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Towards a Sustainable Sugarcane Industry in India; Improving Water Use, Crop Production and Profits for Indian Sugarcane

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Abstract

The sugarcane industry is India's second largest agro-based industry and about 6 million farmers and a large number of agricultural labourers are involved in its cultivation. Sugarcane is a major consumer of water and the decreasing level of the natural groundwater resource threatens food security, economic growth and livelihoods. Decreasing levels of groundwater have in particular influence on production of vegetables and rice which are water intensive crops and corps important for food and nutrition security.

Solidaridad Network Asia with partners have initiated the programme 'Increasing water use efficiency in sugarcane growing in India' in 2016. With support from the Sustainable water Fund, the project intends to enhance both sustainability of sugarcane growing and to raise smallholder incomes. Wageningen Economic Research (WEcR) conducted a baseline study in 2016 for this programme to enable the subsequent evaluation of the socio-economic impact on sugarcane farmers. A pipeline approach was used which clusters the farmers in cohorts based on the year they receive initial support and training (e.g. starting in 2016, 2017 or 2108). The baseline survey was conducted on 1008 farmers.

Baseline results show that good agricultural practices are lacking across all mills and the uptake of drip irrigation is limited, as is knowledge on maintenance. Farmers face financial barriers in the uptake of good agricultural practices and irrigation systems and government subsidies function as financial enablers. The reputation of the mills from the perspective of the farmers influences potential uptake of good practices. Adoption of drip irrigation is not related to higher productivity or gross margins and this requires more attention as it is one of the key elements of the projects' intervention logic.

The mid-term and end-term surveys will be conducted in 2018 and 2020. This will enable to draw robust conclusions regarding the welfare impact and the resource use implications of the project. The underlying theory of change states that mass adoption of water efficient farming methods and techniques will improve water use efficiency in sugarcane farming to the point that water extraction is reduced below the natural replenishment rate and thus contributes to improved food security and livelihoods.

Keywords: Evaluation, India, livelihoods, sugar, water scarcity

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