

## PUBLIC PARTICIPATION AND EFFECTIVE WATER GOVERNANCE AT THE LOCAL LEVEL: A CASE STUDY FROM A SMALL UNDER-DEVELOPED AREA IN CHILE

TARISAI GARANDE<sup>1</sup> and SUZAN DAGG<sup>2,\*</sup>

<sup>1</sup>13 Hadleigh Walk, London E6 5SA; <sup>2</sup>Department of Environmental Science and Technology, Faculty of Life Sciences, South Kensington Campus, Imperial College, London, SW7 2AZ, UK  
(\*author for correspondence, e-mail: s.dagg@imperial.ac.uk; fax: 0207-5949334)

(Received 20 June 2003; accepted 12 May 2004)

**Abstract.** The concept of participation in rural development has been evolutionary for the past two decades with those involved, such as development agencies and governments, particularly in rural water supply, re-evaluating their active role. The move towards effective community participation has encouraged a shift from the traditional top-down to a bottom-up approach whereby there is a decentralisation of unevenly distributed resources and power to empower a community and allow mobility of 'people participation'. The Molinos water project is the first large-scale development project of its kind introduced into the village of Molinos in an under-developed area of Chile, where there has been no tradition of people participation. The project objective was to implement a low technology, low budget water treatment plant to the village of Molinos. Various aspects have hindered the continued development of the project including both technical and financial. In terms of people participation, the initial approach used was the top-down approach. There was a failure to fully integrate the community or inform the community in a formal manner about the project and consult them regarding key project issues. This case study illustrates that the lack of comprehensive consultation and the low level of participation of the community on the participatory scale does not achieve much in terms of *people-centred* benefits. For governance at the local level to be effective, participation should be inclusive and communicative so as to enhance transparency throughout the project lifetime.

**Key words:** indigenous community, local governance, participation, rural development, stakeholders, water governance.

### 1. Introduction

Water and sanitation have, since the 1992 World Water Forum and later at the 2002 Johannesburg Earth Summit, gained prominence on the international stage. Attempts to alleviate poverty directly associated with inadequate water for basic purposes, have since looked to water governance at the local level to deliver the necessary instruments in the management of water resources and to ensure that these reach the lowest levels of society. The Water Forum as noted by Alexander (2002) came to the conclusion that access to water should be shared responsibly, thus creating a situation

---

Readers should send their comments on this paper to: [BhaskarNath@aol.com](mailto:BhaskarNath@aol.com) within 3 months of publication of this issue.

whereby all stakeholders involved possess a seat at the decision-making table. Alexander (2002) supports the notion that the looming water crisis in many parts of the world is as a consequence of a governance crisis rather than shortage or lack of technology. Water governance, as defined by the Global Water Partnership is 'the range of political, social, economic, and administrative systems that are in place to regulate the development and management of water resources and the provision of water services at different levels of society' (Arriens and Alejandiro, 2003). Essentially effective water governance encourages the politics of inclusion and participation of all stakeholders in managing the water.

Participation at the community level has been identified by the Organisation for Economic Development (OECD, 1985) as one of the most essential principles in rural development projects, from a social point of view, as it has the potential to give community access and control over their water resources. Invaluable resources on offer to projects, at community level, may come in the form of local indigenous knowledge about local conditions, which can be utilised in solving local problems more efficiently. As the concept of participation has grown, so has the recognition for the value of indigenous knowledge. There has been a plethora of articles and reports on how to utilise this practical knowledge to achieve the desired development outcomes (Loomis, 2002).

This paper primarily starts off by assessing this unique relationship that exists between community participation and local governance in rural water projects and why there is a need for effective participation at the local level. The Molinos project – a rural water supply project in Chile that provides a supporting case study to illustrate the impact of community involvement in development projects.

