





POLICY BRIEF 3 (DECEMBER 2016)

The case of Maganja da Costa District:

Bridging the gaps between policy and practice on Inclusive Land Governance, Agribusiness and Food Security in Mozambique

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Key points

- The Maganja da Costa District, located in Mozambique's Zambezia Province, is traditionally prone to natural disasters, in particular recurrent floods in lowland areas and erratic rainfall and recurrent droughts in the uplands. Climate change in combination with deforestation upstream have exacerbated these trends to result in more frequent and severe drought and flooding.
- Due to climate change agriculture in the uplands is challenged by more frequent and severe drought while there is little or no agricultural extension support to promote climate-resilient agroecology. The lowlands are at risk for floods meaning agricultural infrastructure is at risk for flood damage. Moreover, during the dry season lowland farmers face reduced availability of irrigation water. Both floods and low water levels in the dry season are caused by climate change in combination with deforestation and land degradation upstream. These conditions result in harvest losses and therefore livelihood challenges and reduced food security in the district.
- The Dutch co-funded ORIO infrastructure development programme aims to support the rehabilitation and expansion of the Munda-Munda irrigation and flood control scheme in the lowlands. However, the project has been delayed due to bureaucracy, co-financing obstacles, recent floods as well as a public sector financial crisis, leaving

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Introduction

Maganja da Costa is a coastal district located in Mozambique's Zambezia Province (see map). It is characterized by two distinct landscapes, a lowland river delta with fertile soils and an upland area with poor, sandy soils. The lowland population predominantly relies on irrigated rice farming while the upland population depends on rain-fed farming of cassava, sweet potatoes, beans, maize and sorghum. Mozambique is especially vulnerable to the impacts of climate change; households in the district of Maganja da Costa are exposed to natural disasters, in particular recurrent lowland floods and recurrent droughts in both areas; solutions for upland smallholders are hampered due to the lack of support for climate resilient agro-ecological farming while upstream deforestation, land degradation increase flood risks and result in low water levels during the dry season, both hampering agriculture in the lowlands. As a result, smallholders in both areas are exposed to disaster risks and livelihood threats including harvest losses and reduced food security.

At the National level, the government aims to spur development and attract both foreign and domestic investors to the agribusiness sector claiming that it shall make productive use of land, increase agricultural production and food security, and generate local employment opportunities. In line with this policy priority, the Dutch co-funded ORIO infrastructure development programme aims to rehabilitate and improve the Munda-Munda irrigation and flood control scheme in the Maganja da Costa District to increase the production and marketing of rice. However, the rhetoric that claims smallholders do not make productive use of their land and the purported

- local communities with high hopes yet uncertain livelihoods.
- While local communities welcome the improvements promised under the ORIO programme, the availability of irrigation water on fertile land brings additional challenges. Lowland rice farmers, especially those located in the Nante sub-district, continue to face insecure tenure and are increasingly at risk for land and water grabs. Smallholders not part of a farmer's association fear that they may be the first to lose their land and water due to domestic and foreign investment promotion by the government, the Zambezi Valley Development Agency and others.
- Despite smallholder attempts in Nante to secure formal tenure rights through land-use certificates, all applications have so far been rejected.
- Although agricultural investment projects continue to be promoted and planned in the lowland, community consultation processes in irrigated rice development projects have been poor to non-existent, especially in recent years. Communication is weak between

- the other stakeholders as well, including that of government agencies at the national level and between the national and local levels as well as between donors and private sector actors.
- Rural extension support is needed for upland smallholder farmers to promote climate-resilient agroecology. The inclusive development of the Nante lowlands requires better communication and heightened coordination between the respective stakeholders;
- The protection of irrigation schemes and lowland infrastructure is crucial and requires participatory landuse planning at the catchment, provincial and regional levels. There is need for climate-resilient investments, namely improved and higher dykes, which also considers options for giving the rivers 'space' where possible. Deforestation and land degradation in the upper and middle catchments should be prevented and reverted.



