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Income Alternatives of Smallholders at the Itaparica Reservoir in NE-Brazil

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Abstract

Irrigation farming is seen as a suitable tool to promote rural development in the semi-arid Northeast region of Brazil. Especially in the last two decades, federal and state-owned authorities established several irrigation projects along the lower-middle São Francisco River to provide local smallholders the opportunity to generate income and consequently, reduce rural exodus. Due to lack of infrastructure and scarcity of irrigable areas, income derived from agricultural activities is, in many cases, still not sufficient to provide the livelihood for smallholders. Thus, they depend on income alternatives outside irrigation farming.

This study identifies and evaluates income alternatives of smallholders in the Apolônio Sales and Icó-Mandantes irrigation projects in the municipality Petrolândia, Pernambuco. It also weighs the alternatives' importance from an economic perspective as well as by the farmers' perspective. Furthermore, potential innovative income alternatives are assessed concerning their economic viability, social acceptance, and practicability. A special interest lies upon Umbu production, the fruit of the endemic xerophytic tree *Spondia tuberosa* Arruda, on drylands to reduce the pressure on irrigated areas and contribute to a more sustainable land use.

A random sample of 50 farmers were interviewed - 20 interviews were conducted in the rather prosperous community of Apolônio Sales and 30 in Icó-Mandantes. Although being planned and constructed at the same time, the communities differ in many aspects, such as farm size, farmers' networks, education, capital availability, infrastructure, and social and political influence. Additionally, ten experts were interviewed to gain an overview of the socio-economic situation of the smallholders and to analyse other potential income sources. Although most smallholders still consider themselves as farmers and mentioned crop production as their most important income source, only two of the interviewed smallholders gain their living solely with farm income. Especially in Icó-Mandantes, most households relied strongly on non-agricultural income – mainly social benefits and off-farm work of family members. Three promising income alternatives were identified. Umbu production, beekeeping, and fishery may, despite existing limitations, have the potential to improve the middle or long term income situation of the smallholders and help to reduce the pressure on the irrigable land.

Keywords: Alternative land use, income alternatives, irrigated agriculture, Northeast Brazil