## **2. Background: main issues surrounding community participation**

### **2.1. PARTICIPATION AND WATER GOVERNANCE**

The 2000 Hague Ministerial Declaration called for 'governing water wisely to ensure good governance, so that the involvement of the public and the interests of all stakeholders are included in the management of water resources' (Rogers and Hall, 2002). The Global Water Partnership defines water governance as follows: *Water governance refers to the range of political, social, economic and administrative systems that are in place to develop and manage water resources, and the delivery of water services, at different levels of society* (Rogers and Hall, 2002). Water governance encourages the politics of inclusion and participation of a local community in managing their water. Water governance affects the management of water at different levels of society. It has been a suggestion by many, including Briscoe and

de Ferranti (1998), that governments and donors should create an environment in which the local community and the private sector could assume the role of providing water supplies. For governance at this scale to be effective, it requires an environment, which promotes a bottom-up approach to development and encourages participation of a community at the lowest level in development projects. In a study conducted by Zooneveld (2001) in assessing participation in local governance, it was found that participation worked better when citizens felt they would have a direct impact on local governance, and/or when the initiative had concrete aims that were likely to have a direct positive impact on their daily lives.

Participation as defined by the World Bank (1996) is 'a process through which the public influence and share control over development initiatives, decisions and resources which affect them'. The term 'participation' possesses an air of ambiguity, it is therefore not surprising that there is variation in the way its meaning is interpreted and its purpose defined.

Undoubtedly, the concept of participation in rural development has been evolutionary for the past two decades. The contribution of the community to development projects, in the form of unpaid labour was then widely accepted as an important constituent and in most cases the only form of community participation. This widespread acceptance meant that as long as developers could convince a local community to volunteer labour, full participation as well as 'acceptance' of the project was guaranteed. Supporting evidence, documented by Kleimer (2002), notes one donor in Tanzania even paying villagers to provide unskilled labour. Development agencies and governments alike, involved, particularly in rural water supply, have had to re-evaluate their active role. From this, emerged a new perspective that allowed the shifting of responsibility of financing and constructing water projects from governments and development agencies to the local level, i.e. the local community. Briscoe and de Ferranti (1998) identify 'management of water at the lowest appropriate level' as one of the governing principles of water governance at the local level. The move towards effective community participation has encouraged a shift from the traditional top-down to a bottom-up approach whereby there is a decentralisation of unevenly distributed resources and power to empower a community and allow mobility of 'people participation'. Chogul (2000), in her study on participation in the housing sector in developing countries, found that where initiatives existed in a community, to improve living conditions, be they top-down or bottom-up, led to different results depending on the degree of the governmental willingness and/or confidence in the ability of the community to contribute to its own development. Good local governance should provide the public with democratic and equal opportunities to participate. For decentralisation to become a reality, central governments and development agencies alike must be willing to relinquish or

share control with a local community. Conditions under which this can take place, identified by Blair (2000), are extensive participation of all stakeholders and mechanisms to ensure that those in authority at the local level are held accountable for their actions.

## 2.2. TYPES OF PARTICIPATION

The diverse application of participation in specific social contexts makes it difficult for a rigid classification of participation to be applied to every project. The World Bank (1996) in its Sourcebook on participation believes that the form of participation taken is highly influenced by the overall circumstances in which action is being taken. Applying a rigid classified 'participation' can lead to theorising a community as a homogenous entity, rather than recognising differences of power and interests. Oakley and Marsden (1984) discuss two types of participation; 'empowering' and 'mobilisation'. By 'empowering' a community through enhancing local management capacity, increasing confidence in indigenous potential and the raising of collective consciousness, participation becomes people-centred (Michener, 1998). The thinking behind 'mobilisation' is that it is planner-centred, with participation incorporated after decisions have been made. As discussed by Michener (1998), if people actively participate in the planning and implementation stages, then they are more committed to the project's success.

## 2.3. THE IMPORTANCE OF PARTICIPATION

The benefits of engaging in genuine participation are extensive. Listing participation at the bottom of project priorities and ignoring the need to involve the community in the project from the start may lead to project inefficiency and ineffectiveness. By encouraging participation at an early stage, discrepancies regarding project ideas are exposed and steps can be taken to resolve or minimise these through two-way consultation or mutual negotiations. The experience of the Rural Water Schemes in Zimbabwe unearthed associated problems in the planning and design phase whereby the actual users of the pumps (women and children) were not identified and sites were ineffectively located near beer halls rather than near residential areas (McIvor, 2000).

