



Buying, Ploughing and Coordinating

How to make the 2-tier cooperative business model work in the Zambezian rice value chain?

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1 Summary

This document is an input to the on-going strategic dialogue among stakeholders involved in organizing rice marketing in Zambezia, Mozambique. The input is based on original research under the DGIS-WUR programme *Value Chains for Pro-poor Development* presented and discussed during a strategic stakeholder dialogue organized in Maputo, February 7, 2011. The report addresses three straightforward questions central to a strategizing process: why, how and what. The overall problem addressed in this discussion is the lack of remunerative markets for small-scale rice farmers in irrigated and rain-fed areas in Zambezia.

The why question is approached by outlining two distinct, non-exclusive development pathways, or intervention logics, for organizing rice marketing: one based on institutionalizing a member-based and profit sharing cooperative structure around the buying and marketing of rice, and one based on installing a buying function triggering a process of commercialization for members and non-members of the cooperative structure. These development pathways are not mutually exclusive, but entail different logics, which are important to clarify when strategizing.

Our discussion on the how question focuses on processes of upscaling the buying of rice, in terms of volumes and involved numbers of rice farmers, and of embedding the process of commercialization in local capacities and organizations. The how question implies sketching a time path and documenting how the two distinguished logics take shape and interact in concrete change processes. We expect that both strategic development pathways, i.e. buying and organisation building, will interweave when working in processes of upscaling and embedding.

The what-question brings the paper closer to immediate problem-solving and risk management activities, which reveals the navigating by different aligned stakeholders. Analysing the ways in which problems, such as managing debts of cooperatives, handling the buying process, or arranging access to tractors, are solved makes it possible to introduce more tactical and immediate actions into a strategic dialogue, without being overwhelmed by urgencies. The research experimented with an activity-based-costing, with the aim to make transparent the relationship between first and second tier in the business set up. Likewise, research investigated how associated farmers learned how to solve problems on ownership and payments in the use of tractors for ploughing. Both investigations provided empirical information on how development logics manifest themselves in the different realities in Zambezia, which, hopefully, helps to continue an evidence-based dialogue.

1.1 Acknowledgements

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The views expressed in this document are the authors' only.

2 Introduction

The overall problem addressed in this discussion paper is the lack of remunerative markets for small-scale rice farmers in irrigated and rain-fed areas in Zambezia. The intervention perspective focuses on measures that enable smallholder farmers to negotiate the terms of inclusion into value chains and that create conditions for commercialization of agricultural production. Two types of impact logics feature in this strategic dialogue. On the hand, there is an observed need to install mechanisms making linkages to market remunerative for farmers facing unpredictability and vulnerability in commercial transactions. On the other hand, there is an observed need to trigger basic processes of trade, buying and bulking, as a condition for farmers to make a decision to concentrate on rice farming and to sell their produce to buyers.

The context for this discussion is provided by the process of implementing a 2-tier cooperative model for the buying, processing and marketing of rice in Zambezia, Mozambique since 2009. Four 1st tier cooperatives, two of them with a longer history, have been responsible for bulking rice from smallholder producers. The 2nd tier cooperative, EOZ (Empreza Orizicola de Zambezia), is tasked to buy paddy, sometimes also directly from farmers, to process the rice in their factory, and to find national market outlets for processed rice, and, in that sense, to compete with imported (Asian) rice. The 2nd tier has also been instrumental in accessing credit from the bank, which was essential for arranging the work capital necessary for purchasing rice. The implementation of the cooperative business model is facilitated by the NGO APAC (Associação de Promoção de Agricultura Comercial), and the process is financially supported by the Royal Netherlands Embassy (RNE) in Mozambique, Oxfam Novib and the European Union.

Wageningen UR was asked to investigate the workings of this 2-tier cooperative business model in the context of Zambezia, with a history of struggles over land, violent conflict, unpredictable markets, irrigation schemes that require renovation, and a large number of farmers producing under rain-fed conditions. The research focused on information flows related to the practice of buying rice, sourcing strategies of traders active in the area, the appreciation of farmers of the buying modalities, and the history of farmer management of tractors. The strategic dialogue combined insights in the inner working of an essential feature of the model, namely buying and bulking rice, with contextual features, particularly the history of farmers' organisation and conditions in real markets. This informed the on-going process of finding a strategic fit of the 2-tier cooperative business model with the diverse realities in Zambezia.

