

Strategies of Risk Management for Smallholder Farmers in South Africa: A Case Study on Pigeonpea (*Cajanus cajan*) Production

Authors : Sanari Chalin Moriri, Kwabena Kingsley Ayisi, Alina Mofokeng

Abstract : Dryland smallholder farmers in South Africa are vulnerable to all kinds of risks, and it negatively affects crop productivity and profit. Pigeonpea is a leguminous and multipurpose crop that provides food, fodder, and wood for smallholder farmers. The majority of these farmers are still growing pigeonpea from traditional unimproved seeds, which comprise a mixture of genotypes. The objectives of the study were to identify the key risk factors that affect pigeonpea productivity and to develop management strategies on how to alleviate the risk factors in pigeonpea production. The study was conducted in two provinces (Limpopo and Mpumalanga) of South Africa in six municipalities during the 2020/2021 growing seasons. The non-probability sampling method using purposive and snowball sampling techniques were used to collect data from the farmers through a structured questionnaire. A total of 114 pigeonpea producers were interviewed individually using a questionnaire. Key stakeholders in each municipality were also identified, invited, and interviewed to verify the information given by farmers. Data collected were subjected to SPSS statistical software 25 version. The findings of the study were that majority of farmers affected by risk factors were women, subsistence, and old farmers resulted in low food production. Drought, unavailability of improved pigeonpea seeds for planting, access to information, and processing equipment were found to be the main risk factors contributing to low crop productivity in farmer's fields. Above 80% of farmers lack knowledge on the improvement of the crop and also on the processing techniques to secure high prices during the crop off-season. Market availability, pricing, and incidence of pests and diseases were found to be minor risk factors which were triggered by the major risk factors. The minor risk factors can be corrected only if the major risk factors are first given the necessary attention. About 10% of the farmers found to use the crop as a mulch to reduce soil temperatures and to improve soil fertility. The study revealed that most of the farmers were unaware of its utilisation as fodder, much, medicinal, nitrogen fixation, and many more. The risk of frequent drought in dry areas of South Africa where farmers solely depend on rainfall poses a serious threat to crop productivity. The majority of these risk factors are caused by climate change due to unrealistic, low rainfall with extreme temperatures poses a threat to food security, water, and the environment. The use of drought-tolerant, multipurpose legume crops such as pigeonpea, access to new information, provision of processing equipment, and support from all stakeholders will help in addressing food security for smallholder farmers. Policies should be revisited to address the prevailing risk factors faced by farmers and involve them in addressing the risk factors. Awareness should be prioritized in promoting the crop to improve its production and commercialization in the dryland farming system of South Africa.

Keywords : management strategies, pigeonpea, risk factors, smallholder farmers

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