Although a community shares a common cultural identity with others, they have great differences in terms of power and interests. Local needs and interests must therefore be identified through consultation type workshops with key stakeholders. Such interactions, in addition to building a foundation for the enhancement of the understanding by the community of the project, also provide an opportunity for utilisation of local knowledge in further improving the project quality.

A study carried out by the International Labour Organisation of 'poverty-oriented' projects worldwide concluded that the so-called conventional participation strategies in rural development can at times amount to nothing more than a series of technical transfers to a local community aimed at boosting development (Sustainable Development Department, and Food and Agriculture Organisation of the United Nations, 1997). Such strategies rarely consult those in a rural community let alone encourage active participation. This is exacerbated by lack of proper organisational structures to represent community interests. Furthermore, in a community where there is lack of education and proper organisational structures to represent the interests of the community, participation does not advance further than the lowest level, i.e. 'information dissemination' in which communication is a one-way flow to stakeholders. A community, rather than taking initiatives and articulating demands, can end up being spoon-fed 'pre-packed' solutions to their problems, hindering the development of a sense of ownership towards the project or service.

Communication and information sharing not only impacts a project, it also determines the understanding that a community has of specific issues and the general status of the project. Holding consultations with the community as a whole, rather than engaging in selective consultation, provides clear communication channels and disseminates information so that everyone has a similar understanding of the key issues. At the implementation/construction phase, clear communication channels need to be put in place so as to keep stakeholders informed of any modification to the project design and implementation strategies. For governance to be effective at the community level, Rogers and Hall (2002) point out that a project is required to be inclusive and communicative, with communication channels free flowing so as to enhance transparency. Thus, at the implementation/construction phase, in particular, clear communication channels need to be highly functional so as to keep the community informed of any modification to the project and implementation strategies at whatever be the cost.

One of the most common forms of participation in the most open sense of the phrase is voluntary labour, the chief benefit of this being a cheap and easily accessible form of labour (Cousin, 1997), utilising voluntary labour works to the advantage of both parties. Due to the limited resources allocated for labour during the construction phase, projects can hugely benefit from voluntary labour provided by the community. Through volunteering their labour, a community can gain an appreciation of how the facilities function. This also provides a good basis for any operation or maintenance training in the latter stages of the project when a project is handed back to the community. A community can also begin to be more involved in decision-making. Feedback from the community can be used to enhance the project. An empowered community is more likely to be

pro-active and develop the confidence that would allow them to tackle other issues even beyond the projects' set objectives.

#### 2.4. ASSOCIATED RISKS AND COSTS

It is widely believed that taking social considerations into account entails substantially increased costs in expectations, uncertainty, non-quantifiable, and disprovable project benefits (Cernea, 1985). A social-cultural analysis of a community is imperative in order to identify the social structure and assess the real impact, a project will have. This, however, does not come on a shoestring as it requires time and highly skilled staff with very specialised knowledge and may be viewed as interfering with the delivering of projects on time. When dealing with an indigenous community, there is an attached stigma to such a community as traditional people of the past whose concepts and principles carry little analytical value and hamper the classic delivery of rural development to an indigenous community. Loomis (2000) in his research on the Maori people of New Zealand, argues that the theorising of indigenous people has largely ignored their attempts to articulate their own self-determined 'holistic' development. Like the many indigenous people of this world, the Maori have been making attempts at re-inventing their traditional conceptual frameworks and principles to establish alternative approaches to their development. Since many development projects to some extent bring about change to community way of life, thorough socio-cultural analysis into customs, beliefs, values and organisational structures of a community should be undertaken.

Other associated risks and costs include complete and partial re-modification of projects, delays in projects start-up and other factors that are most likely to arise as a result of ongoing or last minute negotiations with the community. Under this mounting pressure, particularly from financial donors to produce tangible results, the project implementation stage can end up being carried out hastily. Table I outlines some of the risks and costs related to participation and their management proposed by the Inter American Development Bank (IADB, 2002).