The purpose of this document is to provide an evidence-based input to the on-going strategic dialogue among stakeholders involved in organizing rice marketing in Zambezia, Mozambique. The input is based on original action research under the DGIS-WUR programme *Value Chains for Pro-poor Development* presented and discussed during a strategic stakeholder dialogue organized in Maputo, February 7, 2011 (Annex 1). The discussion paper neither pretends to offer an advice on what is best nor to offer organizational fixes for complicated problems. It aims to support those involved in the difficult process of making strategic choices in a context of uncertainty.

The paper is structured around three straightforward questions, which any organization or stakeholder alliance must be able to answer to: the why, the how and the what:

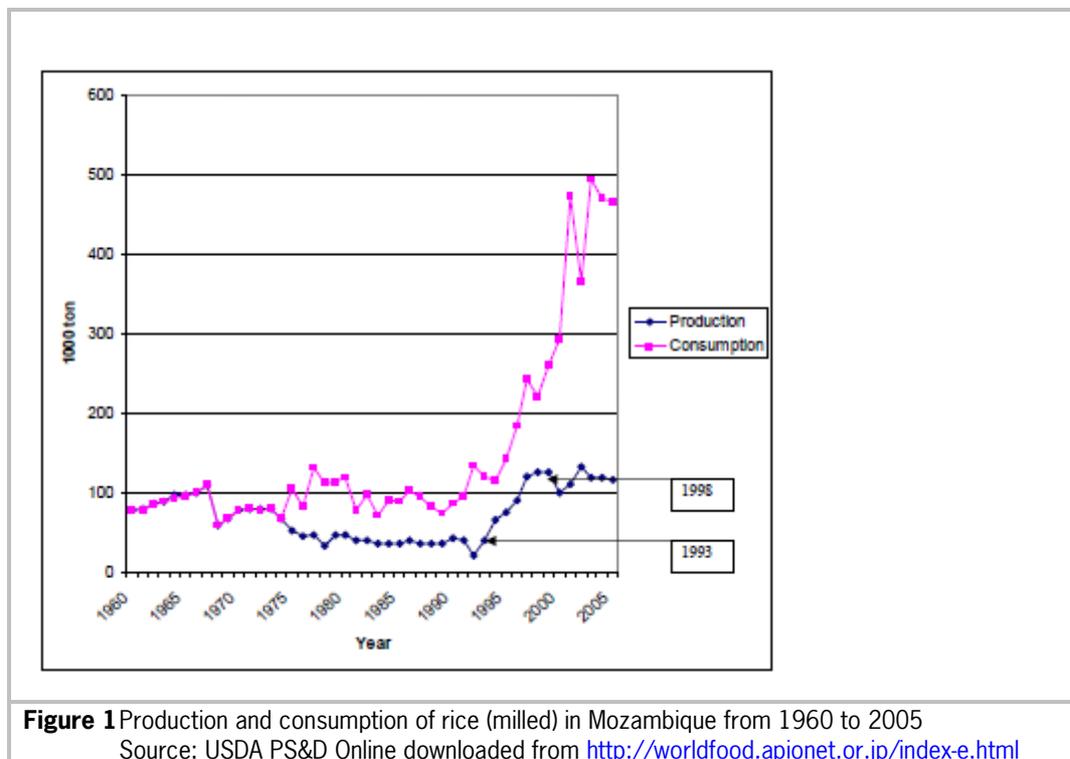
1. Why do EOZ, APAC and aligned stakeholders introduce a 2-tier cooperative business model for achieving development outcomes, i.e. reduced poverty among rice farmers?
2. How does the intervention model operate and develop?
3. What actions are undertaken?