Map of Mozambique showing the location of Maganja da Costa District



development gains of private sector-led development are currently being contested. First, new employment opportunities are often seasonal and characterized by poor working conditions. Second, foreign investors are lured into joint ventures with domestic elites, which in turn leads to the exclusion of smallholders, particularly women, and increased tenure insecurity. If smallholders lose access to land and water, their livelihoods and food security are at risk.

The objective of the research project Bridging the Gaps between Policy and Practice on Land Governance, Inclusive Business and Food Security was to study the impact of large-scale rural investments – or a lack thereof – on local communities and women in particular, especially in relation to sustainable livelihoods and food security in two districts of Mozambique: Massingir and Maganja da Costa. Toward this end, Community Participatory and Empowering Action Research was conducted at the local level. This was complemented by broader local, national and international stakeholder consultations in The Netherlands and in Mozambique as well as policy and contextual desk research (see Brief 1). In Maganja da Costa, we focused on the Nhafuba community which lacks both large scale rural investments and smallholder farming support, let alone cooperative or micro and small enterprise development. Our main focus was on the Nante sub-district, where many of the stakeholder interviews and consultations aimed to discern the current status of delayed investments in large public irrigation and flood control infrastructure for the Munda-Munda irrigation scheme, co-financed by the Netherlands. We also investigated the challenges related to

A view of the uplands (top) and lowlands (bottom) in Maganja da Costa District

the early 2015 floods after the Licungo River cut through the dyke at Intabo which resulted in extreme flooding, a large number of internally displaced people, and damage to both the Intabo and Munda-Munda irrigation schemes. The research in Nante also focused on broader stakeholder coordination. A key tool used during the research both in Nhafuba and Nante was SWOT analysis. Through the participatory assessment of strengths, weaknesses, opportunities, and threats, community action plans were developed. The following sections provide a comprehensive summary of research outcomes.

Nhafuba community: organizing for support

In Nhafuba, smallholder farmers, relying on relatively poor sandy soils, are challenged by climate change that has worsened recurrent droughts. Longer dry spells during the rainy season also raise the risk of harvest failures. As sandy soils are less fertile and retain less soil moisture, even mild dry periods can result in harvest losses or failure. The SWOT analysis in Nhafuba (Box 1) also revealed that the community feels bypassed by the local government and rural extension services. However, this can be explained in part by the local government's capacity constraints; the district government only has a small team of extension workers and their prime focus appears to be supporting higher-potential agriculture, such as rice production in the

Box 1. Nhafuba community SWOT analysis

Nhafuba community members, both women and men, identified the following points during the SWOT exercise. This resulted in the research team assisting the Nhafuba community with organizing a formal community association to increase access to agricultural extension support and seed funding (such as local government grants or NGO support) for improved farming and rural enterprise development.

Community strengths

- A significant amount of community land, with good conditions for producing cassava and sweet potatoes, is available in the community;
- The community features sufficient trees for firewood, charcoal and timber production as well as high-value cashew and fruit trees that enhance local food security. There is potential to tap into additional agroforestry practices as part of the promotion of agroecology;
- There is significant potential to trade along the Mocuba-Maganja da Costa town road;
- Electrical power lines are located nearby making increased connection a possibility;
- The community is harmonious and free from conflict.

Community weaknesses

- Community land is comprised of predominantly sandy soils with a relatively low nutrient content and low capacity to retain nutrients and soil moisture;
- The community lacks a rural community association with which to organize and mobilize for development support;
- The community features relatively poor buildings and infrastructure and there is no health clinic;
- Post-harvest, product processing, and preservation practices are poor;
- Selling produce and buying agricultural inputs is difficult as the community lacks direct access to markets;
- The local government is noticeably absent and the few rural extension workers in the district bypass the community;
- Community members have little knowledge of and experience with agro-processing;
- The community lacks vision as a result of limited exposure to good practices.