### 3. The case study

#### 3.1. INTRODUCTION

To put the above into context, a case study of the Molinos water project is introduced. Zooneveld's (2001) Toolkit for Participation in Local Government describes cultural context<sup>1</sup> as 'everything that surrounds and influences citizens' participation' (both literally and figuratively). This is the first large-scale development project of its kind introduced into the village of

TABLE I. Risks and costs related to participation at project stages.

Impediments to participation	Management of risks
Fear of losing power or control	Time and funds spent on arranging meetings/forums
Failure to commit sufficient resources to identify stakeholders, particularly marginalised stakeholders	Use participatory social analysis to identify stakeholders and culturally appropriate channels for communicating with stakeholders, taking care to elicit participation of marginalised stakeholders
Mismatching participatory mechanisms and stages in the project cycle	Fully understand the strengths and weaknesses of the participatory methodology chosen
The creation of unrealistic expectations	Clarify the rights and responsibilities of all stakeholders explicitly at the beginning of a project and adjust them as required and/or as the community gain experience
Existence of social, religious or ethnic conflict within the community and among stakeholder groups	Be sensitive to local social and cultural norms and the socio-economic dynamics of stakeholder relationships
Lack of capacity to carry out meaningful participatory processes among donors, governments or other stakeholders	Build on local institutions and cultural precedents to plan, design, implement and evaluate projects to enhance the prospects for success and protection of beneficiaries' interests

Molinos in Chile where there has been no tradition of people participation. In addition, the population of Molinos comprises of largely an indigenous Aymara culture. The implementation of participation would largely be dependant on the cultural response. It was felt this case study would best highlight the need for effective participation in such a unique setting. The discussion is based on the first author's personal observations, interviews with key informants<sup>2</sup> through meetings and questionnaires. Additional information was obtained through documented material about the project.

### 3.2. MOLINOS WATER PROJECT

The village of Molinos is located in the Lluta Valley, an under-developed area 55 km north of the city of Arica in the Atacama Desert of Chile. This desert is known as the most arid region on the planet. Molinos inhabits a population of 200, largely descendants of the indigenous Aymara people (a group of people descended from Bolivia, when Chile invaded Bolivia during the Pacific War).

Water availability as may be anticipated, given Molino's location in the Atacama Desert, is not the issue that surrounds the potable water problem in Molinos. Rather it is groundwater contamination arising from previous copper, sulphur and boron mine workings and naturally occurring arsenic present in the sedimentary rocks. This coupled effect has lead to excessive water contamination levels of between 1 and 5 mgs of arsenic per litre,

exceeding the Chilean national standard of 50 mgs per litre and the World Health Organisation (WHO) guidelines of 10 mgs per litre (Bow, 2002), making the water non-potable. No known formal studies have been carried out on the health effects of ingested arsenic on the people of Molinos. However, relatively high incidences of skin and possibly other cancers have been observed in populations ingesting water containing high concentrations of arsenic (WHO, 2002). Interestingly it is believed, by Bow (2002), that 42% of arsenic ingested is through irrigated crops and villagers have reportedly complained about stomach cramps.

The Municipality of Arica handles the provision of clean potable water to the village of Molinos. The water is trucked to the village once a week to a local storage tank and is supplied as a free service. The community only pays for the transport costs, which are spread over the entire community. Since the limited availability of potable water, villagers have learnt to survive on these weekly allowances. However, at times when there are shortages or the water truck fails to make distributions (earthquakes at times disrupt the road system into the valley), locals have no choice but to make use of the contaminated river water. This is the key-underlying problem faced by the people of Molinos and the challenge of the Molinos water project.

The interest in Molinos was prompted following a Santiago based NGO's desire (referred to as The NGO from here on) to identify a general water issue linked to The NGO's programme of objectives. It also leads from previous research on the management of water resources in Chile. Prior to visiting Molinos, discussions took place with different regional authorities and central government officials to discuss the intention of their contribution as a young NGO to the water management of water resources. The enthusiasm was shared between the various bodies, particularly in relation to the support of 'youth' initiatives and participation in the development of the country. The intention of the Molinos water project emerged during two brief visits in 1999 to the village. After assessing the extent of the water contamination problem, the Molinos water project was developed as a joint Canadian-Chilean self-sustainable water supply project. The project objectives were to implement a low technology, low budget treatment strategy to the village of Molinos as outlined in Table II. The project was anticipated to be fully operational by 2005. In addition to the initial feasibility assessment, an independent study revealed the interest of the community in 'learning about new ideas' for their contaminated water problem; this basis was to guide The NGO's interaction with the community.