3 Why?

The general starting point for the design of the 2-tier cooperative business model was the observed lack of remunerative markets for farmers in Zambezia, Mozambique. The discussion focuses on organizational measures shaping economic realities, i.e. terms of trade and opportunities to buy and sell. The different stakeholders teaming up in this endeavour opted for a 2-tier cooperative business model, partly in response to the lack of scale and capacity to buy, process, and sell on of previous endeavours at 1st tier level. This begs the questions why it would be reasonable to expect a 2-tier model to deliver desired development outcomes in the specific context of Zambezia? What is it about the 2-tier model that changes the choices of rice farmers and enables them to shift to selling higher volumes of rice to the cooperatives? What resource(s) does it provide to enable / facilitate / support that shift?

3.1 The rice market in Mozambique

Consumption volumes of rice in Mozambique increased rapidly, while production volumes more or less stabilized in 1998 (Figure 1). Of all rice consumed only a quarter is produced in Mozambique itself: most rice in the Mozambican market is imported from Asia. Zambezia is the largest rice producing area in Mozambique. Nevertheless, the volumes transacted in the market are low. Our research shows that farmers bring manually processed rice to local markets, for example in cases of urgent cash needs. Small ambulant and medium traders buy relatively small quantities of processed rice or paddy, varying from 1-2 bags to 1-2 tons at a time, and their presence in the local market is unpredictable. Currently, mills are largely underutilized with utilization rates often below 20% of capacity. The limited supply by rice farmers reaching the market is a major disincentive to invest in milling. Due to small volumes of trade most mills limit their activity to the provision of milling services and refrain from getting involvement in procurement of rice.



In this context, the 2-tier model aims to install coordination mechanisms between buyers and sellers, which may enhance predictability in buying and reliability in price-setting. And, accordingly, to increase volumes of locally sourced rice in the market and to encourage selling of rice by farmers. The current situation in the rice market results in low utilization of processing capacity and it entails risks for farmers exploring a shift to intense, commercial rice production. The intervention model is expected to induce new forms of coordination and buying modalities providing incentives for farmers to increase production and sell their paddy to the cooperatives. Setting up of cooperative structures is expected to ensure a fair remuneration of farmers.

The involved chain actors are farmers, four 1st tier cooperatives, the 2nd tier cooperative, and traders. The farmers and the cooperatives are supported by service providers, in particular APAC, which set up programs with funds from national and international institutions. A relational diagram of the newly evolving rice chain model shows all major stakeholders in the new rice chain, including the flow of rice in 2009 (Figure 2). In 2010 no buying occurred and in 2011 the plan is to source through the 1st tiers. The four 1st tier cooperatives are member of the 2nd tier cooperative. The 1st tier cooperatives are supposed to supply paddy to the 2nd tier cooperative, which processes and markets the rice. Reasons for setting up the 2nd tier cooperative were to overcome management and financial problems faced by the two old 1st tier cooperatives, to achieve economy of scale, and to access credit lines necessary for the capital required in buying rice. The 2nd tier cooperative started buying rice in September 2009, and is in the process of constructing a new factory, for processing and storing paddy. Next to processing, the 2nd tier cooperative sells the processed rice at the factory gate, in a city shop, to traders and at national level to government functionaries.

