



**BRIEFING NOTE**

# Private Investments and Agriculture: The importance of integrating sustainability into planning and implementation

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Agriculture is often a significant source of livelihoods and food security for people in many countries. Overall, 1.5 billion people live and work on small farms, primarily worked by women, to plant staple crops and vegetables for food security and cash crops to generate income to supplement their diet (World Bank, 2011a). Conditions affecting agricultural production—from the availability of fertile lands and freshwater inputs, underlying land tenure and water access, and community economic benefits including farm wages and farm-gate earnings—are critically important.

Agriculture in developing countries needs well-designed and targeted investments to help address challenges in rural areas. Estimates of additional investments needed vary between USD 5 billion per year (with a focus only on food security) to USD 160 billion to address food security and extreme poverty over at least for the next 15 years (Food and Agriculture Organization of the United Nations [FAO], 2015; IISD & IFPRI, 2016).

**AN IMPORTANT POLICY QUESTION IS** to what extent these large-scale agricultural investment contribute to improving local livelihoods, economic and environmental conditions, and how these contributions compare with needed investments in agriculture to reduce rural poverty and food insecurity? This note examines some dimensions of this question, focusing on the following areas: impacts on water quantity; land and soil quality; land tenure and community benefits; and off-farm migration. It is the first of a series of publications that aims to connect diverse sectoral work at IISD focused on water, agriculture, resilience and Sustainable Development Goals (SDGs).



## Land Use, Private Investment and Sustainability Concerns

Overall, large-scale agricultural investments can have both positive and negative impacts. In sub-Saharan Africa and Southeast Asia, documented positive impacts on food security include: employment creation, integration of local farmers, expansion of market opportunities, and establishment of community development programs (United Nations Conference on Trade and Development [UNCTAD] & World Bank, 2014). Investments can also provide opportunities for technology transfer to improve yields and reduce environmental impacts by using new technologies (World Bank, 2014). Negative impacts observed include severe environmental impacts, poor resettlement plans, lack of engagement with local communities, ineffective ways of addressing environmental and social impacts, and insufficient mechanisms to raise grievances (UNCTAD & World Bank, 2014; World Bank 2014).

The research discussed in this note shows that current practices of ill-designed investments not only have direct negative impacts on local communities (for example by limiting access to land) (World Bank, 2014), but also cascading impacts such as migratory pressures for rural communities to urban areas, as well as negative impacts on land, water and biodiversity (Figure 1). Such negative consequences often deepen because weak institutions are unable to negotiate and/or enforce the positive contributions of investments contracts. Finally, negative impacts are often harder on women because of their responsibility to collect water and ensure food and nutrition for households, as well as their weaker access to land tenure and negotiation opportunities compared to men.

In order to reduce negative impacts and increase benefits, a key finding of IISD research is that policy matters—more specifically, the design of benefits to communities and adherence to environmental standards—are critically important.



Figure 1. Cascading impacts of agricultural investments on people and environment