### 3.3. COMMUNITY PARTICIPATION IN THE PLANNING PHASE

The objective of The NGO in achieving a high level of participation would be reflected by the degree of confidence in the project by the community.



TABLE II. Objectives of the Molinos project.

Project phase	Details
Phase 1	<ul style="list-style-type: none"> <li>• Define the needs and wishes of the indigenous people of Molinos and establish a partnership between the project team and the community to involve the people in all stages of the project.</li> <li>• The established partnership will allow for the development of a truly sustainable technology. These technical and cultural intervention parameters will determine an implementation strategy for Phase 2.</li> </ul>
Phase 2	<ul style="list-style-type: none"> <li>• Implementation and operation of the drinking water treatment system to provide a communal clean potable water supply will entail detailed bench and pilot scale testing of system components for a DW (drinking water) treatment system designed for a population equivalent of 300 at over 20l/d (approx. 3 gpm flow rate).</li> <li>• A partnership will be established between the NGO and the community to provide training and support for the operation and maintenance of the drinking water system. A continuous water quality sampling and testing plan will be established to ensure safe water quality. This Phase will determine the feasibility of Phase 3.</li> </ul>
Phase 3	<ul style="list-style-type: none"> <li>• Will improve irrigation and agricultural systems. Social and technical feasibility observations in Phase 2 are re-considered.</li> <li>• The main focus is to establish a partnership with local farmers in the valley to identify the current and projected irrigation requirements of Molinos and to jointly design an irrigation system that would provide a clean irrigation water supply to meet the communities' farming needs.</li> </ul>

Despite this objective, individual as opposed to group interaction was the only type of consultation conducted during the planning phase. From these experiences, The NGO felt they had acquired an understanding of the expectations of the community. Due to lack of *comprehensive* community consultations at the planning phase, to assess potential sites for the treatment plant, discrepancies arose over the ideal locations. Migration, a characteristic of the peoples of the valley from the High Andes to the coast, for centuries, means that land rights are rented to incoming inhabitants. Without proper consultations with local authorities and traditional leaders, it would be difficult to be certain of the actual land ownership. In this case, the original recommended site was, in fact, already under ownership. Indigenous knowledge regarding water quality or cultural conceptualisations of the river and water usage was not considered since such knowledge was found to be irrelevant to Molinos, according to experts' opinion.

However, several local associations and individuals in the village gave initial guidance on most aspects of water usage. The roles played by various stakeholders are outlined in Table III.

#### 3.4. COMMUNITY'S WILLINGNESS TO PARTICIPATE

Community members felt that they had not contributed as much to the project as they would have wanted, with the main reason being that they had found out about the project at a later stage. The community also

TABLE III. Stakeholders role in the planning phase.

Stakeholders	Role within the planning phase
Local association 1 <sup>a</sup>	<ul style="list-style-type: none"> <li>• Act as liaison with the community during The NGO's periods away from Molinos</li> <li>• Help organise access to Community Centre for accommodation purposes during visits by the project team</li> </ul>
Local association 2 <sup>b</sup> Members of the community	<ul style="list-style-type: none"> <li>• Advise on the current water access practices and rights</li> <li>• Interacted with the project team informally during every visit and through the independent social analysis research over a period of 3 weeks.</li> </ul>

<sup>a</sup> Neighbour's Association of Molinos, handles community affairs.

<sup>b</sup> Irrigation Association of the Lluta Valley, handles local irrigation affairs.

expressed their willingness to contribute more should the project start to move forward again, but stressed any contributions would not be financial. Asked how they would be willing to participate, one villager even offered accommodation and personal homegrown produce to the project team. The community very much welcomed the idea of an operation and maintenance committee to oversee the water treatment facility, with the President of the Neighbourhood Association offering to coordinate the operation and maintenance duties. The creation of an operation and maintenance committee, it is thought, would give the project a more profound status. It is felt the whole community should be involved in the operation and maintenance with the younger generation playing a more prominent role in an elected committee. The younger generation is perceived more able to understand and absorb new knowledge and are best able to make long-term considerations. Those with more time to spare would, it was felt, contribute more. Although the community were confident that they would be able to self-manage the facility, they felt there should be some kind of long-term support mechanism in place from The NGO in order to achieve sustainability of the project.