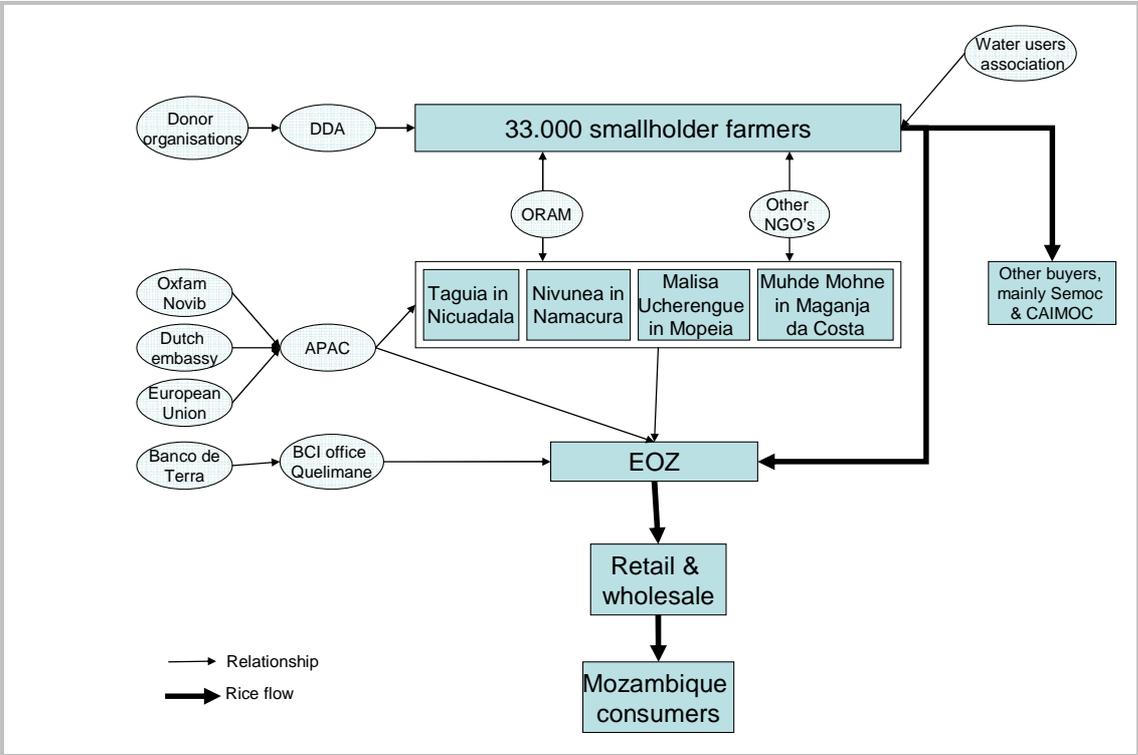


Figure 2 Relational flow diagram of 2-tier cooperative business model (2009)
 Source: Fieldwork interviews, 2010

In four districts in Zambezia (Namacura, Nante¹, Nicoadala and Mopeia) within the potential scope of the 2-tier cooperative business model almost 33,000 smallholder farmers are active in rice production (Table 1). Zambezia has large flood plain areas prone to flooding in the rainy season. The regular flooding and associated soils make rice production appropriate and prevents cultivation of other crops during this season. In the higher areas or near the households, farmers grow other crops such as maize, cassava, cashew, peanuts and fruits. Labour is a major constraint in agricultural production. For the discussion in this paper it is important to realize that outside of the few concentration areas around the irrigation schemes, rice production is fragmented due to the natural conditions in or near flooded areas. Obviously, this complicates orchestrating the buying of rice.

Table 1: Number of producers, cooperative membership and planted area in Zambezia rice sector

2009	# producers	# coop members	percentage	Total (ha)	Rainfed
Nantes (concentrated)	11486	65	0.6%	4986	88%
Nicoadal (distributed pockets)	9971	125	1.3%	9971	96%
Namacura (distributed pockets)	8111	20	0.2%	6807	100%
Mopeita (distributed pockets)	2923	?	?	1940	100%
	32491	210	0.6%	23704	
Source: APAC					

3.2 Two distinct intervention logics: organization building and buying

The above sets the scene for the implementation of a 2-tier cooperative business model. Our discussion on the why question reflects on the purpose of this endeavour, namely to create a rice market in Zambezia that is favourable for farmers. We distinguish between two intervention logics visible in the actual functioning of the 2-tier model.

The first intervention logic centres strongly on constituting a member-owned, member-controlled, and member-benefitting cooperative procurement and marketing organization, where the number of members and the share of rice traded exclusively with members is a measure for success. This logic centres on building an organization in control of the terms of trade for rice farmers supplying the domestic market and with capacity to ensure reliable and predictable buying and fair and transparent remuneration by way of a cooperative model for profit sharing.

The second intervention logic considers the EOZ business organization as a competitive trigger to the procurement market in the region, luring in the interest of other buyers, and providing producers with several competing marketing alternatives. Here success is measured more in terms of total traded rice volume, rather than on rice traded with members. The instalment of actual buying capacity for both members included in the cooperative business model and for non-

¹ In the district of Maganja da Costa, rice production is concentrated to the Administrative area of Nante.

member farmers alters the scope of the intervention to indiscriminative sourcing by a reliable buying organization.

