

## **Water rights and participatory irrigation development : the case of Licto, Ecuador**

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and chapter 7 of the book: *Water Rights and Empowerment*, R. Boelens and P. Hoogendam,  
Van Gorcum, Assen, The Netherlands, 2002)

Irrigation management rules and water rights are the keystones of user-controlled irrigation systems and largely determine the distribution of resources and benefits generated in the process of irrigated farming. There is a growing recognition that to develop more sustainable systems it is necessary to match both technical and normative designs to users rather than try to match users to designs, fitting and forcing them into an outsider's technological and institutional system. It is not surprising that during the last few decades interest has been growing in small-farmer participation in processes of design, construction and rehabilitation of irrigation systems, sometimes including a leading role for users in formulating and applying these rules. This is mainly a reaction to new, poorly functioning irrigation systems and the widespread failure of conventional intervention approaches. These are often based on linear, pre-established project structures and with a central focus on institutional experts' knowledge.

But often participation is limited to labour input, payment of dues, contribution of materials and training for farmers in how to organise and use the technological system 'responsibly'. Training programmes tend to involve users in the project of institutions and professionals rather than involving them in the users' project and reality. There are many reasons for this divergence between discourse on people's participation and actual practice. The reasons are to do with the adverse socio-political context; lack of adequate methods and methodologies; single-discipline, vertical training of technical experts and social organisers; unavailability of time and the need for short-term, tangible results; rigid institutional and budgetary planning by donors; and in some cases users' groups' lack of basic experience with irrigation, etc. However, it seems that one reason is essential: participation is fundamentally about the sharing of power. Power is based on knowledge, economic standing, or social and psychological status. Sharing that power to make and implement decisions goes against the grain of many vested interests.

It comes as no surprise that in the natural resource management field, 'participation' is a concept that may be interpreted and used in many different ways. Therefore, and amplified by the 'boom' of this topic in policy and project rhetoric, the concept conceals many divergent visions and interests. Behind an apparent homogeneity there are different, often contradictory contents in response to such basic questions as: "Who is to participate? How and under what conditions do they participate? When do they participate?" and "What do they participate in?" 'Participation' may be a means or a strategy either to subordinate users and reproduce the status quo or to challenge unequal power structures. We can distinguish among diverse basic outlooks regarding 'farmer participation in irrigation development' when we analyse how the need for this participation is legitimised (Boelens & Hoogendam 2002).

The following sections explore the development of the Licto system. Although

'participation' was legitimised differently by the central players during different project stages and despite the fact that the above basic standpoints overlap and combine in the course of the project, three perspectives will be highlighted. These played a fundamental role in the actions of the poorest peasant and indigenous groups in the Licto area: equity, creation of property, and empowerment.

First, by participating in planning and building the infrastructure, in consolidating their organisation and in determining the rules for their irrigation system these users have attempted to realise their particular perceptions about equity in regard to the distribution of rights and obligations. Second, they see 'participation' as a farmer's investment to generate his or her property rights. In the Andes these 'water rights' generally refer to access to water, use of infrastructure and decision-making on system management. Users create their water rights by taking part in the organisation, design and construction of the irrigation system. They consolidate and re-create their rights by maintaining and rehabilitating the system. Third, the case shows that irrigation development is a socio-political process in which different interest groups meet and negotiate to include their ideas and interests in organisational, technical and normative system design. These interests are about increasing control over water resources, over decision-making power in system management, over the redistribution of productive resources and/or over the behaviour of the users' group in general. In Licto, the struggle to formulate and apply rules and rights has been (and still is) a core issue in the process of empowerment and creation of property by the users determining the present and future development of the irrigation system. In this process, the application of three-dimensional scale models provided an important communication instrument.

Licto is the name of a zone ('parish') in Chimborazo province in the heart of the Ecuadorian Andes. It includes 28 indigenous rural communities. Licto is also the name of the town which is the region's hub around which these communities are located. The communities are located at 2700 to 3600 metres above sea level. The livelihood comes from farming with extremely small and scattered plots (*minifundio* agriculture). The lack of water and land of sufficient quality combined with demographic pressure has rapidly degenerated natural resources and yields are ever lower. Consequently subsistence agriculture in the Licto zone, where women do most of the farming chores, cannot cover a rural household's basic needs for survival. Families try to complement their production by earning wages through intermittent migrant work. Especially the men leave to look for jobs in the cities or tries to get temporary work in areas of intensive agricultural production.

