated social actors' opinions (Holmes and Scoones, 2000). During the Río 1992 summit some key issues were established within the framework of Agenda 21, one of which proposes that 'the best way to deal with environmental issues is with the participation of all concerned citizens, at its appropriate level'. In 1994 Chile passed its Law on the Basis on the Environment (Law No. 19300, 1994), incorporating citizen's participation as one of its central elements. Article 4 of this law establishes that: 'it is the duty of the state to facilitate citizen's participation and to promote educational campaigns with the purpose of protecting the environment'. Three years after, mechanisms for participation and environmental impact assessment (Sistema de Evaluación de Impacto Ambiental, SEIA) were established. In addition, governmental agencies related to environmental issues generated participation mechanisms such as participative reforestation plans and training courses.

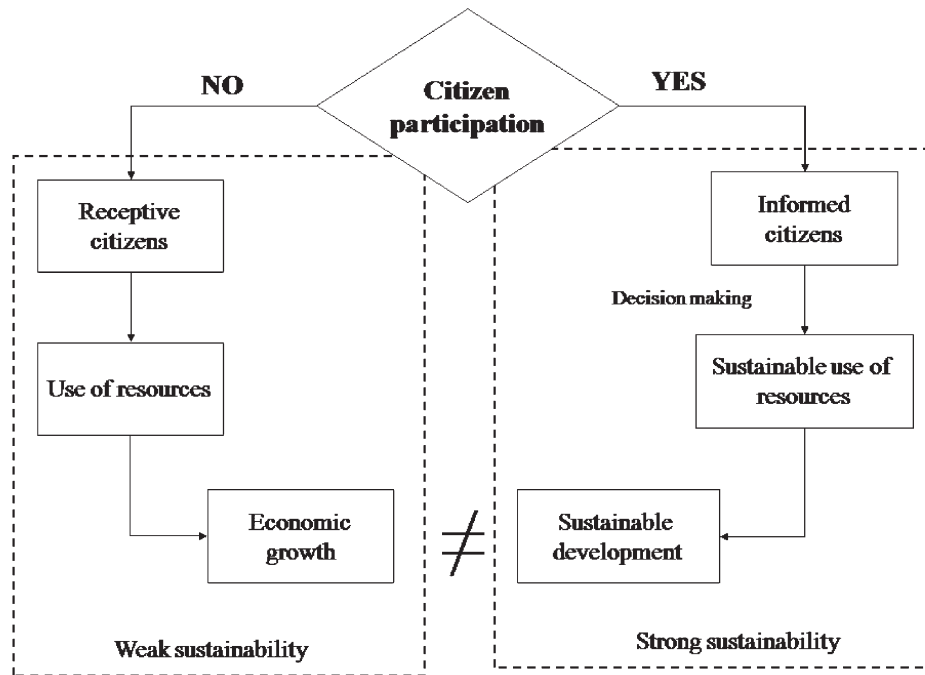
The incorporation of social actors at the planning and decision-making stages of environmental planning is vital, due to the observer-dependent nature of concepts such as ecosystem, natural environment and ecosystem services (Marín, 1997; Marín et al., 2007). Indeed, this conceptual diversity can be considered as an important source of complexities when it is applied to environmental impact and conflict analysis (Castillo et al., 2005; Holling, 2001; Sabatini, 1994). Consequently, citizen's participation requires that social actors (e.g. civil society, enterprises, governmental agencies) should be well informed and organised such that they can participate in an equitable way in the decision making process. This 'effective' (informed) participation is vital when attempting to implement strategies such as ecosystem integrated management (Pirot et al., 2000; Salomons et al., 1999). This is especially important if those strategies will form the basis to transit from a weak¹ to a strong² sustainability (Figure 1). Indeed, the current Chilean condition is one of weak sustainability, which seems to be the result of the capitalist economic development model, widely implemented in Latin America and strongly based on the exploitation of natural resources and weak environmental policies (Moulian, 2002).

