



FANRPAN

Policy Brief



05/2016

August 2014

Institutional Arrangements and Policy Environment for Managing Risks for Crop Production and Post-harvest Handling in Madagascar

Authors: Randrianarivelo Roger and Ranaivoson Lalao Roger

Policy Recommendations

- *Strengthen private input distribution systems*
- *Recast agricultural extension services*
- *Developing irrigation infrastructure at farm levels*
- *Improve roads to areas with high production potential*
- *Establish public-private partnerships (PPP) to attract investment*
- *Develop a policy on post-harvest management and climate related risks and climate change*

storage. Crop production and utilization are constrained by a set of interacting factors. The roots and tubers crops, like cassava, are processed into high quality cassava flour and starch, in medium scale. Vegetable oils (coconut, peanut, soybeans, cotton and palm) are industrially extracted and imported oils are locally refined. At the level of Ministry of Industry, there is no explicit policy for reducing post-harvest losses. The post-harvest handling activities differ with different crops.

Introduction

Agriculture forms the livelihood of the overwhelming majority of Malagasy. The main staple crop is rice, occupying about two-thirds of all the available cropland. Producing staples include rice, maize, and cassava. Madagascar's yields remain low due to persistent droughts. Large-scale plantations dominate the production of sisal, coffee, cotton, sugar cane, vanilla, cloves, tobacco, bananas, and cotton. However, Malagasy agriculture is dependent mainly on the small-scale subsistence farmers cultivating less than one hectare of land. The agriculture sector is now in crisis and crop production is generally decreasing due to many factors which include a major locust infestation and the effects of repeated cyclones. Floods and droughts have exacerbated the socio-economic effects of the political crisis that lasted five years. Together, these devastating and simultaneous events have damaged the infrastructure and destroyed livelihoods in this predominantly rural country, where more than 17 million people (or 80% of the population) depend entirely or partly on agriculture for subsistence.

Smallholder farmers are not undertaking post-harvest activities on a large scale as they are not aware of the losses occurring during the handling activities and



For example, after harvesting, the green pods for vanilla are subjected to a post-harvest treatment which comprise scalding, steaming, natural drying in the sun and shade, and packing. The risks faced by farmers include rewetting of the pods during sun drying and infestation with pests and microorganisms during storage. This leads to fermentation and loss of quality. In the case of coffee activities include drying, shelling, sieving and storage. Drying is done on the ground, and the coffee cherries could pick earth and loose quality. Shelling is done using pestle, and grains are broken and flattened. Sieving is done mechanically, and this leads to a loss of quality. Coffee products are often stored in sealed bags while wet and leading to loss of quality. Sun drying is generally used for any kind of products. In the case of rice, pounding is done manually, and this leads to a high rate of breakage and deterioration of quality.

Policy framework for managing climatic risks on smallholder farmer crop production

Madagascar has participated in the formulation and implementation of regional policies and programmes, such as the New Partnership for Africa's Development (NEPAD); the Comprehensive African Agricultural Development Programme (CAADP); agricultural development policies adopted by the Southern African Development Community (SADC); ACCLIMATE, which focused on capacity building for Commission of Indian Ocean countries on climate change adaptation; the Southern Africa Regional Climate Change Program funded by the **United Nations Environment Programme** (UNEP) and SADC; and the **International Fund for Agricultural Development (IFAD)** funded Regional Initiative for Smallholder Agriculture Adaptation to Climate Change in the Indian Ocean Islands. Madagascar is among the few African countries that have committed at least 10 percent of their national budgets for public investment in the agricultural sector, in accordance with the CAADP commitments. Madagascar's growth in agriculture has been lower than expected *inter alia* due to the decrease in demand for agriculture products, the political crisis that has engulfed the country over the past five years, and unfavorable climatic conditions.

