INVESTMENT NOTE 10.2

GENDER AND INDIGENOUS INSTITUTIONS IN AGRICULTURAL WATER MANAGEMENT

The sustainability and poverty-reducing impacts of agriculture water development and water management projects are predicated upon inclusive institutions for infrastructure operation and maintenance and water management reform implementation. Indigenous social capital, cultivated over centuries by rural communities is a precious asset and should be fully utilized in institutional design. Ignoring existing indigenous institutions, or imposing conditions that cannot be accommodated in informal settings have in the past led to an erosion of social capital, polarization of social relations, and elite capture of the benefits of projects, at the expense of the more vulnerable, in particular women. Where indigenous arrangements themselves are less inclusive in gender relations, program design provides the opportunity for inclusive and transformative, participatory project intervention. Strategic reform areas include legal harmonization for recognition of indigenous rights; and economic valuation of ecosystem services undertaken by indigenous peoples.

INVESTMENT AREA
Institution-building is a pivotal element of agricultural water management investments for rural development. It is central to investments in water infrastructure development and rehabilitation for agriculture; soil and water conservation measures; aquaculture; and multiple-use water schemes for domestic and productive uses and is therefore of paramount importance in ensuring sustainable water management at the field level. Initiatives in water regulations, investments in Irrigation Management Transfer; formal water legislative reform; and water pricing, will only be as effective as the institutions that implement and enforce the new arrangements. In developing such institutions, indigenous (or more broadly: informal, local, or customary) institutions are a largely untapped resource.¹ Over many decades or even centuries these have governed water use and management for most rural water users, effectively highlighting the benefits of collective action at the local level.

Rather than replacing such arrangements with imposed, entirely new formal institutions (even if this were fully feasible), projects should take existing institutions as the starting point, and complement or transform those exhibiting weaknesses. Recognizing and building upon indigenous existing institutions avoids erosion of social capital and further polarization of existing social relations. The latter can happen when hasty and “blueprint”-driven project approaches are imposed from outside. Often these external models allow for easy capture of project benefits by the literate, well-organized, mobile, male and relatively better-off members of the community. Such elite capture can be minimized by

¹ This Note defines indigenous institutions as those that are informal, local and customary, in contrast to those that are formal, often supra-local, and/or juridical in nature. This Note generally does not use the term indigenous to refer to Indigenous Peoples (that is, aboriginal or ‘native’ peoples), the one exception being the Mexico case cited in the text.
understanding the communities and their institutions, and avoiding direct and indirect discriminatory provisions in project design.

Existing local institutions are not a panacea for all water management challenges and may also present problems. For example, in contrast to a country’s constitutional requirements, indigenous water management institutions and broader tribal authorities or community leadership structures may be hierarchical, along gender and age lines, and may enforce ethnic divisions. For example, land tenure in sub-Saharan Africa allocates only secondary land rights to women. Where customary law is found to perpetuate social exclusion in some form, project-designed institution-building based on indigenous norms and values should seek to be transformative to reduce this exclusion.

**Box 10.2.1 INDIGENOUS PARTICIPATION IN MEXICAN AGRICULTURAL WATER MANAGEMENT POLICY**

A recent World Bank study on indigenous institutions in agricultural water management in Mexico concluded that recognition and legal status for indigenous institutions are essential to equitable and efficient water management at multiple levels. Five case studies were undertaken in indigenous zones facing critical problems with water scarcity and related social conflict, namely: Tarahumara; Purepecha; Mazahua; Nahua; and Mixteca.

Indigenous water management institutions identified included such functional areas as: community labor to clean springs; and assignment and distribution of water use rights via collective assemblies. These institutions are known to protect collective access to resources during seasonal water-scarcity periods. Their incorporation in project design can increase water efficiency and decrease resource conflict.

Another finding was that, active water markets can be polarizing: the Mazahua Zone in particular has since 2004 seen the formation of the “Movement of Zapatista Women in Defense of Water” in which indigenous women have called for both their rights to water resources as well as inclusion in regional development processes. Local tourism development had appropriated water sources used by the indigenous population. Also at basin-level, development policies had focused on users in the middle and lower parts of the basin, ignoring the needs of indigenous people in the upper basin.