In the absence of participation of the civil society, citizens become receptors lacking opportunities for decision making. In order to generate effective participation, citizens have to be informed in such a way that they can focus their demands to the decision makers

This wide variety of ecosystem-related concepts and the effects of the diversity of perceptions among social actors have been included within the postnormal-constructivist approaches to ecosystem analysis (Haag and Kaupenjohann, 2001; Marín and Delgado, 2005; Ravetz, 1999; Tognetti, 1999). However, accepting postnormal approaches implies that a key step in ecological-environmental research is to gather information about social actors' perceptions and, consequently, tools and techniques developed within the social sciences may indeed play an important role in ecological-social research. For the purposes of our work, we have used the PHES-system (Physical-Ecological-Social system), instead of ecosystem, as the key concept (Marín et al., 2007). A PHES-system is a spatially

explicit ecological system for which limits and components (with the exception of human societies that, by definition, belong to every PHES-system) depend upon the questions being asked and the people that ask them.

Figure 1 Citizen's participation conceptual model



1.2 On the definitions of participation

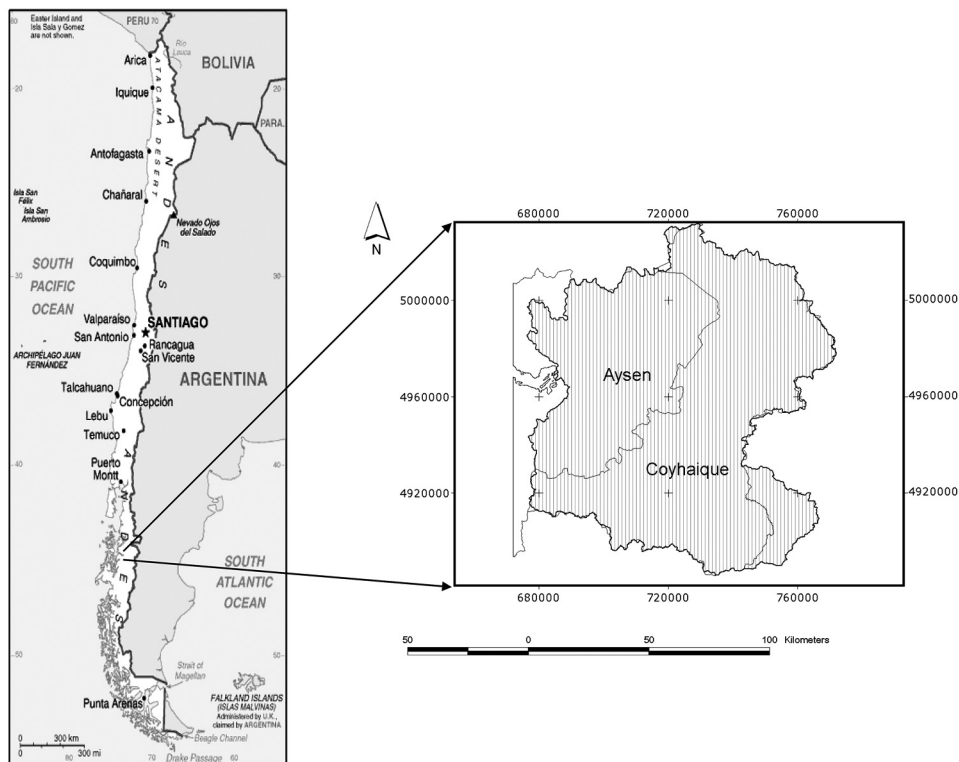
The concept of 'citizens' participation' has been the target of multiple interpretations since the seventies (e.g. Cohen and Uphoff, 1977; Schneider and Libercier, 1995; World Bank, 1995). Most of the available definitions emphasise two interconnected actions: dialogue and all actors' decision making. Cohen and Uphoff's definitions have, in fact, been the most influential, ranking from a consultation process all the way to joint-planning or 'empowerment' (FAO, 1999). Other definitions (e.g. Jimenez and Mujica, 2003) propose that citizen's participation can be understood as playing an active role in all aspects of the so-called 'public sphere' or as a gradual process in which citizens are integrated, either individually or collectively, in decision making, control and work on public affairs including political, economic, social and environmental issues (Korc and Maisonet, 1999). Finally, broader definitions mention that participation implies involving all interested people in all stages of a project from design to evaluation (Brown and Wyckoff-Baird, 1992), reversing the classical 'top-down' or 'bottom-up' participation (Fraser et al., 2006). Considering this range of possibilities, the definition of participation to be adopted by decision makers, will affect the outcome of environmental management plans. This is especially critical in areas such as Southern Chile (see Section 2 below) where there is still a strong relationship between society and nature. The main objective of this work was to investigate what participation concept is utilised by governmental organisations related to

environmental issues in the area of Aysén in southern Chile. We analysed the issue of participation in relation to a specific dimension: governance for sustainable development. Our results show that public services understand citizen participation as ‘information’; i.e. the public is a passive receptor of the information generated by the government. We propose that this understanding of participation does not allow for the integration of social actors, with negative effects on local sustainable development.