### 3.5. EXPECTATIONS AND CONCERNS OF THE COMMUNITY

The only feedback on community expectations and concerns was individual interactions between The NGO and community leaders and villagers willing to provide comments. Given the work routine of the farming, villagers emphasised difficulty in committing a lot of time to the project. Notably since the catastrophic floods of 2001 that affected most of the region, the population has decreased drastically as the majority of the younger community members migrated to other towns in search of work. These, The NGO believed, made it impossible to organise a large town-hall style meeting with the community to discuss the main issues affecting the project. What was found was that there are two different angles from which the community in

Molinos and those in the rest of the valley viewed the issue of contaminated water and the water treatment project. For example, downstream of the valley where drinking water supplies are not affected by arsenic contamination, secure irrigation water supply was the main concern. It would appear as though there were too many high expectations of different issues from different sources in the valley. The people wanted to see a tangible product before they could invest faith in the project. It appeared that the level of understanding of the project by the community, beyond what the water treatment facility could produce, was minimal and left the community to some extent removed from the project.

### 3.6. COMMUNICATION WITH THE COMMUNITY

The project proposal was disseminated to the community at different times, through various sources, i.e. through word of mouth from other residents or informally by the project team. What was of concern to the community was not so much how they were informed, but when they were informed, with many preferring to have been informed more about the project at the beginning. Of interest was a local influential entrepreneur from a village downstream of the valley who voiced strong concerns towards the approach taken in introducing the project to the community. The top-down approach taken, it was felt, whereby local government officials and Universidad de Tarapaca were consulted about the project intentions before approaching the community, is the reason why so many proposed projects in the valley have failed to materialise beyond verbal promises to the community. Instead more should have been invested in understanding the environment of the people and their problems, rather than proceeding with theoretical background information. It appears villagers downstream had a misinterpreted view of the project aims and priorities, with the understanding that the idea of the water treatment was to primarily turn the project into an agrarian development in the entire valley. General community opinion regarding the degree of communication between the project team and the community was mixed, some citing communication as insufficient although some felt levels of communication were moderate.

Communication channels, although in existence when the project idea was introduced to the community, have, since the long absence of The NGO, between the initial visits to introduce the project to the village and the 2003 visit<sup>3</sup>, weakened. Lack of community input in communicating concerns regarding any aspects of the project could be partly due to the lack of strong communication channels, as pointed out by some respondents. On the other hand, The NGO put down the lack of participation to the passive role that is characteristic of the community. Since The NGO cannot maintain a continuous presence in Molinos during the project lifetime, the

President of the Neighbourhood Association was requested to play a key role in liaising with the community on their behalf. Villagers felt that the project would have the possibility of re-gaining community support if communication channels were improved, possibly through workshops to educate the community about the project.

Without a final completion date that can be announced to the community it would be difficult to obtain active participation. The NGO believe the community had difficulty comprehending the processes involved in achieving the necessary groundwork from which the project could be launched, i.e. securing financing and resources and at times dealing with internal organisation politics that may arise. This has been and remains a challenge and an obstacle for further development of the project unless steps are taken to educate the community about the basic groundwork needed and at the same time empowering them with the basic knowledge of understanding how development projects work.

Another reason for this distancing between the community and the project is that this project is probably the largest of its kind ever implemented in the village and its technical processes may be perceived to be too complex. For example, eliminating contamination of the metal Boron at reduced cost and with appropriate technology has proved more difficult than anticipated; and the design criterion currently employed aims at providing a water treatment system for domestic consumption at a justifiable cost, but the improvement of the quality of irrigation water involves higher costs that will have to be justified by a larger user base beyond what currently inhabits Molinos. At the same time, the community have little belief in their capability to understand the technicalities and yet the processes are simple and were made with the consideration of the people of Molinos as the primary users and managers.