The total population of Licto is 13,000, 90% of whom are indigenous and 10% are mixed (*mestizo*). The latter mostly live in the town of Licto. As elsewhere in the Andes, there has been a history of subordinating the indigenous communities to the white-*mestizo* landowners and other power groups in town. The situation has been characterised by discrimination, exploitative trade relations and expropriation of the indigenous people's produce and land.

Because of liberal policies and attempts to 'capitalise the countryside' with extreme poverty as the backdrop (providing fertile ground for politicians' schemes and projects of charity institutions), there have been countless promises to the communities from outsiders. There have been just as many hoaxes and disappointments. Therefore when the indigenous Corporation of Rural Organisations of Licto (CODOCAL) was invited in 1989

to take part in an ambitious irrigation project in the zone, the indigenous communities logically mistrusted the invitation. This was an Integrated Rural Development project with a major irrigation component to build and implement the Guarguallá Irrigation System. Hesitance was stronger yet because it was precisely the power groups living in Licto town who had promoted this project through their contacts with the Ecuadorian Institute of Water Resources (INERHI – at that time the governmental irrigation agency). Moreover the many delays and few tangible results of activities to set up the irrigation system had already dragged on for some 20 years.

Nevertheless some indigenous leaders from the communities and some people, especially women, from the poorest groups in Licto town, considered the advantage of this project as a means to not only change their agro-productive farming situation but also as a means to challenge existing power structures.

In 1990 the agreement was signed among INERHI, CODOCAL, the Swiss Agency for Development and Co-operation (SDC – who provide technical and financial assistance), and the Ecuadorian Agricultural Service Agency (CESA – an NGO). These four institutions formed the Licto Inter-Institutional Committee (COIL) to co-ordinate project activities.

Since 1974 INERHI had been working on the studies, designs and execution of the main canal and head facilities. This was a classic example of a vertical design and implementation process: excluding the rural population from decision-making. Designs were prescribed from the offices in the national capital of Quito, by technical staff unfamiliar with the rural reality. Even the plans and projects had been prepared in detail on the basis of pre-established, physical and technical criteria. The technical studies, such as the property census survey, were prepared on the basis of aerial photos and sometimes on the basis of quick field checking. This did not involve residents who, anyway, refused to collaborate in such rapid studies ‘meant to make us pay taxes or to take away our lands’. Therefore findings were quite different from reality. In general the designers had only vague notions of the basic field data needed to make an appropriate design. Nevertheless designs were presented and accepted under the 1990 agreement as the ‘final designs’.

In 1992/1993, the socio-political panorama changed in Licto. CODOCAL had elected new, strongly committed leaders, who wanted to solve conflicts among communities and bring them together within a unified indigenous organisation taking advantage of the irrigation system project. At the community level more and more voices expressed the need for gaining control over irrigation-project decisions, both in indigenous communities and in the poorest, most oppressed sectors in Licto town. The communities decided to establish a users’ organisation; the Irrigation Directorate. The Irrigation Directorate quickly elicited significant recognition from the newly awakened indigenous communities. Each irrigating community had its representatives on the Directorate. Peasants’ power to respond grew in the zone. At the same time, CESA, with the support of an outside advisor, changed its approach from short-term, paternalistic, scattered activities and also realised the need to accompany the peasant and indigenous families at the pivotal point of development and power-irrigation.

When the State agency, because of financial crisis and lack of capacity, did not complete system construction, the indigenous communities took over its development with

the help of CESA. They adapted design, management and water rights to local demands and capacities. The communities decided to establish their own rules and rights. These rules were centred around a fundamental principle that *water is a right earned by those who work in the minga work-parties, who participate in the organisation and who pay their dues according to collectively established contribution rates*. The crux of the peasants' protest and proposal was that 'rights cannot be purchased – they must be earned'.

CESA and the CODOCAL leaders analysed the technical, organisational and normative designs very carefully, to discuss their implications and probable consequences for the peasant and indigenous communities. It soon appeared that common training methods were not useful to generate deep discussions and exchanges. The population, mostly illiterate women, took no interest in the project's leaflets and flyers. The classical and 'highly technical' courses offered in training classrooms were useless to them. Many of them could not understand topographic maps and the basic irrigation system documents. 'Farmer-to-farmer' debates and capacity building, supported by special assemblies and exchanges with other user organisations, was a major step forward. Discussions within Licto communities were encouraged and intensified further by building and using a portable model of the system with all components and communities modelled to scale. For many families without transportation facilities, especially female users, it is hard to get around. Many had not seen the main intake or even visited the last, tail-end communities several hours distance away. The model was taken to all the communities so the users could analyse and give their opinions about how the overall system would affect their community. Leaders, together with female irrigation promoters appointed within the farmer organisation, were able to explain the system in Quichua, their local language. Community discussions and inter-community sessions elicited critiques and proposals to change certain aspects of the system.