2 The watershed of the Aysén river, XI Region, Chile

This research was part of the eco-social component of the ECOManage Project (Sixth Framework Programme, European Commission). One of the targeted geographic areas within this project was the watershed of the Aysen River (45°S) in southern Chile. This watershed, belonging to the XI political region of Chile, has a surface area of 11,456 km², divided into two counties: Puerto Aysen and Coyhaique (Figure 2). This represents the third largest region of Chile having, at the same time, the smallest population size (91,492 inhabitants; INE, CENSO 2002); with a population density of only 0.8 inhabitants/km². Nearly 80% of the total regional population lives within the watershed of the Aysen River.

Figure 2 Geographic area of analysis. The small area corresponds to the counties of Puerto Aysén and Coyhaique



The main basis (almost 90%) for the development and subsistence of this region is the utilisation of natural resources. Consequently, there is a lot a pressure for the commercial use of the natural elements (e.g. native forest as wood, prairies for grazing) of the Aysen watershed. Indeed, salmon farming both within the watershed (production of juveniles) and within the fjord is the second largest in the country. On top of those activities, eco-tourism and artisan fisheries also contribute to the utilisation of natural resources. It is easy to anticipate, given the variety of commercial activities and uses of resources, the occurrence of conflicts of interest among social actors. However, although integrated watershed management is urgent, including the effective participation of all social actors involved, it has not yet been implemented.

3 A diagnosis of the citizen's participation concept used by public services from the XI Region of Aysen.

We conducted formal, individual, semi-structured interviews with the goal of understanding the meaning of citizen's participation utilised by public services of the Aysen region. Interviews were arranged with 'key informants', defined as persons that, due to their profession, activity or position within a community, can provide pertinent information about a given societal activity or dimension (Sánchez, 1996). All interviews followed a specific sequence, based on four main lines (Table 1). A total of 13 interviews were conducted, nine of them with public services related to environmental issues and four with other organisations of the civil society (Table 2). Although the number of informants was not large, they comprised the main social organisations (60%) and public services (50%) related to environmental issues within the Aysen river watershed.

Table 1 Main lines considered in the interview of key informants

<i>ECOMANAGE</i> <i>interviews</i>	<i>Citizen's participation</i>
Target audience	NGOs and governmental organisations from Coyhaique and Puerto Aysén.
Date	November 26th–December 4th 2005.
Participation programmes	This first part was dedicated to learn whether public services related to environmental management and NGOs have citizen's participation programmes as part of their activities. Questions were aimed at defining the main characteristics of those programmes, including the participation concept used and the target audience.
Methodology	Corresponded to the second part of the interview. It was dedicated to inquire on the methodology of the participation programmes, how the community is involved and what is the role of the respective agency or NGO in relation to environmental conflicts.
Evaluation	The objective of this phase was to gather information on the methods used to evaluate participatory activities, including asking about self-evaluation procedures.
Conclusions	This final phase of the interview consisted of a general question about the visions of the interviewed people about citizen's participation in Chile.

Table 2 Interviewed organisations

<i>Public organisation</i>	<i>City</i>	<i>Position of the interviewee</i>
CONAMA	Coyhaique	In charge of environmental education and citizen's participation
DGA (MOP)	Coyhaique	Regional director
CONAF	Coyhaique	Regional director
SAG	Coyhaique	In charge of soil recovery programme
Seremi Agricultura	Coyhaique	In charge of agriculture programme
Municipality	Coyhaique	In charge of environment programme
Municipality	Pto. Aysén	In charge of environment programme
Municipality	Pto. Aysén	In charge of community organisations
SERNAPESCA	Pto. Aysén	In charge of artisan fisheries
<i>NGO</i>	<i>City</i>	<i>Position of the interviewee</i>
Agrupación ecológica	Pto. Aysén	Secretary
CODEFF	Coyhaique	Director
Sindicato No. 1 of women	Coyhaique	President
CODESA	Coyhaique	President

Notes: CONAMA: National Commission for the environment, Chilean Government.
 DGA: General Water Directorate, Chilean Government.
 CONAF: National forestry Corporation.
 SAG: Agriculture and Cattle Service.
 SERNAPESCA: National Fisheries Service.
 Agrupación ecológica: Ecological organisation 'Nacimiento del Cóndor'.
 CODEFF: National Committee for the defense of flora and fauna.
 CODESA: Private Corporation for the development of Aysén.