### 3.7. CURRENT STATE OF THE PROJECT

At the time of writing, despite plans to start implementing the project in 2002, certain aspects of the project were undergoing re-definition and the project had yet to be implemented. It would be ill advised not to acknowledge technical and financial aspects as limiting factors that have contributed to the delay in implementing the treatment plant. Funding demands of the project have the potential to go over the original estimated cost of the installation plant. This projection was based on a pending final design decision for irrigation water. Also, minimum resources were allocated for the participation process and The NGO is reliant on its supporters, including individual, businesses, government agencies, etc., to make more resources available. Formal agreements between various bodies for funding distribution to cover a more complete participation process have yet to be

finalised. A re-evaluation of the long-term objectives have also to be finalised and cannot proceed without input from the community. At present there is hesitancy in arriving anew in the village without the ability to fulfil the chief expectation of providing a water treatment solution and a specified time when implementation will take place, without further hindering the community–NGO relationship. There is looming mistrust as a result of growing impatience, by the community, to see tangible results. Explaining the lengthy processes involved in achieving all the necessary conditions for a successful project is challenging, particularly to a village that has in the past been left with empty promises.

#### 4. Conclusions

A very clear and crucial message that emerges from the Molinos case study is the way that the project was introduced into the Lluta Valley and its failure to take major factors into account. For example, further insight into *the people, the area and the problem* could have been undertaken had cultural contextual factors been taken into account. The initial approach that was used, whether intentional or not, was the top-down approach. It failed to fully integrate the community or inform the community in a formal manner about the project and consult them regarding key project issues. It is imperative that socio-cultural analysis be carried out before a project is introduced into an area through case histories, interviews and observations. This is done so as to gain better understanding of the socio-cultural setting of the community and as a result help to determine the feasibility of carrying out the project within that particular setting. Therefore, by the time the project reaches the planning phase, existing cultural contextual factors and how they may impact the project would already be known and ways in which to deal with them would already have been established.

Cultural factors that have hindered the smooth operation of the Molinos project, i.e. the tendency to assume a passive role that characterises that community and the issue of lack of unity and envy that exists among communities and families, should have been identified during the initial visits. Also, ways to deal with these hindrances should have been established before the project started or in the early stage when they became apparent. This would then have smoothed out the obstacles that have so far hindered the swift progress of the project to the next level.

The lack of confidence in the project has been due to the minimum participation and a collective lack of comprehensive communication between The NGO and the community as a whole. This has left the community with a misunderstanding of the project objectives, anticipated milestones and current state of the project. Past experiences where other empty pre-packed development projects have been promised without the community exercising

their right to make demands, have led to frustrations on both sides. The community is frustrated that their demands have not been met; yet, they have exerted little if any real demands. There is frustration on the part of The NGO because participation cannot take place without full community support. Findings from the Molinos water project conclude that community participation plays a key role in effective rural water governance and they confirm that a lack of comprehensive community consultation and low level of participation does not achieve *people-centred* benefits.

Since the continuous presence of The NGO cannot be maintained in the village, it is important that communication channels are kept open to assure the community that the project is still going ahead and also to ensure a continuous functioning of these communication channels. Clearly this has shown that participatory processes are highly resource consuming, particularly in settings whereby the community have had limited experience in participation. Successful participation requires, together with careful planning, a vast amount of investment in time and energy to raise project awareness and capacity building before participatory processes commence. It is imperative that this is carried out before the actual participatory process starts. If maximum results are to be achieved, there cannot be any shortcuts to participation. Also, participatory tools must be adopted for use at appropriate stages. Raising awareness at the implementation stage for example, which should otherwise had been executed at the preliminary stage, would only throw a project into chaos.

There is definitely room available for the project to make amendments and meet its long-term objectives with the community in mind. One important thing to note is that The NGO is a very 'young' organisation and the Molinos project is their first large project directly collaborating with international organisations within such a unique setting. One can therefore argue that this is a learning process, but on the other hand is this affordable at the expense of the indigenous people of Molinos?