This translates into two non-mutually exclusive development pathways, which will probably configure differently over time. Plausibly, the initial phase of the development of the rice market requires a stronger effort to develop the operational function of the company. In this initial development phase, the installation of a procurement and marketing function would be the most tangible outcome of the intervention model. The current level of membership presented in Table 1 indicates that the buying function at 1st tier level potentially reaches large numbers of farmers that are not necessarily member of the cooperative. In a later stage the focus can shift towards development of a variety of member-based buying organizations linking to farmers and negotiating prices and trading conditions.

The above does, however, not imply that the cooperative model approach is the preferred organizational fix under all circumstances. The suggestion of our discussion is rather that room should be created for progressive discovery, allowing the fitting model to emerge by consciously blending the two organizational and business development pathways into configurations fitting the conditions at production sites and in the market. This may also benefit a strategic stakeholder dialogue, by preventing the dialogue from becoming entrenched in opposing positions, with one side keeping strictly to the initial member-base model and putting mechanisms in place that would enlarge the membership base, and the other side departing from the cooperative model altogether and aiming for market development in which EOZ functions as the provider of procurement and market services. An organizational model is always subject to change, either brought about internally or by external pressures, affecting the feasibility of the current, visible organizational form. Also members and non-members will assess and possibly try to change the current organisational set-up and compare this option with feasible organizational alternatives or development pathways. Retaining a certain level of flexibility in its strategic outlook allows an organisation to tailor its functions and performance to actual conditions at farm level. Hence, it seems important to portray the 2-tier cooperative business model as an evolving process combining different logics, rather than as a process working towards a fixed organizational outcome. The actual organisational form then emerges out of the interaction between the envisioned model and the translation of this into practice of buying and social organisation in different settings. Keeping an open eye for this iterative process may enhance strategic capacity to navigate in changeful conditions.

The discussion on the why-questions pivots around discovering the inner working of the 2-tier cooperative business model. We present the 2-tier cooperative business model in the rice market in Zambezia as an evolving combination of two pathways. One, as a successful development tool creating a membership based organisation, securing production, processing and selling through its members only. Two, as an intervention creating a market mechanism for all small holder farmers where the coop functions as a catalyser and a future security towards fair pricing, loyalty of buying and market influence that should stimulate farmers inclusion into the coop. A singular approach of working towards a fixed organizational outcome (the cooperative) seems to be highly risky. And it requires clearly mandated local leadership, which holds the natural capacity to facilitate organizational development towards the intended form. Our suggested dual approach relaxes some of the rigid demands to organizational form and aims to encourage learning about the ways in which a 2-tier model moulds itself in to a workable form fit for the concrete socio-economic and agro-ecological conditions in rice production in Zambezia.

4 How?

The previous discussion on two complementary development pathways links to the discussion on the how-question. We propose to focus on two processes fundamental to building the business and cooperative structure. The first process entails upscaling of procurement capacity (i.e. business development), whereby EOZ and the 1st tier cooperatives have the ambition to prove itself as a pivot to the market. The second process concerns expansion of a membership base by including more farmers (i.e. organizational development), moving into other areas, or taking up other commodities in the trade portfolio, which raises the issues of trust and ownership. These two processes will put different demands on the functional requirements of the organization, and thus on the organizational form, and it will reveal ways in which the intervention model becomes embedded in local contexts. A focus on scaling and embedding helps to continue the discussion on how EOZ can combine a member-based, member driven organization and a market based, farmer service driven organization. The ensuing question is how to organize the 2-tier cooperative business model in such a manner that room is created for progressive model development

4.1 Scaling procurement capacity

The intervention model targets a movement from buying 1000 to 5000 tons of rice. This transformation links the scale of operation to deciding about appropriate forms of governance and procurement modalities. A diverse group of farmers spread over a large area makes up the entire sourcing base of paddy. This complicates procurement strategies at the level of the 1st tier operations and the 2nd tier transportation.

