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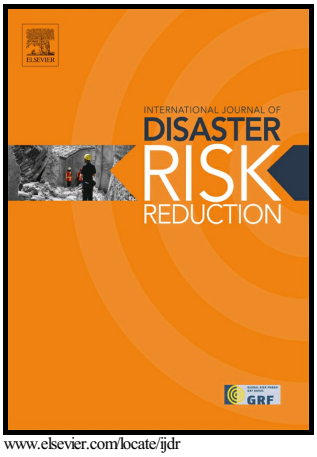

www.elsevier.com/locate/ijdr

PII: S2212-4209(18)30113-4
DOI: https://doi.org/10.1016/j.ijdrr.2018.01.032
Reference: IJDRR776

To appear in: *International Journal of Disaster Risk Reduction*

Received date: 19 August 2017
Revised date: 27 January 2018
Accepted date: 27 January 2018

Cite this article as: Surutwadee Pak-Uthai and Nicolas Faysse, The risk of second-best adaptive measures: Farmers facing drought in Thailand, *International Journal of Disaster Risk Reduction,* https://doi.org/10.1016/j.ijdrr.2018.01.032

The risk of second-best adaptive measures: Farmers facing drought in Thailand

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Abstract

The measures taken by farmers to adapt to climate events are generally characterized in terms of the required resources and their effects, and based on these effects, measures are typified as leading to short-term or long-term adaptation, or to maladaptation. This paper examines the short-term effects of adaptive measures taken by farmers in Suphanburi Province, Thailand, to deal with the major hydrological drought in 2015 and 2016. The farmers implemented diverse measures aimed at increasing access to water, reducing their need for irrigation water or obtaining a non-agricultural income. Less than one third of interviewed farmers were able to implement first-best adaptive measures, which involved little risk as farmers had secure access to alternative sources of water and to markets. The other farmers were unable to implement these measures. Half of the farmers opted for second-best measures, which involved risky attempts to increase access to water or to shift to other productions. Farmers also took other second-best adaptive measures that involved much less risk, such as non-agricultural activities, but that only provided a limited income. Therefore, based on their short-term effects, most adaptive actions could not be typified in terms of increasing or decreasing farmers' vulnerability to drought, but far better in terms of the risks they involved.

Key words: adaptive measure; drought; risk; Thailand

1. Introduction

Drought, which is usually defined as a water deficit compared with normal conditions (Kiem et al., 2016), is one of the main uncertainties faced by farmers. A drought may be meteorological, generally caused by low rainfall, but can also be hydrological, i.e. a lack of water resources accessible to farmers. Human activities can trigger a deficit in water resources or exacerbate an existing deficit caused by low rainfall (Van Loon et al., 2016).

Compared to other climate uncertainties that farmers have to face (e.g., floods), drought is different because it persists over time. Farmers can adopt farming systems that are ex ante less sensitive to drought, as they also usually have enough time to identify and implement adaptive measures during the drought event. For instance, farmers can increase their access to water by investing in drilling or deepening an existing borehole (Ashraf et al., 2014), they can reduce their cultivated area or shift to activities that require less water (Campbell et al., 2011; Cenacchi, 2014; Singh et al., 2016). They may try to obtain income from non-agricultural activities either on-farm or off-farm (Alary et al., 2014;