Recommendations include: recognition, valuation and compensation for the important ecosystem services role that indigenous peoples play in aquifer recharge zones; explicit reference within Mexican water law to indigenous peoples and their resource rights in line with the country’s Political Constitution and Forestry Law; inclusion within watershed councils and commissions charged with basin water allocation of representatives of indigenous groups as a distinct cultural group defined in addition to groups associated with particular use-functions (for example, industry or agriculture); more robust legal-institutional mechanisms for conflict resolution between indigenous persons and the non-indigenous population.


**POTENTIAL BENEFITS**

Indigenous institutions may well provide innovative solutions that are of interest to many, including the formal sector. Such an example is provided by the groundwater recharge movement in Gujarat, India, which was initially entirely spontaneous and voluntary (Shah 2006). Here, local private investments and migrant remittances allowed for development of various recharge structures from rainwater harvesting to percolation tanks and check dams (see Box 10.2.2).

The most sustainable institutional interventions may be forged through a hybrid model that combines the strengths of existing indigenous elements (for
example, using own-defined needs and constraints; time-tested approaches with genuine ownership; locally-suitable and holistically integrated components) with the strengths of formal elements (for example, public financial and technical support; engagement in formal financial transactions; formal ‘voice’ and direct -- rather than mediated -- participation in water conflict-resolution; legal state support to protect basic domestic and productive water needs). Crafting of project-supported institutions upon a solid indigenous base can avoid the all-too-common collapse of activities at the end of the project.

Building upon indigenous arrangements is also pivotal for poverty reduction and gender-equity as informal arrangements often represent the only social safety net and insurance for marginalized people. Also, communities may have strong norms about sharing of project benefits in general and sharing of water resources in particular, rather than allowing a few individuals to appropriate or over-use a scarce community resource. Projects, unaware of these rules may introduce measures that favor the elite, more than the communities would have allowed if they had been directing the project design. For example, some forms of water development disproportionately favor large landowners while formal legal codes often disadvantage poor water users. This can occur when new water laws require illiterate, physically remote, and uninformed water users to formally register their water use in order to be recognized. Water laws also tend to favor larger water users who register and obtain first-class, often individual, water authorizations such as licenses or permits that can be traded (and for which there is compensation in case of expropriation) while small water users get collective second-class water rights because, realistically, these are more difficult to administer. These forms of direct and indirect discrimination can be solved by recognizing communities’ (or groups of communities’) indigenous water rights as lawful.

**Box 10.2.2 COMMUNITY INVESTMENT IN GROUNDWATER RECHARGE IN GUJARAT, INDIA**

In India, experience has shown that groundwater overcharge can be effectively addressed by spontaneous, informal, self-help initiatives. The decentralized mass movement for rain water harvesting and groundwater recharge in the Saurashtra region of Gujarat is a good example of institutional development in long-term collective self-interest.

In Saurashtra, “barefoot hydrologists” first experimented with modifying open wells to collect monsoon flood waters. Early successes fired the imagination of villagers disillusioned with government programs. Soon, well-recharge was joined by such other water-capture structures as check dams and percolation tanks. A groundwater recharge movement developed, spurred also by religious leaders from groups like Swadhyaya Pariwar and Swaminarayana Sampradaya recognizing the work in their public discourse with a larger social purpose.

The gathering movement generated local goodwill and released large-scale philanthropic energies, with expatriate diamond merchants originally from Saurashtra now settled in urban India and abroad donating cash; local cement companies offering discounted cement; and communities contributing millions of days of voluntary labor. In sum, Saurashtra’s recharge movement was truly a bottom-up initiative and wholly private-sector led, including community financial and labor investments. In 1998 the state Government’s subsidy program for groundwater recharge was developed. This policy change shifted the Saurashtra movement away from its swayambhoo (spontaneous) and voluntary character.

Building upon indigenous arrangements may provide opportunities for women’s participation in non-traditional activities. Such an example encourages women to participate in project construction work to gain the rights to assets created through that work. This increases women’s economic security and status within the household. One land reclamation project in India realized late in implementation that widows and female-headed households faced barriers in meeting their construction contribution requirements for the project. Community members agreed to undertake the women’s share and to allow new land titles to be vested in the women’s names. Clearly, design identification of such social protection issues would have been preferable. For married women, joint titles are a more secure route for them to retain their water user rights (see World Bank 2005). Women’s participation and leadership in water user committees may lead to enhancing their positions in the community, and sometimes provides opportunities for more formal political participation, such as by standing for local elections.