Interviews were tape-recorded and transcribed to document files for their subsequent analyses. The analytical phase was done using the software Atlas.ti, using a content analysis methodology based on 'grounded theory' (Glaser and Strauss, 1967). This qualitative research method is used to generate a theory about a given phenomenon based on interpretative and coding procedures (Iñiguez, 2004). The analytical strategy is mostly based on coding, understood as a data conceptualisation and interpretation technique (Strauss, 1987) of how the researcher perceives the speech of the interviewed, through which raw data are systematically transformed into discrete units called codes (Hostil, 1969). The creation of codes is initiated by reading all transcribed documents, highlighting sentences (citations) or paragraphs relevant to the issue of the interview (Table 1). During this phase, 677 citations were created. They were grouped into 45 codes or key concepts, summarising with one or two words one or more citations. In the final phase, codes were used to generate conceptual models graphically showing the position of the interviewees in relation to citizen's participation regarding environmental problems.

4 Analysis of social capital

Social capital is a concept reflecting citizens that have acquired a mature democracy and a dynamic socio-economy through their participation in collective issues. Putnam (1993) has defined it as a set of intangible characteristics of a community (e.g. association density, levels of trust, etc.) that are useful to explain its institutional, economic and social performance. Thus, the development of participation based on social capital not only serves the purpose of generating specific services or as a way to legitimise citizens' decisions. It also helps to promote conducts and attitudes, such as development with sustainable goals.

Consequently, effective, informed, participation requires that a certain level of social capital (e.g. organised civil society) be present. Thus, we analysed in a quantitative way the organisation of the population in the studied area. Furthermore, we also analysed the potential of this capital for incorporating environmental issues. We requested the information available in the register of social organisations of the local government. We analysed the percentage of the population participating in these organisations and the activities that they perform. Organisations were classified into three main groups:

- functional organisations
- community organisations
- syndicates.

Functional organisations are understood as the set of social groups such as workshops, clubs, committees and mother's organisations, etc. We considered organisations both in urban and rural areas. In the case of Puerto Aysen, we only had access to data of sport clubs. When analysing data from organisations we included gender considerations.

5 Results

Results of the interview content analysis showed that the code Environmental citizen's participation (Environ-CP) was identified through four elements:

- training
- consulting
- education
- information.

This concept represents one of the most important codes within our analysis. Local public services identified, mostly, the first three elements. Societal organizations, on the other hand, focused on education and information (Figure 3). This code was applied to 46 citations, all containing at least one of the four elements. The code was created from answers to the question: ¿how is citizen's participation defined within your activities as public service or social organisation? When constructing the code, we utilised sentences (citations) such as: 'citizen's participation within environmental impact studies means to show them the law and the project from the specific industry and they (the community)

make comments about the way they are affected by the project'. One interpretation from this citation is that citizen's participation regarding environmental issues is related to conveying information to the community.

Figure 3 Comparison between the theoretical concept of citizen's participation and the elements of the environmental participation code generated from the interviews