If the 1st tier cooperative is expected to buy only from members, and accordingly install profit sharing mechanisms, then measures would be necessary to include new members in areas where production is fragmented. It may also require setting up a nucleus and networks with independent smaller units groups responsible for the buying procedures and rooted in villages. This method would demand new types of managerial capacities at 1st tier cooperatives. On the other hand, if the 1st cooperatives are primarily expected to buy rice, indiscriminative of membership, then enhanced logistic capacity and commercial skills are necessary for the managing board.

Hence, upscaling the model in terms of actually purchased rice volumes can still be done in different ways. How scale and governance are related may be answered differently for irrigated areas where farmers are more concentrated and have experience with collective responsibility for water management compared to rainfed areas where farmers are more scattered and may have experience with organizing tractor ploughing in a fragmented group of rice farmers. In the latter case, the management strategy for aggregating volumes may involve competition structures between the different 1st tiers or even at a lower buying post level or rewarding mechanisms for good operations. Exploring different option informs a discussion on what steps can be taken to realize the 5.000 ton target and to examine within what time frame this will be realistic, especially because large volumes requires connections with a large number of different farmers in a vast area.

4.2 Ownership and embedding

In the current setup of the 2-tier cooperative business model farmers are the owners, expected in holding the boards of the 1st tier accountable for the management, who as owners of the 2nd tier in turn should hold the board of the 2nd tier accountable. The board of the 2nd tier controls and directs the manager of the factory and procurement operations. This governance model is

generically implemented in all four sourcing areas. The 1st tiers cooperatives are considered to be responsible for divulging the message and distribute expected benefits of the cooperative business model. The number of members is used as a key indicator for the success of the 2-tier model.

This model assumes a certain level of trust among members of the 1st tier cooperatives for handling problems and managing financial affairs and depends on accountability mechanisms between 1st and 2nd tier. Interviews and conversations with key players in the implementation of the 2-tier cooperative business model indicate that communication and access to information were earmarked as central elements in making the model work. These informational aspects were also crucial in the practice of buying rice. Trust, or the lack thereof, was frequently mentioned as a key feature of the cooperative model that combines vertical coordination and horizontally organized joint action. In interviews, farmers voiced opinions that the lack of trust is related to outside control over management and the low level of commitment and reliability of appointed managers at 1st tier level. Experiences of the two older 1st cooperatives still resonate, and the debts left by managers who left the scheme hamper the expansion of the 2-tier cooperative business model.

One of the possible explanations for these types of tensions is that the 2-tier cooperative was parachuted into rice producing areas and that no explicit connectivity with existing organizational forms was sought. What seems to have been absent from the implementation of the 2-tier cooperative business model is a pro-active search for variant grassroots organizations, whose experience with managing collective goods or joint action could be an asset for performance of the model and for enhancing ownership. Our investigation of the management of a tractor for ploughing reveals that farmers groups faced numerous problems with failing managers and abuse of available funds and payments. Likewise, the case study indicates incremental learning through continuous problem solving, which, eventually, led to a situation wherein small farmers groups in rainfed areas organized themselves to arrange an efficient use of a tractor in grouped fields, and to initiate service delivery by the manager of the tractor. Tapping into the capacities of these types of groups may strengthen the ownership and governance modalities of the 1st tier cooperatives by installing a clear distribution of tasks and responsibilities. Perceiving the 1st tier cooperatives as a central point in a network of connected smaller units may open new avenues for governance of buying and trading rice, of which the precise governance structure evolves out of performing tasks rather than out of a formal concepts of ownership.

In the current situation, the ownership of the 2-tier cooperative business model is ambiguous. Looking at the level of membership, a large portion of rice farmers was not owner of the intervention model and a sequence of events indicate that control and check mechanisms between 1st and 2nd tier were difficult to trigger. This is a reflection of the two distinct development pathways described in the previous section. If the 1st cooperative is instrumental for assembling new members willing to sell rice, this suggests shared ownership and responsibility and a focus of activities around members only. Or, as is the current situation, the 1st tier cooperative primarily performs a buying function, linking a small group of cooperative members to both the 2nd tier and a large number of non-members. This suggests a distribution of ownership between two organizational units and the necessity on the selection of communities or groups willing to sell or produce for achieving scale.