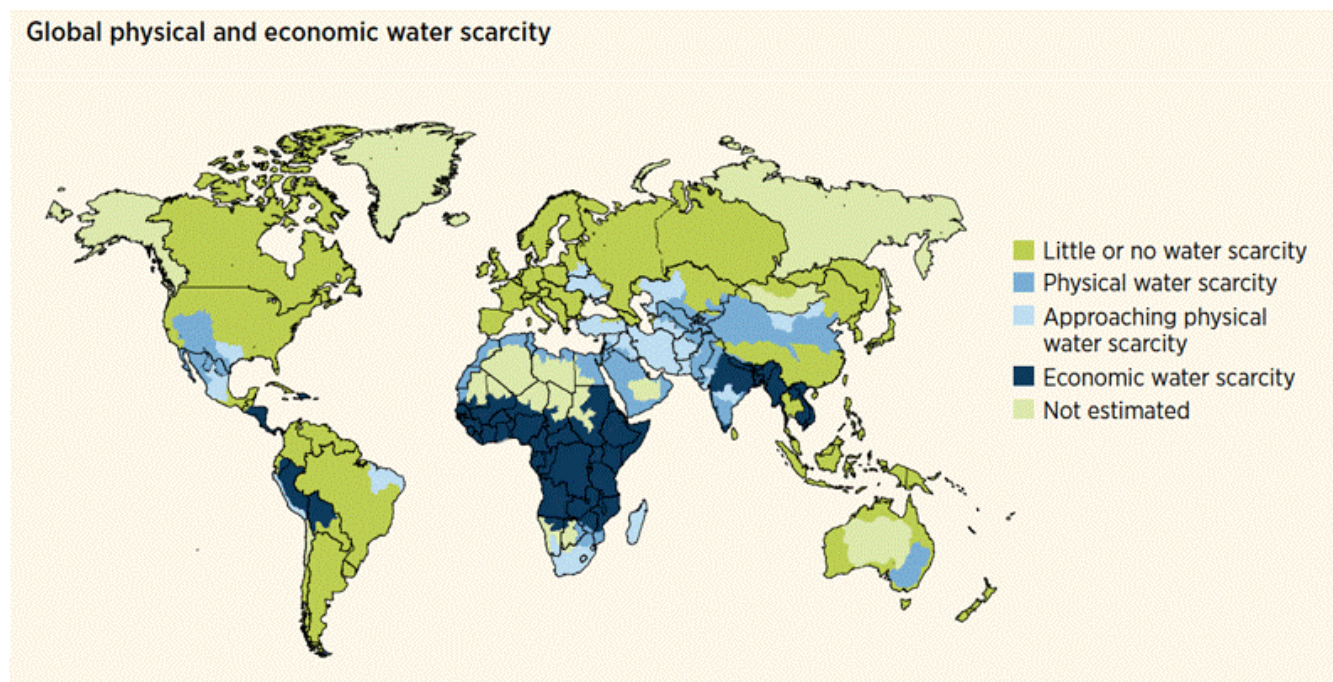


## Critical Linkages Between Water, Land Productivity and the Environment

Investments in large-scale agriculture inputs—fertile soil and water—are the most critical. Estimates show that water demand for irrigation in areas of agriculture investments can increase by 50 per cent (Johansson, Fader, Seaquista, & Nicholas, 2016). Even though water is a scarce resource in many regions, it is often the cheapest way to increase agricultural yields compared to inputs such as costly fertilizers. This is because water rights and water extraction rates are not explicitly included in investors' contracts, and so unregulated water use for irrigation is not costed (Smaller et al., 2015).

Subsidies often encourage uncoordinated water withdrawals by different users. For example, the World Water Assessment Programme (WWAP) (2012) estimated that India extracts more than 25 per cent of the global total groundwater resources every year. Groundwater levels are particularly stressed in areas with electric pumps, which are supported by government subsidies (Mukherji, Shah, & Giordano, 2012). Such large use of groundwater for irrigation has serious environmental and economic implications. It depletes groundwater, thus causing deepening of water levels in wells, which in turn increases the energy needed to pump water to the surface for irrigation and other purposes (Sharma, Tripathi, & Moerenhout, 2015).

This is a dangerous precedent as (for example) one third of the world's population lives in areas of unsustainable water withdrawals as a consequence of excessive water use for agriculture, urban areas and because of climate change impacts (Pinter, Almassy, Offerdahl, & Czunyi, 2015; WWAP, 2012). Specifically, almost 20 per cent of the world's population already faces physical water scarcity, while 7 per cent is close to experiencing it (World Water Assessment Program, 2012, Figure 2).



**Figure 2. Water scarcity challenges at the global level**

Source: World Water Assessment Programme (WWAP), 2012.



Another critical issue is community access to water for farming and drinking, which can have a bigger impact on women, who often bear the responsibility for farming and collecting water. Approximately 25 per cent of the world's population lacks adequate infrastructure to ensure safe and affordable access to water (World Water Assessment Program, 2012). Globally, public investments in water infrastructure have been increasing, but these investments are more significant in countries at higher levels on the human development index (HDI) (Pinter et al., 2015). Such countries have prioritized investments in water supply and energy/hydropower plants and put less emphasis on rainwater harvesting and natural water management systems (Schuster-Wallace & Sandford, 2015). To boost investment in water resource management, the role of the private sector in financing is important. For example, microfinancing, when linked to pro-environmental behaviour in agricultural practices, can improve the sustainability of water use and local environmental sustainability in general (FAO, 2011).