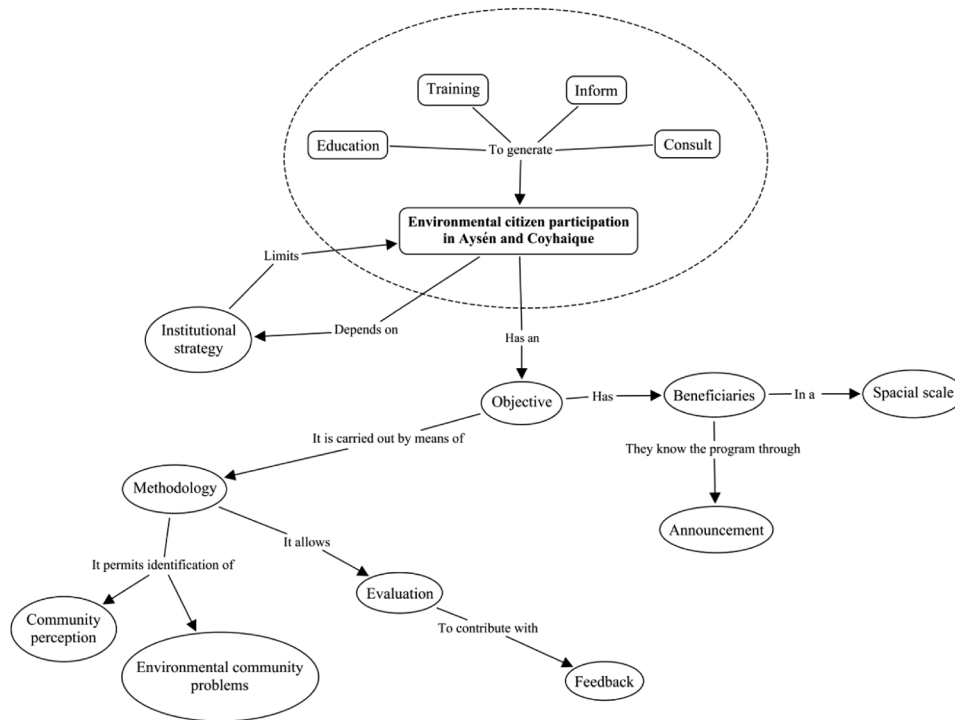
Note: The analysis was done through the software Atlas.ti

All identified elements belong, when compared with a theoretical participation scheme (Brown and Wyckoff-Baird, 1992), to the implementation phase of the process of environmental citizen's participation (upper part of Figure 3). This suggests that local public services, also related to environmental issues and civil organisations, develop only partial aspects of citizen's participation. That is, they consider the beneficiaries in a passive way since they do not include them in phases such as the design and evaluation of alternatives of the projects where they should participate.

Thus, starting from the four main elements understood as environmental citizen's participation (education, training, information and consulting) by all interviewees, we generated a conceptual model of the participation process within the studied area (Figure 4).

Concepts used in the model correspond to the main codes defined during the analysis of the interviews by means of the software Atlas.ti (Table 3). Within those codes the *Institutional strategy* is especially important in relation to public services. This code includes elements such as: available budget, human resources, institutional role, internal working policies, etc; all of them defining the way in which services act. Most characteristics of the citizen's participation within each service depend, finally, upon this code. Indeed, our analysis showed that participation is conceived within the context of an objective which is only clear within the mandates of each governmental service. That is, it is applied to a rather specific target audience (e.g. small agriculture-land owners), locally advertised (radios or newspapers) within a county scale.

Figure 4 General framework of the citizen's participation processes developed by public services and social organisations



Note: Elements within the dotted circle correspond to those understood as participation by the interviewees

The result of the evaluation of social capital within the watershed of the Aysén River is shown in Table 4. Puerto Aysén County has a larger percentage of the population associated in organisations than Coyhaique. In total, nearly one third of the population is organised in some kind of social organisation. However, the environment, within the functional organisations, is not an issue. Sport activities (in rural areas) and productive and living conditions (in urban areas) are the main subjects of social organisations.

Table 3 Description of the main codes obtained during the analysis of the interviews

<i>Code</i>	<i>No. of citations</i>	<i>Description</i>
Beneficiaries	38	Applied to citations pointing to the beneficiaries of the programmes (community at large, adults, children).
Methodologies	32	Applied to citations showing the methodologies used by the institutions or organisations and how activities related to participation programmes are designed.
Evaluation	31	This code refers to how organisations and institutions self-evaluate the objectives proposed within their community orientated participation programmes.
Community perception	25	Applied to the community perception of participation programmes.
Announcement	15	Applied to citations mentioning the type of mass media utilised by participation programmes.
Spatial scale	15	Referred to the spatial scale of participation programmes (i.e. national, regional, community or smaller localities).
Institutional strategy	10	Applied to citations related to the existence of a working strategy on environmental issues and its level (i.e. municipality, ministry or region) and how human and economic resources are assigned.