Community opportunities

The community recognized their ability to:

- Process and store cassava and sweet potatoes for value addition and enhanced food security;
- Establish a smallholder association to gain access to local government funds and other financial and technical support including organizational development, business development, and community advocacy;
- Benefit from available range lands by raising livestock, namely poultry and goats, given the lower caring and investment costs in comparison to cattle;
- Process fruits and cashew nuts for sale;
- Increase demand for local products by establishing stands along the main road;
- Connect to the nearby electrical power supply as well as introduce renewable energy (such as solar);
- Use agroecological practices to cultivate a currently unused but large, fertile field located in a less sandy depression where soil fertility and moisture and nutrient retention capacity is higher;
- Increase the cultivation and marketing of sesame seeds and pigeon peas;
- Harvest rain water for micro irrigation and other uses;
- Make more and better use of local wood such as through carpentry, among others.

Community threats

- There is no local health or first aid post;
- The community faces water and sanitation challenges, including a lack of drinking water;
- Drought and dry spells occur during the growing (rainy) season;
- The lack of a secondary school leads to high drop-out rates; most families cannot afford to send their children to study in Maganja da Costa town.

lowlands. As a result the community has not received public extension support in recent times.

The Nhafuba community is stable but deprived and poor. Both women and men expressed a desire to organize and form a legalized community association. This would raise their chances to access agricultural extension and wider support, including seed funding and training to improve farming, food security, and livelihoods in general. For example, despite the challenges of climate change and worsening drought, the SWOT exercise revealed that the community has potential to develop climate-resilient agriculture based on agroecology principles. In fact, a series of tools and practices could be integrated into local agricultural systems including drought resistant crops, small livestock breeding, integrated nutrient management, rainwater harvesting and micro-irrigation, and agro-forestry.

In the final stage of the short action research, the project team helped the Nhafuba community to organize and legalize a formal community association. This is expected to raise their chances of obtaining extension support as well as to gain access to seed funding for improved farming and rural enterprise development.

The Nante communities: what will the future bring?

As opposed to Nhafuba, the fertile Nante lowlands are particularly attractive for larger-scale investments given the resources in the area, especially those related to irrigated rice farming. For example, there have been public investments for the construction and rehabilitation of irrigation schemes and flood control measures such as the repair and strengthening of dykes along the Licungo River. Additionally, the Japan International Cooperation Agency (JICA), in collaboration with Vietnamese research institutions, funded an irrigation scheme in Intabo. The Dutch Facility for Infrastructure Development (ORIO) of the Netherlands Enterprise Agency is also co-financing the rehabilitation of the adjacent irrigation scheme of Munda-Munda. In colonial times the irrigation scheme was owned by a Portuguese company. Upon independence in 1975 it was nationalized and transformed into a state farm. Soon after, it was abandoned during the civil war. Once the situation became quieter in the late 1980s and peace was in sight, smallholder famers utilized the scheme for smallscale, lowland rice farming.

These farmers eventually organized to become the Munda-Munda smallholder irrigation association. The group currently has about 5000 members, more than half of which are women. For decades these farmers have resisted repeated land and water grabbing (Beekman and Veldwisch, 2012). In response, farmers have repeatedly applied for a formal land use certificate (called *Direito de* Uso e Aproveitamento da Terra in Portuguese, or DUAT), the legal mechanism with which land use rights are conferred and secured in Mozambique. Despite occupying the land that they have irrigated and worked for two decades, their DUAT applications have been rejected.



Participatory Diagnosis with the Nhafuba community

Box 2. Nante communities SWOT analysis

The following points were identified by members of the Nante communities, both women and men. Participants also included members of a local cooperative as well as those from the Munda-Munda and Intabo smallholder irrigation associations. Desk research and stakeholder consultations at the district, national and international levels provided additional insights. Through this SWOT exercise, the research team supported Nante communities in expressing their concerns and advocating for improved stakeholder communication, community consultations and sustainable livelihoods.

Strengths

- Smallholder rice farmers benefit from irrigation infrastructure;
- There is significant potential to produce large quantities of high-quality aromatic rice;
- The Munda-Munda and Intabo smallholder irrigation associations are established;
- The area once featured a promising two-tier cooperative system; the associations together with the Mode Mone cooperative have experience with producing and supplying high, export-quality rice to Mozambican towns;
- The area features the Namuthada "swamp" which in the dry season becomes an ideal location for the offseason production of vegetables and other food crops. These crops could in turn increase local food security as well as be sold at higher prices outside of the rainy season; the area hosts a wide variety of fruit trees and significant fruit production potential for increased food security and climate-resilient, agricultural diversification.