Unfortunately, many water projects have curtailed women’s participation in construction work, even though women had such opportunities under indigenous customs (Van der Grift 1991). Similarly, women were legally deprived of their access to water for domestic and productive uses when, after project intervention, the water was defined as “irrigation” (Van Koppen et al 2006).

Projects should pro-actively assess indigenous institutions from the beginning of project planning, and debate in participatory ways how hybrid institutions might be crafted. By basing policy formulation and implementation in part on existing indigenous natural resources and water management institutions, social capital is maintained and time-tested elements are incorporated in the new institutions. Such local specificity and holistic integration with peoples' needs and available resources, also facilitates reliable compliance with, resource use rules and adherence to dispute resolution processes. These features are especially important for the most vulnerable community members.

Policy and implementation that rely entirely on externally imposed, government-driven institutions should be avoided, or, at least pre-tested on a pilot basis. In particular, recent initiatives to re-draft and implement government-based water legislation that affects, in principle, a majority of small-scale rural water users, should be carefully evaluated for their poverty impacts, including changes in resource access, use and control for smallholders, landless and women.

In sub-Saharan Africa, land tenure policy and implementation provide valuable lessons for the water sector as centralized rural land titling has witnessed many failures. As a result, achieving security of tenure rather than ‘unification of tenure’ under formalized systems with individual title is important (Van den Brink et al 2006). Where markets are underdeveloped, protection of customary land tenure is of particular importance, including in rainfed areas where intensive agriculture is not present (ibid). Thus multiple systems (that is, legal pluralism)
are possible, for example, with different regimes present in urban and rural areas, as well as for those lands under large-scale irrigation systems. Indigenous land tenure is increasingly taken as the starting point for project design, with formal arrangements adapted to indigenous land tenure and specific weaknesses in equity addressed. Water rights are even more difficult to administer than land as water is a “fugitive resource” (World Bank 2003). Unlike land, water resources in underdeveloped rural areas are naturally variable; often unknown and not easily controlled. Like land, there are collective community-based water arrangements that can also be recognized in water law, and taken as a starting point for improvements.

LESSONS LEARNED

- Indigenous institutions are an asset that is still largely untapped during the design and implementation of institutions for water infrastructure operation and maintenance and water resources management and regulation, from the local to the national level.

- Ignoring indigenous institutions may erode the community's social capital, with marginalized water users affected the most, because they benefit least from newly introduced institutions that require literacy; telecommunications connectedness; and socio-physical mobility.

- From a poverty alleviation and gender equity perspective, building upon indigenous institutions can be transformative, particularly when there are opportunities for women’s leadership, accompanied by transparent procedures in leadership structures.

- Decades of trial- and- error and the blending formal and indigenous land tenure, particularly in sub-Saharan Africa, offer critical lessons for the water sector.

RECOMMENDATIONS FOR PRACTITIONERS

- Use existing indigenous institutions for natural resource and water management as the starting point in crafting new water development and management institutions.

- Identify the strengths and weaknesses of indigenous arrangements and fully exploit the strengths, while proposing transformative measures to overcome the weaknesses, such as gender and other social hierarchies.

- Avoid competition between new formal arrangements and indigenous arrangements. Such competition can result in costly overlaps, and usually is to the detriment of indigenous arrangements and for those who are unable to access new formal institutions.

- Consider compensation to indigenous peoples for their ecosystems function in aquifer recharge zones (see Box 10.2.1 and Avila 2005).

- Harmonize constitutional and sector-specific laws to protect indigenous rights (Avila 2005).

- Pilot-test new formal legislation, by examining the new requirements...
‘from the perspective of a poor woman’ (Meinzen-Dick and Nkonya 2006).

INVESTMENT OPPORTUNITIES

- Generate knowledge about indigenous water resources management institutions.
- Develop and test effective and practical methodologies to build upon indigenous institutions in water development, management, and conflict resolution arrangements, including reformed water legislation in countries with large groups of indigenous or informal water users who cannot easily be reached by governments.
- Develop and test gender-transformative institution-building approaches based on indigenous institutions.
- Train indigenous populations to enable them to participate in inclusive institutions.

REFERENCES CITED


Van Koppen, Barbara, Patrick Moriarty, and Eline Boelee. 2006. “Multiple-Use Water Services to Advance the Millennium Development Goals.” IWMI


**SELECTED READING**


This Note was prepared by Barbara van Koppen of IWMI and Anne T. Kuriakose, and reviewed by Ruth Meinzen-Dick of IFPRI and Eija Pehu.