RAI • KN 13

Water access and management

This note provides guidance on how to ensure that the impact of agricultural investments on water resources is effectively measured, monitored, and regulated.

Water is essential to agricultural production and processing, and has been a driving factor in private and public decisions on where to locate investments. Despite global concerns about water scarcity and pollution, the water use of agricultural investments is in many cases not rigorously measured, monitored, or regulated. Where regulations exist, enforcement is often weak. Some investors improve local water access through the use of community development programs, but such schemes require consultation and careful management.

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RESPONSIBLE AGRICULTURAL INVESTMENT (RAI)

KNOWLEDGE INTO ACTION NOTES

The **UNCTAD–World Bank *Knowledge Into Action Note Series*** is a compendium of practical, thematic guidance documents for use by governments, investors, and other stakeholders in the implementation of responsible agricultural investment principles. Background and a complete list of notes are in *Note 1: Introduction.*

WHAT DOES FIELD RESEARCH SHOW?

Lack of monitoring and regulation. At half of the sites surveyed by UNCTAD, and the World Bank, water use was totally regulated, both prior to investment approval and during its operation. At the remaining sites, the assessment, monitoring, regulation, and enforcement of investors' access to and impact on water resources appeared to be inadequate and cursory. Even where there was well-established legislation with use rights, monitoring, and reporting systems, the capacity of authorities to implement and enforce requirements was seldom sufficient. Where investors did have to apply for water rights or adhere to extraction limits, these were often set only at the project approval stage with no subsequent monitoring of adherence to agreements made.

Inadequate identification and monitoring of impact. At the local, regional, or national level, the impact of investments on groundwater and surface water resources were usually not adequately assessed or monitored as part of the environmental and social impact assessment (ESIA) process. There was generally little monitoring of water pollution, except for reactive assessments after community complaints arose. Some investors had been implicated in the pollution of water sources that local communities rely on for drinking, fishing, or other purposes.

Inadequate consultation. Local communities did not feel adequately consulted about the potential of investors to affect local water sources. Water can influence how the investment site is developed, with significant consequences for local communities that need to be managed through consultation and community engagement; however, in most cases water access and use did not form a substantive part of the community consultation even when detailed information was available (box 1).

Disruptions in access. Reduced access to water was the second most common negative issue (after reduced access to land) experienced by local communities through the development of an agricultural investment.

Grievances included abstraction by the investor of surface water, thus limiting the available supply for local community needs, such as drinking, irrigation, watering of livestock, and other purposes. In some cases, communities were cut off from their customary water source when the investor's land became a buffer between the community and the water source.

Box 1. Concerns on water contamination

A company Tanzania undertook an annual environmental impact assessment (EIA) conducted by consultants accredited to the National Environmental Council. The audit covered issues such as the waste management on the entire farm, worker welfare, soil conservation, pollution from fertilizers, and water use and quality. In addition, checks were conducted on the implementations of recommendations previously made. During the EIA, about 10–15 water samples were taken.

However local farmers mentioned that they did not receive any information from the EIA. They claimed the company has not done anything about mitigating the negative impact on water quality. There was a lack of communication about assessment and monitoring results.

Source: UNCTAD-World Bank Survey of Responsible Agricultural Investment Database.

Resettled communities. Communities that had been resettled often perceived that their access to water was then worse. Often the site to which they were resettled was farther from water sources. In one case, local authorities were unable to repair a community borehole pump because it was on land that was allocated to an investor. The investor initially trucked in water but stopped the service due to financial difficulties, and the community subsequently had to walk long distances to fetch water.

Local potable water supplies. Investors sometimes agree to improve local access to water as part of community development agreements or to mitigate the impact on communities who have had their water access disrupted. Although communities generally welcomed such actions, sometimes inadequate attention was paid to the institutional aspects or the decision about who should manage the water distribution and how any ongoing costs should be covered. This can result in conflict between investors and communities over unrealized expectations.

Health and safety impacts. Poorly designed irrigation systems can result in ponding, which in malaria-prone areas become a breeding ground for mosquitos. Large canals can become a danger to children and animals if not properly fenced and may cut off traditional cattle and human movements.

Long-term nodal development. Large-scale irrigation developments that also provide water for community use can attract more people to an area over time. This in turn puts pressure on spatial development planning systems. In one case, a long-established, large-scale irrigation development posed health hazards from pooled water and the lack of an associated sanitation system.

✓ ELEMENTS OF **GOOD PRACTICE FOR INVESTORS**

ESIA and ESMP. The impact of the project on local, regional, and national water availability should be included in the ESIA, from both social and environmental perspectives. Mitigation actions should be incorporated in the associated environmental and social management plan (ESMP) (see *Note 14: Environmental and social impact assessments* for more information). Key questions include the following: What uses are currently relied upon, locally, regionally, and nationally? How could the project change these, either by reducing the quantity of water available, altering the distance to the water source, altering the cost of the water source, or altering the quality of the water source? What back-up water sources are available and used for different seasons and/or long-term weather pattern changes? How resilient are those who rely on the water resources to changes in access, quality, or quantity? What could be done to mitigate these impacts, and would such measures result in any changes in the cost management or technical skills of those using it?