Weaknesses

- The communities are limited by poor infrastructure including:
 - Local rice storage facilities are not established and the large storage and processing facility in Namacurra is dysfunctional and requires parts and expertise that are not locally available. The government is in the process of procuring a private contractor to manage the facility;
 - Local roads and other transport infrastructure are in poor condition as a result of flooding, limiting access and increasing travel distances and times to the provincial capital. In turn, increased transportation costs lead to hampered market access which places undue pressure on the community;
- The communities also face several challenges in relation to their smallholder associations and cooperative:
 - Despite experience with producing and supplying high, export-quality rice to Mozambican towns, the system collapsed due to sabotage and corruption by just one or two individuals pointing to the system's vulnerability;
 - Communication and cooperation are weak between the Munda-Munda and Intabo smallholder irrigation associations and the Mode Mona cooperative leading to an atmosphere of mistrust and competition. Smallholder irrigation association members fear that they may not benefit sufficiently from potential cooperative gains;

This seems to be a general challenge for smallholders throughout the country; DUAT applications by smallholder communities on land that once was used by state farms are usually rejected.

Additional challenges for these smallholders derive from policy priorities. The government aims to attract larger investors to the agribusiness sector to make more productive use of land and to create local employment opportunities. However, questions over land rights often emerge when the government or private investors aim to contest "unproductive" smallholder land use for investment purposes. It is important to note however that "productive use" has been narrowly conceived to be a simple maximization of yields and production that does not account for other important social and livelihood factors that benefit local communities. Nonetheless, around 2007-2008, smallholders demonstrated their ability to produce and market at a large scale through an inclusive, two-tiered smallholder cooperative system for the production and

commercialization of rice, which unfortunately collapsed due to external sabotage and corruption challenges.

Renewed unrest for the Munda-Munda smallholder irrigation association began in 2009 when the Government of Mozambique successfully applied for Dutch co-financing for the rehabilitation of the Munda-Munda irrigation and flood control infrastructure through the ORIO facility. Public funding was sought as investment costs and risks were perceived to be too high for private investors. Nonetheless, after a long trajectory of viability and impact studies (from 2009 up to mid-2015), numerous project uncertainties emerged. One related to how the Mozambican government would finance its own contribution. Additional obstacles were the long tender processes. Even worse was the flood damage to the Munda-Munda scheme and Intabo irrigation scheme in early 2015. The fact that Licungo River cut through the dyke at Intabo brought to attention the fact that the Munda-Munda scheme is connected with Intabo scheme and the Nhavicote lowland – all of which are

- Support for improved agricultural practices by the Finnish PRODEZA program was channelled to members of the cooperative; while some cooperative members may also be members of the irrigation association, it is unusual that PRODEZA support did not target the producer associations directly;
- There is no organized sale of rice due to past acts of sabotage and corruption within the cooperative systems;
- Weak internal organization Munda-Munda smallholder irrigation association, including poor member registration;
- The associations are bridled by insecure tenure without land-use certificates (DUATs);
- ORIO project delays bring added uncertainties about community benefits and costs which undermines local development. For example, to ensure that the government and private parties could not question the productive use of the land, farmers previously invested more in agricultural production. Additionally, farmers fearing land grabs also invest less;
- ORIO-related uncertainties are exacerbated by poor stakeholder communication at all levels and little or no information about project status or planning at the local level;
- Sustainable agricultural practices are undermined as a result of poor and limited agricultural extension support.

Opportunities

The communities recognized their ability to:

- Potentially benefit from the ORIO project through flood control and irrigation infrastructure rehabilitation;
- Organize for better market access and higher selling prices;
- Guarantee access to and control over land and water by continuing association attempts to obtain a DUAT or, for communities, other recognized land demarcation certificates. At least one community near the Munda-Munda irrigation scheme has been successful with obtaining a demarcation certificate for communal land;
- Establish integrated rice and fish farming through better use of the river and improved irrigation;
- Produce maize and other crops outside of the rainy season by utilizing the swamp area.

