

Policy Review: Egypt

The Role of Water Productivity in Water and Agricultural Policies in Egypt

The water sector in Egypt is complex and characterized by increasing interdependencies among users over water scarcities within and outside Egypt. There are different ministries with different mandates involved in water management. This policy review focused on agricultural water management and thus the most relevant ministries were the Ministry of Water Resources and Irrigation (MWRI) and the Ministry of Agriculture and Land Reclamation (MALR). The MWRI is responsible for the overall allocation and distribution of water in the different sectors. The MALR, with the water users' associations (WUAs), is responsible for water management in the tertiary level. Both ministries acknowledge the potential of water savings through improvements in conveyance (responsibility of MWRI) and application (responsibility of MALR) efficiencies. Improving conveyance efficiency is seen as a way to meet the water demand with good quality water while improving application efficiency is seen as a way to expand the agricultural land. This policy review showed that MWRI focuses on water security for all sectors with rationing for agriculture, whereas MALR advocates for a combined improvement of land productivity in existing lands and expansion of the agricultural sector through land reclamation. Largely absent from Egyptian policies are notions of productive use of water or references to water productivity in general. This might be assigned to the cultural perception that water is considered as a public good.

Egypt almost completely (for 97%) depends on Nile waters which comes from upstream countries who increasingly use the water for their own development. Based on the Nile Water agreement of 1959 between Egypt and Sudan, Egypt's share of Nile water is 55.5 Bm³/yr. However, water competition between the Nile Basin Countries is increased during the last years, putting extra pressure to the future water supply of Egypt. For the agricultural year of 2015, the overall Nile water efficiency was almost 80%, with the remaining 20% consists of drainage losses. However, application efficiency is considerably lower. During 2012, 21% of water supply was from re-used water (CEDARE, 2014).

Agriculture is the biggest water user, using 80% of the country's water resources. In 2014, it employed 27.5% of the population and contributed to 14.7% of the GDP (CAPMAS, 2015). It is the main source of income for the 42 million people living in rural areas. With rainfall being very limited, Egypt is fully dependent on irrigation for its agricultural production. The country has a total of 3.78 million ha of irrigated land divided over Old (Nile Delta and Valley area) and New Lands (reclaimed areas in the desert adjacent to Old lands and the areas in the oases). The main crops are wheat, maize, clover, vegetables and rice. Other crops are sugar cane, sugar beet and cotton.

The main water policy of MWRI is the National Water Resources Plan 2017-2037 (2017), which aims to achieve water security for all, among other by rational use and improved water efficiency. Water use can be rationalized through managing field level demand, promoting strategic cropping patterns, cultivation of low water consuming crops, and legislation that bans exports of water demanding crops interpreted here as an on-farm increased yield production and increased land productivity (vertical expansion). Food security is addressed by complementing staple production with export of high value crops and import of staple crops and mostly wheat (virtual water trade). In 2009, MALR drafted the Sustainable Agricultural Development Strategy (SADS2030) that aims for irrigation efficiency gains that enable reclamation of new lands (horizontal expansion). The SADS2030 defines targets on (near) self-sufficiency in specific goods to avoid economic shocks similar to the food crisis of 2008, with the Covid-19 pandemic being one. The plan also notes interventions to develop export-oriented production. Land reclamation in New Lands are mostly focused on export-oriented production, due to the use of non-polluted groundwater, which increases economic water productivity and food security but might also lead to unsustainable water management.

This policy review has identified that both MWRI and MALR focus on improvements in land and water productivity in already existing cultivated land while MALR also focuses on expanding to new areas for agricultural development.

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