Investment efforts to land and water need to be coordinated—sharing between users must be explicitly identified to account for their needs and broader environmental impacts, including those related to climate change. Thus, it is important to secure property or tenure rights for investors as well as for local communities for access and use of both land and water.

Unfortunately, common practices for land tenure place interests in the hands of government, which can lead to situations in which the investor is allocated secure tenure to land and water, while local communities are left with weak or non-existent tenure rights (Smaller et al., 2015). Research suggests that new forms of tenure structures are needed that combine formal tenure rights recognized or set out in a contract with informal community-based land and water management systems. In practice, this means moving toward a social tenure model, which includes:

- Land and water tenure for local owners and users that is clearly identified before the private agricultural investors' contract is negotiated. This is even more important from a gender perspective, as women often have difficulties in proving their own rights to the land they work and live on (World Bank, 2011b).
- Informal rights such as occupancy, adverse possession, tenancy, use rights (this can be formal as well), customary rights and indigenous tenure are recognized and supported (with regard to information management) in the land administration system (Lemmen, Augustinus, Van Oosterom, & Van der Molen, 2007).
- New technologies such as satellite imaging, GIS and on-line local surveys, which allow mapping of informal user and tenure rights in a relatively cost-effective and timely manner. These technologies also provide opportunities to estimate water allocation and water rights based on current practice and future needs of local and regional users.
- Finally, negotiating ways to combine formal water permits with informal water agreements to allow for better water allocation between (and within) sectors need. Such an allocation system needs to account for changes in water availability due to seasonality and needs of both upstream and downstream users (Ton, de Grip, Klerkx, Rau, & Douma, 2013; FAO, 2011; WWAP, 2012).



## Critical Linkages Between Water, Food Security and People

Contracts designed to maximize return on private foreign and domestic investments from agricultural contracts may have both positive impacts (such as income generation) as well as negative impacts (such as over-exploitation of water, limited access to land for local communities and out-migration). Income generation through farm work often provides direct benefits to food security by providing income for the purchase of food. A recent review of large-scale land transactions in Ethiopia since 1992 showed that losses from land access can be offset by investments, providing gains from employment generation as well as business opportunities (Baumgartner, von Braun, Abebaw, & Müller, 2015). This positive outcome, however, requires well-designed frameworks for investments in order to generate benefits for local communities, such as ensuring access to training, opportunities for integration of local farmers into the resulting agricultural production activities, strengthened monitoring of effects on local ecological resources (Table 1).

Rural women are responsible for half of the world’s food production and produce between 60 and 80 per cent of the food in most developing countries (Baumgartner et al., 2015; FAO, 2011). In sub-Saharan Africa and the Caribbean, they produce up to 80 per cent of basic foodstuffs (FAO, 2011). Yet women are often disproportionately affected by the negative impacts of investments, with limited opportunities to use the benefits. For example, they are responsible for collecting water, and limited access to water leads to the additional burden of them needing to walk longer distances and spend more time collecting it (Blackden & Wodon, 2006). Many of the suggested private investments that aim to improve benefits for local communities may not take into account gender differences and thus often limit opportunities for women. Instead, their circumstances would be better improved by specific gender-sensitive actions, such as improving women’s access to services, jobs and involvement in decision making (Table 1).

**Table 1. How to encourage private agricultural investments to promote well-being**

Theme	Specific interventions
To provide access to land	<ul style="list-style-type: none"> <li>Targeting employment creation to provide opportunities for communities, integration of local farmers, expansion of market opportunities, establishment of community development programs and increased incomes leading to improved food security.</li> <li>Preparing for the negotiation of the contract involves a thorough assessment of the land, soil and water with the meaningful inclusion of communities living on or around the site.</li> <li>Strengthening capacities for monitoring and enforcement of the contracts, especially for governments with weak resources or capacity.</li> </ul>
To limit water resource depletion	<ul style="list-style-type: none"> <li>Investors are responsible for delivering services such as the extension of the distribution network, quality monitoring or maintenance of irrigation infrastructure.</li> <li>Investors commit to delivering new irrigation technologies such as drip irrigation to improve water-use efficiency.</li> <li>Crops are selected based on their water requirements.</li> <li>Water availability and needs are accessed in the context of other needs such as local community, biodiversity and energy production.</li> </ul>
To address gender discrimination	<ul style="list-style-type: none"> <li>Including discussions on gender equality in all community training.</li> <li>Including female and male elders from all groups in key decision-making processes over sensitive issues.</li> <li>Mandating gender-awareness training for all staff.</li> <li>Training of women in areas in which they are under-represented—in technical areas and in leadership roles.</li> <li>Promoting women into leadership positions.</li> <li>Eliminating unequal access of women to extension services, loans, credit and overall market access.</li> </ul>