Threats

- Important community infrastructure (including dykes, pumping stations, access roads, and bridges) is damaged as a result of 2015 flooding. The community has limited ability to recuperate yet faces recurrent flooding risks;
- Failed attempts by the Munda-Munda association to obtain a DUAT in 2004, 2006 and 2007;
- Outside the Munda-Munda and Intabo irrigation schemes, large areas of productive land with good irrigation potential have not been formally parcelled. As a result, the farmers using that land fear that the ORIO project may result in resource grabbing and conflicts with more powerful private sector actors. For instance, they fear that the Zambezi Valley Development Agency (ZVDA) could play a role in facilitating larger private sector actors.

protected by the same dyke along the Licungo River. This pointed to the pressing need for stakeholder and donor coordination for flood control. It also exposed the fact that irrigation scheme investment cannot be dealt with without looking into flood control requirements and investments.

In 2015 the ORIO implementation phase, led by a consortium of three private agencies, was finally approved. However, due to a number of bottlenecks not much progress was made by the end of December 2016. The main bottleneck was the public sector financial crisis caused by so-called "hidden debts" of which the general public and donors had been unaware. As a consequence, once the debts were discovered, donors put the funding on hold – at least temporarily – while inflation skyrockets and while an audit is conducted.

The Nante SWOT analysis revealed (Box 2) that despite potential impacts to the communities as well as to the river system as a whole, communication with the Nante communities and between the respective stakeholders has been and continues to be weak. Moreover, coordination between government departments (including the Irrigation Department, the Directorate for Water, and local governments) as well as between donors (including the World Bank, The Netherlands, Japan and Finland) appears to have been sub-optimal. Coordination is crucial as the Munda-Munda scheme is connected with other schemes, all of which are protected by the dyke along the Licungo River.

The research also revealed that Munda-Munda association members feel "left in the dark" about what the future may bring for them. There is credible information that members may continue to farm their lands but may have to pay water user fees once a rehabilitated irrigation scheme is up and running. Already struggling, these fees are of major concern to many farmers as it is unclear how much this will cost. Community members also remain uncertain about the project's local impact as well as continued threats of land



Flood-damaged: Licungo River dyke at Intabo (top) and Munda-Munda infrastructure (bottom)

and water grabs, especially if fertile lands have potential to be or are already serviced by irrigation infrastructure. The smallholders also continue to fear the damage that future floods can inflict on their livelihoods. Due to climate change, deforestation and land degradation upstream, lowland areas and infrastructure are more and more at risk for flood damage as well as reduced availability of irrigation water during the dry season.

Thousands of other smallholder farmers outside of the Munda-Munda and Intabo irrigation schemes, such as those located in the Nhavicote lowland, also fear for their livelihoods. First, these farmers believe that the

government, through a newly established public agency called the Zambezi Valley Development Agency (ZVDA), may promote land-based investments to private investors. Second, many of these farmers originate from the sandy uplands where agriculture is hampered by recurrent drought and harvest failures. Moreover, they are not part of an agricultural association that might protect their rights.

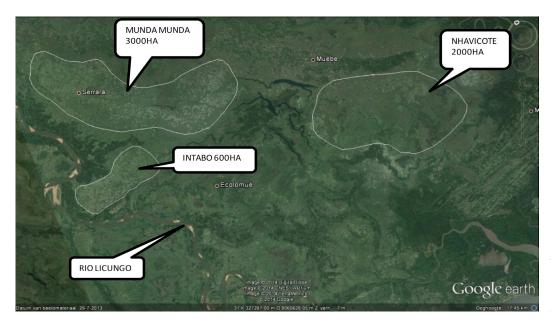
Conclusions

Maganja da Costa District is especially vulnerable to the impacts of climate change. In Nhafuba, climate change has worsened seasonal droughts and so has raised the risk of harvest failures. Despite these livelihood threats, the community has received little to no agricultural extension support. Nonetheless, the community benefits from a significant amount of land, the potential to tap into integrated agroecology, and the ability to enhance trade along the Mocuba – Maganja da Costa town road. As such, and with the assistance of the research team, the Nhafuba community established a formal and legalized community association to better access agricultural extension support and seed funding for improved agricultural production and rural enterprise development.