### Acknowledgements

This paper is based on research undertaken by the first author as part fulfilment of an MSc in Environmental Technology, the completion of which would not have been possible but for the hospitality of The NGO, the Community of Molinos and the local government officials in Arica.

### Notes

<sup>1</sup> Other contextual factors are legal, political and economic, these help shape participatory processes.

<sup>2</sup> The community of Molinos, Governors of Arica, local influential entrepreneur, President and The NGO team.

<sup>3</sup> The NGO cannot maintain a continuous presence in Molinos due to resources constraints.

### References

- Alexander, W.: 2002, *No Water No Future: A Water Focus For Johannesburg*, Contribution of HRH the Prince of Orange to the Panel of the UN Secretary General in Preparation for the Johannesburg Summit. World Summit on Sustainable Development.
- Arriens, W. and Alejandiro, A.: 2003, *Doing Things Better: Effective development and management of water resources require the consultation and participation of all stakeholders- with government leading the way*, Asian Foundation Bank, Manila. [http://www.adb.org/Documents/Periodicals/ADB\\_Review/2003/vol35/governance.asp](http://www.adb.org/Documents/Periodicals/ADB_Review/2003/vol35/governance.asp) (Accessed: April 21 2003).
- Blair, H.: 2000, 'Participation and accountability in periphery: democratic local governance in periphery', *World Development* **28**, 21–39.
- Bow, P.: 2002, 'Helping make Chilean water safe'. *Waterloo Engineering Letter*, **43**.
- Briscoe, J. and de Ferranti, D.: 1998, *Water for rural communities: helping people help themselves*, The World Bank, Washington DC.
- Cernea, M. (ed.): 1985, *Putting people first: sociological variable in rural development*. World Bank, Oxford University Press.
- Cousin, H.: 1997, *The effective integration of women into water and sanitation projects in developing countries*, MSc thesis, Imperial College London, London.
- Chogul, M.B.: 2000, 'A ladder of community participation for underdeveloped countries', *Habitat International* **20**, 431–444.
- Kleeimer, E.: 2002, 'The impact of sustainability: An analysis of the Malawi rural piped scheme program'. *World Development* **28**, 929–944.
- Loomis, T.M.: 2000, 'Indigenous populations and sustainable development: Building on indigenous approaches to holistic, self determined development', *World Development* **28**, 893–910.
- McIvor, C.: 2000, Community Participation in Water Management Experiences from Zimbabwe. D+C Development Cooperation, 1. Deutsche Stiftung für internationale Entwicklung.
- Michener, V.: 1998, 'The participatory approach: contradiction and co-option in Burkina Faso', *World Development* **26**, 2105–2118.
- Oakley, P.: 1991, *Projects with people: The practice of participation in rural development*. International Labour Office, Geneva.
- Oakley, P. and Marsden, D.: 1984, *Approaches to participation in rural development*. International Labour Office, Geneva.
- OECD: 1985, *Management of water projects: Decision-making and investment appraisal*. Paris: OECD
- Rogers, P. and Hall, A.W.: 2002, *Effective water governance*, Draft GWP Background Paper for virtual dialogue, Stockholm, Global Water Partnership, 1–48.
- Sustainable Development Department, and Food and Agriculture Organisation of the United Nations.: 1997, Participation in practice: *Lessons from the FAO People's Participation Programme*. Food and Agriculture Organisation, Rome. <http://www.fao.org/sd/PPdirect/PPre0044.htm> (Accessed: June 15 2002).
- WHO.: 2002, *Guidelines for drinking water*, [http://www.who.int/water\\_sanitation\\_health/GDWQ/Chemicals/arsenicsum.htm](http://www.who.int/water_sanitation_health/GDWQ/Chemicals/arsenicsum.htm) (Accessed: August 5 2002).
- World Bank.: 1996, *The World Bank Participation Sourcebook*. World Bank, Washington DC, <http://www.worldbank.org/wbi/sourcebook/sbpdf.htm> (Accessed: June 15 2002).
- Zooneveld, L.: 2001, *A toolkit for participation in local governance: learning to make participation work*. Novib, Netherlands.