Table 4 Social organisations at Coyhaique and Pto. Aysén

<i>County</i>	<i>Type of organisation</i>			<i>Total people</i>	<i>Percentage respect County's pop.</i>
	<i>Functional organisations</i>	<i>Neighbours organisation</i>	<i>Syndicates</i>		
Pto. Aysén	88	32	48	8656	38.7%
Coyhaique	276	53	36	15,330	30.6%
TOTAL	364	85	84	23,986	33%

6 Discussion

6.1 Participation and sustainable development

Citizen's participation can be analysed in many different contexts. Here we will discuss our results from the standpoint of governance for sustainable development, SD. We start from the premise that participation and social capital are key elements in the preparation and implementation of successful SD strategies. Furthermore, these strategies should be conceived within the context of a given Physical-Ecological-Social system (Marín and

Delgado, 2005). There are several ways to incorporate the different social actors in development strategies. However, wide-ranging participatory methods are not necessarily the 'best alternatives' (Meadowcroft, 2003). Rather, participation should be related to issues such as:

- the relationship between society and ecosystem services
- the level of awareness of citizens regarding their dependency upon those services for subsistence
- the agreement on a development project with sustainability as one of its goals.

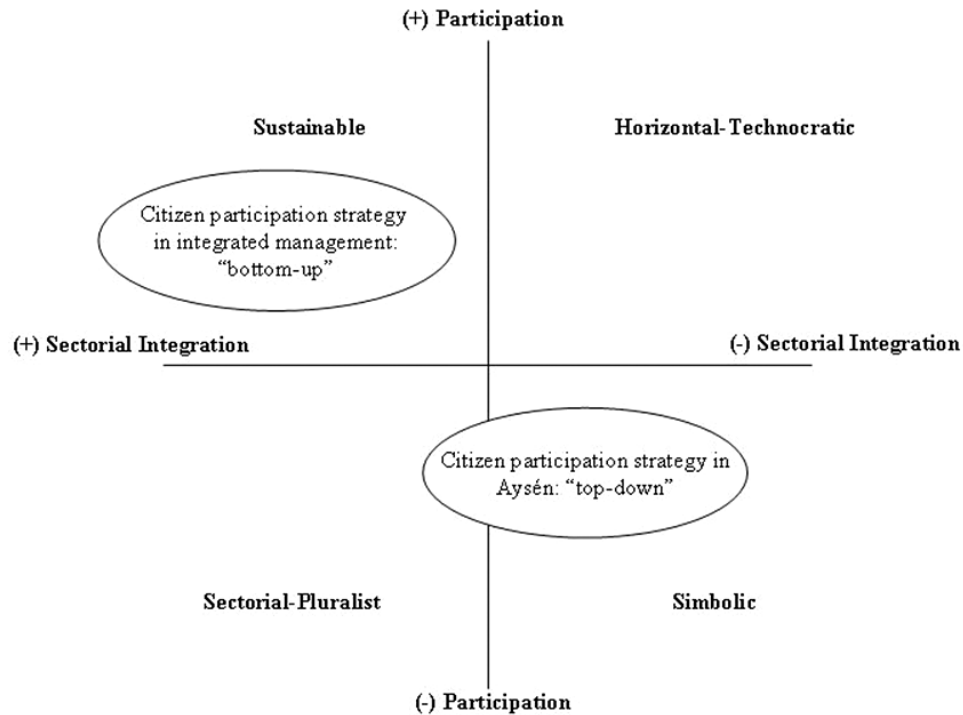
However, when applying them to Latin America, two additional elements should be kept in mind:

- the concept of *endless natural resources* (Haldenwag, 2005)
- governments as the main social actors and the producers of society (Calderon and Jelin, 1987).

Indeed, our results are in agreement with the element identified by Calderón and Jelin. The results show that key local actors or stakeholders, both from public institutions and civil society related to environmental issues, have knowledge about citizen's participation. However, they do not know its theoretical meaning and its importance for the implementation of integrated ecosystem management strategies (Salomons et al., 1999). Indeed, by not incorporating citizens in other stages of the participation process (Figure 3), it is clear that there is dissociation between citizen's participation and local development plans and programmes. This type of participation has been called elsewhere as 'top-down' (Fraser et al, 2006; Nielsen and Vedsmand, 1999). This strategy, developed by local governmental organisations, includes neither eco-social diagnostics nor participative evaluations within their programmes. Cohen and Uphoff (1977) and FAO (1999) suggest that this type of participation would correspond to the first levels of empowering of local communities and actors.