Over the past decades, the Government of Madagascar has taken significant steps to identify priority activities that strengthen its capacity to protect natural resources and to adapt to adverse climatic variability and climate change in the future. The Government has developed and established several programmes, plans and institutions to improve disaster risk management and to reduce the country's vulnerability to natural hazards, in particular cyclones and droughts. The national policies relevant for the managing of climatic risks faced by smallholder crop farmers include the National Adaptation Program of Action, the National Environmental Action Plan (NEAP), the Common Country Assessment (CCA), the Poverty Reduction Strategy Paper

(PRSP), the Hyogo Framework for Action (HFA), the Madagascar Action Plan (MAP), and the National Action Appropriate Attenuation in Madagascar (NAMA's).

Institutional frameworks for managing climatic risks faced by smallholder farmers

Key institutions for managing climatic risks include the National Strategy for Risk and Disaster Management (SNGRC), the National Bureau of Risk and Disaster Management (BNGRC), the Reflexion Stakeholders Committee for Disasters (CRIC), and the National Early Warning System (SNAP). The BNGRC was established by the Government of Madagascar in 2006 to replace the Council for National Security, which was created in 1972. The BNGRC ensures the coordination of disaster-related activities across the country. SNAP reports on all indicators of vulnerability of the population. The Ministry of Agriculture, Livestock and Fisheries; the Ministry of Water and Forest Environment; the Directorate of Meteorology; regional and local authorities; and relevant project managers are involved in risk and disaster management.

Key challenges to managing climatic risks faced by smallholder farmers

The key challenges to managing climatic risks faced by smallholder farmers include weak private input distribution systems, ineffective extension services, poor condition of infrastructure at farm level, poor roads to areas with high production potential, lack of public-private partnership, and lack of policy on post-harvest and climate related risks. Sustained productivity growth in agriculture would not be possible without the continuous technological innovation, which depends (among others) on the timely availability of improved inputs such as seeds, fertilizers and agricultural chemicals. The demand for commercial fertilizer in Madagascar is currently low. Most farmers practice the traditional slash and burn farming technique to maintain fertility, which contributes to deforestation.

Improved inputs, seeds and fertilizers, are unlikely to have significant impact if farmers do not know how to use them. The role of the extension system is to provide farmers with information, technologies and education adapted to the risk of climate change. Madagascar lacks public agricultural extension services and the only alternative is to involve private providers and non-governmental organization (NGOs). In recent years, the Government and several development partners have attempted to foster the emergence of private consulting services by funding the creation of Centers of Agricultural Services (CSA).

Agriculture is essentially a private activity and the successful implementation of national policies depends on the willingness of private investors to invest in the sector. Investors, both domestic and foreign, have expressed an interest in recent years to invest in the agro-industry. The low profitability of agriculture and high political interference have undermined the willingness to investment. The agro-industries located in and around urban areas will not be able to benefit from a reliable, low-cost supply of raw materials of high quality without improving access to rural production areas by improving road infrastructure. In the longer term, it will be necessary to examine the relative importance that should be given to improving primary roads, secondary roads, and minor roads, as well as benefit of constructing new roads vis-à-vis the cost of maintaining existing road infrastructures. The majority of expenditure on transport is

invested in the rehabilitation and maintenance of primary roads that make up the national road network. Rural roads are expensive to build and they typically serve sparsely populated areas where traffic may be low. This issue should be studied carefully.

Most farmers in Madagascar cannot store their crops for long periods without suffering significant losses. Consequently, they are forced to sell their produce immediately after harvest when prices are low and buy grain later when prices are high. Farmers will be able to ensure household food supplies and make sales during more strategic times to enjoy favorable prices if they have access to storage facilities and functional systems for storage cereals.

Further reading

- Rakotondramanana , Enjarlic F., Raharison T.S, Rasolomanjaka J, Rakotomalala L ; N. Agro écologie et Agriculture de Conservation.2014. *Réponses aux enjeux du développement agricole, de protection de l'environnement et d'adaptation au changement climatique*, GSDM, Afd, Min.Agri, Cirad.
- Bockel, Rahelimiha jandralambo, Andrianarivelo, et Thoreux. 2008. 'Intégration d'outils et de mesures de gestion de risques agricoles et agro climatiques dans le Madagascar Action Plan (MAP).' Rome : FAO.
- Celia A. Harvey, Zo Lalaina Rakotobe, Nalini S. Rao, Radhika Dave, Hery Razafimahatratra, Rivo Hasinandrianina Rabarijohn, Haingo Rajaofara and James L. MacKinnon.2014. 'Extreme vulnerability of smallholder farmers to agricultural risks and climate change in Madagascar.' *Phil. Trans. R. Soc.* B20130089: 369.