Sources: Smaller et al., 2015; FAO, 2011; World Bank, 2011a; Baumgartner et al., 2015; Sexsmith, in press.



Finally, limited access to quality water and land together with the impacts of climate change, natural disasters, lack of employment opportunities, and resettlement due to development and investments can push people to migrate away from their communities. About 19 million people were internally displaced in 2015 by natural disasters, with 91 per cent fleeing weather-related hazards (Internal Displacement Monitoring Centre [IDMC], 2016). Areas already affected by environmental degradation, with limited access to land, encourage male labour migration (Doevenspeck, 2011; Scheffran, Marmer & Sow, 2012). In such areas, however, women then assume the primary responsibility for food production; changes to land access, water supplies and labour availability may therefore disproportionately affect them (FAO, 2011). Particularly in developing countries (where they have few effective decision-making powers), women often lack even a voice in community governance and (as individuals under traditional law), are increasingly without security as male family members migrate (FAO, 2011).

Given these issues, it is important to take an integrated approach to private agricultural investment planning. This integrated approach allows us to bring together all the different implications of such investments, from migratory pressures and resource degradation to impacts on gender, in order to reduce poverty and food insecurity, to attract and support local businesses, while at the same time limiting natural resource depletion, in particular water.



## Using the Sustainable Development Goals (SDGs) to Frame Priorities for Agricultural Investment

Doing in-depth assessments of land and agricultural investments within a broader context clearly shows that their implications for water withdrawals, food security, access and women’s role can be overlooked. Recognizing the need for integration, however, can lead us to conduct reviews and identify (on a case-by-case basis), the gaps and trade-offs that need to be addressed in future efforts. We can also start searching for global frameworks that have already identified these linkages and use them as a guideline to frame assessments and decide the types of issues and trends that need to be considered.

The Sustainable Development Goals (SDGs) provide a comprehensive vision of a sustainable future for 2030, covering all critical aspects of human development within the planetary boundaries. The SDGs are highly integrated, pointing simultaneously to the specific aspects of social, environmental and economic development needs. For the focus of this paper, the most relevant seven SDGs include those with a focus on land and food security, water, gender, good jobs, inclusive institutions and participatory decision making (Table 2). These SDGs stress the importance of sustainable land management practices, sustainable water withdrawals, maintaining rights to land and water (especially for women and small-holders) and developing investments that ensure effective job creation and participation of women. Further, SDG 16 stresses the importance of improving institutions and decision-making processes to ensure inclusiveness and accountability when deciding and monitoring land management, tenure systems and investments.

In this way, this subset of SDGs can be used to frame future studies to ensure that all critical aspects of land investments are considered, thus ensuring synergies across economy, nature and livelihoods are maximized and trade-offs are minimized.

**Table 2. SDGs that provide direct input into the design of land investments**

					
Eradicating extreme poverty, ensuring access to basic services by promoting pro-poor and gender-sensitive development, investments to poverty eradication	Ending food insecurity and malnutrition, to double the agricultural productivity and incomes of small-scale producers, in particular women.	Eliminating discrimination against women and ensure participation, equal rights to economic resources, access to ownership and control over land.	Increasing water-use efficiency and ensure sustainable withdrawals and supply of freshwater to address water scarcity.	Promoting development-oriented policies that support productive activities, decent job creation, entrepreneurship, creativity and innovation.	Creating peaceful and inclusive societies with accountable institutions by ensuring responsive and participatory decision making, and promoting non-discrimination and sustainable development.



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