Consultations with communities. Potential impacts on local water access and quality are an important element to include in consultations with local communities. It is also essential to ensure broad representation in such discussions, including women. The consultation process should include a thorough evaluation of current water use and users, access methods, and routes to the water resource and how investment impacts these, during both normal and extreme (drought and flood) conditions. Proposed mitigation measures should be discussed with communities and could be included in a community development agreement, as appropriate. The needs of pastoralists also need to be discussed and consideration given to agreements on corridors of land along water sources, which could be left unfenced and through which cattle could be free to roam.

Community development agreements. Investors should consider improvements to local water access—such as potable water supplies—in community development agreements. Schemes should have stable funding and be responsive to the needs of communities, as discussed during community consultations. The overall net effect on community water access should be positive, not merely substituting large-scale abstraction from major water sources, with small-scale solutions such as hand pumps or wells. There should be agreement about the ongoing maintenance of any infrastructure.

Women's role. Investors should recognize the pivotal role of women as collectors and users of water in households, by empowering them to participate in consultation, decision making, and implementation of water management programs.

Resettlement. Where resettlement occurs, the resettlement action plan should include provisions for how to preserve or improve the water access of resettled persons (see *Note 12: Relocation and resettlement*). Potential access disruptions to both the primary and back-up water sources, before and after the investment, should be evaluated and mitigated.

Development of a water management plan. For some investments, a water management plan based on the irrigation system of choice for the operation should be developed. It should address water sources, conservation, recycling, and pollution minimization. The plan should distinguish between consumptive and non-consumptive uses of water. It should consider the broader context of the river basin and other water users.

Handling of wastewater. Wastewater from processing operations should be handled in accordance with national regulations, international best practice, and the ESMP. In some circumstances, when appropriately handled, runoff may be captured for recycling by the investor or for use by local communities.

✓ ELEMENTS OF **GOOD PRACTICE FOR GOVERNMENTS**

Legislation. Governments should have a comprehensive water management law, which is the main legal instrument for water development and sets out the general principles for its control and use. Such an act should also address the institutional framework required for control and management. This may include provision for a national water authority, river basin organization, or water user associations with assigned functions and powers.

Interministry coordination. If the mandate for management of water resources spans several line ministries (for example, agriculture, environment, water), then interministerial coordination on standards, planning, monitoring, and consumption is important.

ESIA. Governments should consider requiring that ESIAs and ESMPs include impacts on access to and quality of water resources. This should include identifying all water users of the rivers or other water sources on which the investor intends to rely and of any environmental, health, and safety issues.

Screening investors. As part of investor screening procedures, consider the impact on water resources, as well as the investor's approach to impact mitigation (see *Note 6: Screening prospective investors*). In some cases, an independent study of the water impact of an investment may need to be commissioned.

Develop water access in line with human rights and development commitments. Although some investors do develop water access for their own operations or to provide access to communities, the government retains primary responsibly for the delivery of water and sanitation for its population. Governments should not rely on private investors to fulfil public services. Rather, they should continue to develop clean water access, working with the private sector as appropriate.

Contracts. Governments should include in the investment contract any commitments for water use, abstraction rights, or mitigation of other impacts.

Monitoring and reporting. Water quantity and quality should be monitored and reported to the relevant authorities on a periodic basis. Monitoring should include consumption and quantity indicators, as well as background parameters such as groundwater levels and surface flows (box 2).

Box 2. Examples of good practice in water access and management

- A sugar investor in Tanzania has introduced a "sustainability measurement and reporting" system in which the risk management officer collects and reports all issues of sustainability and develops suitable mitigation measures. They include energy consumption, water extraction, effluent discharge, CO^2 emissions, waste disposal, and treatment of hazardous chemicals.
- At one investment site in Malaysia, sampling and monitoring of water quality in waterways around the investment is undertaken by an external consultant who submits the results directly to relevant government departments. Sampling and monitoring of the quality of effluent discharge water is undertaken, and the results are submitted to the environmental authority at monthly intervals.
- At another investment site, in Indonesia, environmental authority enforcement officers found that partially treated effluent had leaked from anaerobic ponds into the river. The pollution of the river from this incident had a negative impact on local communities living along the river. The investor was instructed to take immediate action on the authority's recommendations for remedial work which included the construction of a gabion-style retaining wall around treatment ponds. The investor has undertaken this work and submitted progress reports to the authority. This illustrates that where monitoring and enforcement is practiced effectively, it can have positive environmental outcomes.

Source: UNCTAD-World Bank Survey of Responsible Agricultural Investment Database.

Spatial planning. Governments should recognize that availability of water (especially potable water) creates challenges for spatial development planning.

Water management and valuation. Governments should manage water as a scarce economic resource to achieve efficient and equitable use, and to ensure the conservation and protection of water resources. Valuation of land for investment purposes should fully account for the value of the water right conferred with the land right.

REFERENCES AND RESOURCES

This Note is complementary to the literature and guidance documents to which many organizations have contributed, a selection of which is provided below. Further resources are provided in *Note 2: Additional resources.*

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