CESA and CODOCAL drew up the outline of a redesigned system. New scale-models of tertiary block scale were used to co-decide about intra-community designs, and particularly the hydraulic puzzle – the farmers called it the 'living model' – was important to involve users in design discussions and decision-making (see slides). These portable scale models and hydraulic models were to be compounded collectively. Through such interactive design and capacity-building tools, creation of infrastructure and water rights were linked. Next, combined water management and literacy training strengthened the position of female water users and female leaders, since they were to become involved in the management of the system. And especially they were the ones who were in charge of creating and maintaining water rights in the system.<sup>1</sup> Fundamentally, collective action formed the basis for the construction of infrastructure and the construction of water rights. CODOCAL appointed women as irrigation promoters within the rural organisation, to strengthen the capacity building and organisation process and co-ordinate communities'

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<sup>1</sup> For more information on the Licto case and/or the issues of water rights, empowerment, gender, in other Andean water control systems, see also the books:

- *Mujer campesina e intervencion en el riego*, A. Arroyo & R. Boelens, CAMAREN, Quito, Ecuador;
- *Searching for Equity. Conceptions of Justice and Equity in Peasant Irrigation*, R. Boelens & G. Dávila, Van Gorcum, Assen, Netherlands.
- *Water Rights and Empowerment*, R. Boelens and P. Hoogendam, Van Gorcum, Assen, Netherlands, 2002

*minga* work parties. CODOCAL also appointed farmer-masonry teams from the communities themselves to lead the construction of irrigation structures in the irrigation modules. This all strengthened the accountability relationship among future users, leaders, promoters and masons in the peasant and indigenous organisation. Exchanges with other water users' organisations strengthened their negotiation and alliance building capacity on a regional and national level. A system was developed which the communities themselves now manage, from the main level to the field level.

In the farmers' own regulations just paying fees to the State is not enough in and of itself to obtain rights. The norm that states 'those who work in *mingas*, who pay the dues that have been agreed upon collectively and who take part in assemblies are entitled to water' was the primary foundation of system management. This upholds system operation (assuring material and intellectual inputs) and strengthens collective enforcement of inter- and intra-communal water distribution agreements. It also assures infrastructure maintenance since the above contributions are requirements to reconfirm rights once the system is in use. Through the resulting appropriation of the system and its water rights by the user families, collective action among the property right-holders of the shared system and the common water resource is reinforced.

However, in Licto this norm means much more. It constitutes a basic instrument for communities to challenge State power and management in the system. It is also the keystone of the peasant and indigenous organisation in its drive to break free from their historical domination by the town mestizo families. On the basis of the criterion of 'creating rights', they have managed to organise all the indigenous communities, most of them located at the system's tail end. Since then, in a process of ups and downs, the Licto irrigators' organisation has earned increasing respect from the poor, the indigenous, the development agencies and the State, and the recognition of ever-more mestizos who have 'made the best of a bad lot' and applied for membership in the irrigation organisation. There has been a gradual process of reorientation toward community co-existence not only at the inter-community level, but also within many indigenous communities.

Since 1997, water has been flowing in Licto, four years after the scheduled date as planned in the 'final design'. In 2002 the full discharge was finally released to the Licto communities. Although the irrigators' organisation continues to experiment and find the best way to internally establish the most adequate schedule to distribute the water over the 16 communities, 100 tertiary units and the more than 15,000 small parcels; the intercommunity organisation has gained great practical experience. It manages this relatively large-scale system, for the Andean context, by it self. Ironically, although the Ecuadorian government has adopted the international discourses of 'decentralisation' and 'irrigation management transfer to the users', the State agency tries to 'get back' the management of the system: not in order to really carry out the water management tasks and responsibilities, these are left to the users, but to take back decision-making power and the authority to establish the rules of play in the system. The peasant and indigenous communities of Licto, however, after so many years of struggle, are firmly determined not to give up their *de facto* rules, rights and authority.