If we concentrate now on the aspects related to development, it is possible to classify it in several levels from sustainable to symbolic (Casares and Arca, 2002). One of the criteria to classify development is the intensity of participation and the horizontality of public policies (Font and Subirats, 2000). Sustainable-orientated development is normally implemented through integrated management strategies, based on a 'bottom-up' approach. This strategy has, indeed, been successful in several regions such as British Columbia and the Kalahari (Fraser et al., 2006). Our results have shown that, although local development includes objectives targeted to sustainability (SERPLAC, 2000), it lacks the sustainability characteristic proposed by Casares and Arca (2002). Instead, it is closer to the symbolic level with a pluralist-sectorial execution (Figure 5). Although this condition may be considered as an improvement from previous development stages (e.g. lack of a strategy altogether), it is still far away from being sustainable.

Figure 5 Position of the citizen’s participation in Aysén in relation to participation and integration axes. Aysén’s participation is situated half way between a symbolic and pluralistic-sectorial participation.



6.2 Participation and social capital

Currently, the big question all around the world is how to stimulate the citizen’s participation in environmental issues related and, thus, how to construct and strengthen social capital (e.g. Rydin and Pennington, 2000). Although there is no simple answer, improving citizen’s participation regarding a specific objective seems to be a key factor. Our results show that social capital, related to sustainable development, both in Puerto Aysén and Coyhaique is, indeed, very low (Table 4). There are many explanations for this lack of capital. One is related to the fact that sustainability is far removed from the basic needs of a given community, especially if those needs have not yet been fulfilled (e.g. the elements of the Maslow Pyramid).³ Furthermore, the educational level of the population is low (less than 50% finished basic education) and connectivity is marginal (e.g. less than 29% of the population has internet access). Finally, both Putnam (1993) and Durston (1999) propose the existence of strong ‘historic determination’ regarding the generation of social capital. That is, the tradition of social capital – or its absence – will determine if a given group will use opportunities for its development (e.g. path dependence).

Despite the conditions of social capital, the last two decades have shown an increase in the interest for citizen’s participation, both individual and collective, in several areas such as politics, society and environment in Latino America (Gyford, 1991). If we take the area of ecology and environment, this desire for participation has evolved from the increase in public awareness of the negative effects of our actions on the environment and

their ecosystems. These effects, in turn, cause a decline of the ecosystem services that finally affect our development. In Aysén, this trend has generated active groups of organised citizens concerned with environmental and sustainable development issues, especially related to the building of dams (Hartmann, 2003). This new activism could be explained on the basis of citizens with higher levels of education (Inglehart, 1991), desires of finding alternative ways of participation (Budge, 1996) and the growing discontent over public institutions (Kaase and Newton, 1995).

6.3 Concluding comments on participation and public institutions

Although social capital is a *sine qua non* condition for effective citizen's participation, it is certainly not enough to develop environmentally sustainable practices. Changes at the political level, favouring and motivating both social capital and participation, are also necessary (Pretty and Ward, 2001). Cities, municipalities and regions represent key areas for the development of sustainable practices. Although many of these ideas have been already put forward by the 'Carta Aalborg' for the European Union (Casares and Arca, 2002), we propose that other components are still necessary: the PHES-system components identified by local actors as key elements (Delgado and Marín, 2005). Accordingly, the requirements for the development of sound sustainable development strategies seem to be:

- pre-existence of regional policies with sustainability objectives
- governance autonomy at the regional level
- local elaboration and application of Agenda 21 principles
- acceptance of the historical condition of PHES-systems
- knowledge about the ecosystem services used by the people living in the local area
- knowledge about social capital and the degree and intensity of participation
- knowledge about the key social groups regarding the use and management of natural resources.

Some of these requirements are, indeed, met by the Aysén region and its local public institutions. However, since the citizen's participation concept utilised by local decision makers is 'top-down', sustainability is still far away in the horizon. Achieving sustainability in this region, with a wealth of natural resources, is rather timely and, indeed, it may be the biggest challenge that local decision makers will face in the near future.

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Notes

- ¹ Weak sustainability is based on the idea that people's wellbeing should not decrease from one generation to the next (Marín and Delgado, 1999).
- ² Strong sustainability is based on the idea that the resource base and the quality of the environment should be conserved for future generations (Marín and Delgado, 1999).
- ³ Maslow, A. (1943) 'A theory of human motivation', *Psychological Review*, Vol 50, No. 4, pp.370–396.