Policy recommendations

In view of the issues that have been discussed concerning crop production and post-harvest handling activities under climatic risks the following are the policy recommendations:

- **Strengthen private input distribution systems:** Newly established farm input companies (seed, fertilizers and agro-chemicals) face many problems and need support from the public sector. This support must be implemented in two forms: (i) public investments that lower the costs of research and development of private enterprises (e.g. investments in public research on plant breeding and public production of seed base), and (ii) the adoption of policies that promote the emergence of a competitive –multi-sectoral industry and seeds. Specific actions required in both these areas are set out in the Seeds National Strategy adopted in 2005, for the rice.
- **Recast agricultural extension services:** Increased demand for agricultural extension services will stimulate investments. Private services providers will have little desire to invest without such a demand. For this reason, it is necessary to continue to support the CSA approach by allocating counseling funds to producer organizations. This is already being done in a number of development projects and should have been institutionalized by the Agricultural Development Fund (FDA). This recasting will be based particularly on the strengthening of their capacity.
- **Developing irrigation infrastructure at farm levels:** An urgent priority for the new Government will be to develop irrigation by stimulating investment in irrigation technologies that are affordable to small-scale farmers, e.g. gravity and pump systems.
- **Improve roads to areas with high production potential:** The yearly passage of cyclones fully or partially destroys the road infrastructure. Farmers will not be able to make the transition from subsistence agriculture to commercial agriculture without significant improvements to the road network linking them to markets for inputs and outputs. In the longer term, it will be necessary to examine the relative importance that should be given to improving primary, secondary and minor roads, as well as the benefit of constructing new roads vis-à-vis the costs of maintenance existing roads.
- **Establish public-private partnerships (PPP) to attract investment:** There is a need to establish public-private partnerships to attract investment. The priority should be to establish clear rules for private investors, the reduction of trade barriers and the stabilization of the political environment. The Government's policy on land acquisition by investors (through purchase or long term lease) should be clarified, as the lack of secure access to land has been a major obstacle in the past. Financial rules could be prepared to protect investors against losses arising from unpredictable and uncontrollable climatic or biological factors. They could substantially reduce the risk of investment in the sector. PPP models that have been used successfully in other developing countries could be tested in order to encourage private companies to use public funds that can be invested in the production of public goods and services without which the business projects would not be profitable.
- **Develop a policy on post-harvest management and climate related risks and climate change:** The following issues could be considered when developing a policy on post-harvest management: (i) Reduce losses (quantity and quality) related to post-harvest operations in improving particularly the storage system to cope with climate change. (ii) Improve organizational, financial and management targeted Producer Organizations capacity; and (iii) Improve the access of small farmers and their organizations to profitable markets.

The content of this publication can in no way be taken to reflect the views of FANRPAN and its partners. Furthermore, the designations employed and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of FANRPAN, representative of FANRPAN, or of the cosponsoring or supporting organizations concerning the legal or development status of any country, territory, city or area or its authorities, or concerning the delimitation of its frontiers and boundaries.



About FANRPAN

The Food, Agriculture and Natural Resources Policy Analysis Network (FANRPAN) is an autonomous regional stakeholder driven policy research, analysis and implementation network that was formally established by Ministers of Agriculture from Eastern and Southern Africa in 1997. FANRPAN was borne out of the need for comprehensive policies and strategies required to resuscitate agriculture. FANRPAN is mandated to work in all African countries and currently has activities in 17 countries namely Angola, Benin, Botswana, Democratic Republic of Congo, Kenya, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Uganda, Zambia and Zimbabwe.

Copyright

FANRPAN Regional Secretariat

141 Cresswell Road, Weavind Park 0184, Private Bag X2087, Silverton 014, Pretoria, South Africa

Telephone: +27 12 804 2966. Facsimile: +27 12 804 0600. Email: policy@fanrpan.org. Website: www.fanrpan.org