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Is Small-Scale Irrigation an Efficient Pro-Poor Strategy in the Upper Limpopo Basin in Mozambique?

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#### ACCEPTED MANUSCRIPT

# IS SMALL-SCALE IRRIGATION AN EFFICIENT PRO-POOR STRATEGY IN THE UPPER LIMPOPO BASIN IN MOZAMBIQUE?

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#### 1 Introduction

With the adoption of the strategic plan to reduce absolute poverty (Portuguese acronym PARPA I) and its sequels, the Government of Mozambique has officially made poverty alleviation a priority. In the semi-arid region of Mozambique, small-scale irrigation (SSI) is being promoted as a mechanism for poverty alleviation and/or food security. This is notably the case in the upper part of the Limpopo Basin in Mozambique where SSI has expanded rapidly in the last decade. Here, SSI refers to irrigation schemes covering less than 50 ha using low-cost technologies, such as small moto-pumps.

Originally, SSI was intended to overcome the failings of large-scale irrigation. SSI has spread widely in Africa thanks to the development of cheap moto-pumps (Fraiture and Giordano, 2014; Kimmage, 1991). Irrigation helps alleviate poverty through different direct or indirect mechanisms, for example: increased food production and income, higher and more stable demand for labour, increased agricultural productivity and a reduction in food prices (Hanjra et al., 2009). SSI is often considered to be inherently pro-poor because it encourages a fairer approach to the development and management of irrigation schemes (World Bank, 2006). At micro level, different studies have shown that farm households with access to SSI were significantly less poor than those with no access to irrigation (Bacha et al., 2011; Dillon:, 2011). However, the distribution of privately owned equipment tends to be unequitable. For example, in Ghana, pump owners tend to be better-off male farmers (Namara et al., 2013). Thus, the question is whether explicit pro-poor interventions that focus on SSI can help redress the imbalance in access to irrigation.

This paper assesses the success of one SSI programme in alleviating poverty at community level in Mozambique. It argues that high irrigation costs are progressively excluding the poor, who are unable to generate cash from other activities to pay for fuel. In addition, collective schemes are jeopardized by the development of private irrigation systems, which benefit from hidden subsidies the local develop fund allocates to the local elite. This situation can also cause resentment at community level, which may weaken community cohesiveness and capacity for collective action.

#### 2 Context

This study was conducted in the district of Mabalane, which is located in the upper part of the Mozambican Limpopo Basin. This predominantly agro-pastoral district is sparsely populated and has a semi-arid climate. Total annual rainfall ranges from 361 to 470 mm (INGC et al., 2003). Most rain falls from October to March. Mabalane district is one of the most risk prone areas in Mozambique. In the last 15 years, it has experienced two major floods (February 2000 and January 2013) and one major drought (2004/2007). Both available data and local perceptions suggest that the region is already affected by climate change, for example the delayed onset of rain and an increase in heavy rainfall events. (Parkinson, 2013; Ribeiro and Chaúque, s.d; Sacramento et al.).

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