Communities in Nante are also impacted by climate change. Floods in early 2015 damaged important infrastructure; the community has limited ability to recuperate yet faces recurrent flooding risks. Paradoxically, due to climate change, deforestation and land degradation upstream, lowland areas and infrastructure are more and more at risk for flood damage and reduced availability of irrigation water in the dry season. Additionally, associations of smallholder rice farmers have been challenged for decades in maintaining their access to land and irrigation



Participatory Diagnosis with Nante communities



Aerial view of the Nante lowlands, the Licungo River and the respective irrigation zones

water. They have attempted to secure land-use rights through DUAT, but all applications have thus far been rejected. While the Munda-Munda community association welcomes the Dutch-funded ORIO project as it entails the rehabilitation of important irrigation and flood control infrastructure, community members feel "left in the dark" about repeated project delays and what the future may bring. Moreover, association members also worry about whether or not their land and water rights continue to be at risk as there is a clear link between the availability of irrigable land and the risk of land and water grabs. Other independent smallholders who do not belong to an agricultural association fear that they may be the first to lose their land and water due to investment promotion by the ZVDA and others.

Our research revealed that communication about lowland investment projects and physical and land-use planning has been very poor. Community consultations have been few in the past and non-existent in recent years. Communication between stakeholders, namely between and within the public sector and donors, has also been weak. The inclusive development of the Nante lowlands requires effective coordination between the respective stakeholders. Moreover, investments in irrigation schemes should take into account the need to simultaneously invest in improved flood control.

Despite these setbacks, communities in Nante see opportunities to develop local resources to produce maize and other crops outside of the rainy season. They also recognize potential to establish integrated rice and fish farming as well as organize for better market access and higher selling prices. The research team supported Nante communities in expressing their concerns and advocating for improved stakeholder communication, community consultations in relation to local development, and the pursuit of sustainable livelihoods.

If the government and donors implement the below recommendations and hold private sector actors to account, the district could set a paradigm for inclusive land governance as well as improved and sustainable livelihoods. This in turn could transform the district into a centre for inclusive business, local economic development, and local and sub-national food security.

Recommendations

- 1. Provide rural extension support for upland smallholder farmers, both women and men, to promote climateresilient agroecology;
- Strengthen community capacities, in particular those of women, to address their needs and to claim their rights, including access to and control over land and water for improved and sustainable livelihoods;
- Improve communication and coordination between government agencies and ORIO implementing stakeholders and donors to guarantee effective community-level consultations, communication, and full participation in local development;
- 4. Ensure that developments spurred by major public investments are green, inclusive and do not result in land and water grabs from vulnerable women and men;
- Ensure participatory and climate-resilient land-use planning at the catchment, provincial and regional levels to protect rivers and district infrastructure. Reverse and prevent future deforestation and land degradation in the upper and middle catchments;
- 6. Invest in irrigation schemes or their rehabilitation only if guarantees for investment in flood control are in place. This action requires stakeholder and donor coordination and applies not only for the nearby dyke but the Licungo River as a whole;
- 7. Revive smallholder-based rice cooperatives for the

- Munda-Munda and associated irrigation schemes and reactivate currently idle factories elsewhere in the province (such as in Namacurra which has large storage facilities);
- 8. Promote the off-season production of food crops and fish farming in the lowlands for enhanced food security and trading; food markets in the region, such as those located in the towns of Quelimane and Mocuba, could also benefit from such off-season production.

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Research and outputs

About

This Policy Brief, a synthesis of the outputs relating to the Maganja da Costa District case, is one in a series of four based on research project *Bridging the Gaps between Policy and Practice on Land Governance, Inclusive Business and Food Security in Mozambique*. The research ran between 2014 and 2016 and was funded by the WOTRO Food & Business Applied Research Fund of the Netherlands Organization for Scientific Research (NWO).

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Editing Nuijen Research: michelle@nuijenresearch.com

Design Utrecht University – GEO C&M 9170

Printing Xerox