Likewise, the appreciation of (potential) benefits for farmers differs. In the case of a member-based ownership model the economic benefits lie in sharing profits and in reducing costs for

trading as well as sharing the risk of operation (a plausible reason for many farmers not to become member). In the case of a 1st tier cooperative organized around the function of buying, the types of benefits expressed by several farmers in interviews come to the forefront: the cooperative buys all the different qualities of rice, the selling of paddy reduces the burden of processing by hand, the buyers of the cooperative treat farmers in a fair ways and do not trick them, and the cooperative announces that they will come back and also buy next year. These benefits and services are available to all rice farmers, member or non-member: beneficiaries may opt to not be part of the system, while benefiting from the system. What is not perceived by most farmers is that these benefits only exist because there is a small group of members willing to take the responsibilities and risk of the 1st tier management. This is the classic free-rider problem, which is found in cooperatives, where members and non-members enjoy the same benefits of the cooperative regardless of their affiliation. Such free-riding issues can become an immediate threat to the organization, if they are not adequately dealt with, as it they weaken relations between members and the cooperative. By making clear what benefits apply to members, and how they entail more than the benefits, which non-members receive, the most prominent free-rider issues can be tackled.

Also in this situation, managing and supporting the implementation of the 2-tier cooperative business model is a balancing act between the realities wherein farmers make choices and manage risks and the conditions necessary for making the organizational model work. Opting purely for a member-based cooperative model requires intense training and regulations on the institutional and legal implications of being a member, especially if it is true that most farmers essentially see the cooperative as a reliable buyer, as is suggested by interviews and stakeholder discussions. Opting for a 1st tier buying function may imply a regulatory framework on the basis of economic performance and financial transparency and accountability of a bounded buying unit, e.g. zero loss policy, while fostering the establishment of new entities with appropriate scales for inclusion into the cooperative.

The strategic choices underlying the implementation of a 2-tier cooperative business model come to the fore when looking at how the model functions. Here we centre on scaling and embedding the model. Depending whether one is opting for a membership model, the how-question will focus on intensive workshops and training on rules and rights in cooperative organisations. A focus on an indiscriminative buying model shifts attention to sourcing and buying procedures at 1st tier level to reach farmer inclusion and to achieving loyalty after demonstration of success.

5 What?

The previous two sections presented two distinct intervention logics and used these pathways to propose a number of considerations in two processes fundamental to the 2-tier cooperative business model: upscaling of procurement capacity and embedding of the organizational model and ownership modalities in local forms of association. This section, on the 'what' question, discusses a selection of immediate actions brought forward in discussion with stakeholders and relevant for progressive discovery.

Firstly there's the practical problem of solving the debt. Secondly there is the action of compiling a procurement plan to operationalize the EOZ organization. Thirdly and lastly, there is the need for continuous learning and reflecting on the model, in order to be able to make decisions at fitting times on the adapting the organization if it is required.

5.1 Indebtedness

The indebtedness of two 1st cooperatives is also an ownership issue: who are the actual owners of the debts, who takes responsibility and in what way can the problem be handled collectively (i.e. 1st and 2nd tier cooperatives as well as the wider coalition of stakeholders involved)? Two of the four 1st tiers have a longer history of mismanagement, related to the performance of a hired manager who was/could not be controlled by the board members or supporting institutions. In this situation, a substantial amount disappeared, and delayed amortization resulted in a substantial debt (a total debt of €200.000 remains the property of the two 1st tiers cooperatives). The debts affect the viability and liquidity options of EOZ. The indebtedness of two organizational owners of the 2nd tier cooperative turns this into a collective problem, because the current ownership structure makes EOZ vulnerable to future claims and limits willingness of banks to provide new loans or to maintain credit lines. This ownership problem has many layers: the old 1st tiers brought in debts but also assets (the current processing machines, warehouses, tractors), the new 1st tier cooperatives have neither debts nor assets, and the 2nd tier cooperative has occurred debts in the first year of operation and has no assets as all current investment is still property of the investors/donors.

Considering the general commitment expressed by the involved stakeholders to solve this issue legally and practically, the actual problem solving can also be a starting point for addressing the more strategic issues examined in the previous sections and to work towards installing new accountability mechanisms or enforcement of defined financial bottom lines.

5.2 Procurement practices

The research team experimented with an information tool focused on Activity Based Costing. The idea was to collect information useful for managing the mutual dependent relation between initially 1st and 2nd tier cooperatives. The relevance of long-term continuity, which was also mentioned by interviewed farmers as a key benefit, is a central principle herein. By taking a practical approach, the research team tried out an information tool computing costs at different layers in the 2-tier cooperative business model. This was considered to be a way to enhance the transparency in discussion and exchange with the assumption that it may create trust as a side effect. The use of these types of tools in the context of concrete procurement practices may also affect the conditions of up-scaling and embedding the 2-tier cooperative business model and, subsequently, helps to further define the function of EOZ. By directing attention to procurement practices and the buying function our discussion suggests that building ownership and acceptance of new

governance modalities can be best done incrementally in relation to activities directly relevant to farmers. This allows correction and reconfiguration of the 2-tier cooperative business model embedded in real practices and in interactions with grass root organizations as possible new nucleus sub groups of the 1st tiers willing to sell or produce for EOZ.

It also taps in into the discussion of creating smaller sub-groups beyond the 1st tier level, which can be targeted with different options for buy-in. The assumption is that these smaller subgroups will strengthen the ownership structure and loyalty to EOZ combined with the use of trust remediating mechanisms present in communities or smaller groups. The tractor study demonstrates that farmer groups do grow in their management capacity and it could be argued that the more active involvement (resistance) of the two older 1st tier cooperatives is actually a demonstration of better capacity and understanding on what is happening.

5.3 Learning by doing

Our discussion on action, the 'what' question, suggests that central to making the 2-tier model work is trial and error. In order to engage purposefully in the trial and error process it is relevant to document these processes of choice, control and correction and to find opportunities to make use of these insights and evidence in negotiation and conflict resolution. In the venture capital world a document collecting these pieces of evidence is labeled as term sheets, which are used when investments into a new business start-up is negotiated. Although terms sheets are generally applied to negotiate on economic aspects to valuating and distributing ownership over a business, the principle of documenting actual problem solving practices can also be expanded to include issues relating to purpose and focus of the organizations. By starting a term sheet negotiation process, a document is created, which reveals in practical and empirical terms how ownership is arranged between various stakeholders, and how the division of responsibility affects the treatment of contingent event, like managing conflicts and financial risks and distributing shares or profits. Documenting problem solving processes and tracking the organizational dynamics may then become an asset in strategizing and responding to internal tensions and external pressures. In this way, answering the why and how question is done on the basis of concrete events. In this approach, making the 2-tier model work is a matter of continuous configuring and investment, and a rolling document comparable with a term sheet can provide the institutional embedding of this process.

The above also includes composing a time path, documenting instructive events, which is instrumental for reflecting on the two development pathways and the how questions on up-scaling and embedding introduced above. Most likely, the two pathways and the strategic process will configure differently over time. The concrete organizational processes visible over time will show how both pathways combine and, for example, clarify benefits, costs and roles of members and non-members. It will inform with farmers and other stakeholder on different business cases and create room for choice and buy-in into a pallet of business models. The assumption is that this would create better (adaptive) management at 1st tier level and enhance the transparency between 1st and 2nd tier levels. The proposed term sheets may center on procurement practices and investments by the involved stakeholders.

6 Conclusion

The discussion in this paper addresses three questions related to making a 2-tier cooperative business model work in the context of rice farming in Zambezia, Mozambique. The discussion shows making strategic questions and choices explicit is fundamental to planning and implementing concrete activities. However, a process of strategizing is easily hampered by day to day crises, requiring tactical responses, related, for example, to indebtedness and procurement. We hope that this paper encourages directly involved actors and other stakeholders to engage in an on-going learning process focusing on why and how to implement the cooperative experiment. The context for such a learning process is provided by concrete actions, such as finding a resolution to the problem of indebtedness. Addressing such a problem can be used as a reset points to rules and regulations around accountability and financial bottom lines; and as a moment of reflection on strategic choices related to procurement practices and roles of the sub-groups in the coop. Likewise, experimentation, for example with a Activity Based Costing and term sheets, can provide a basis for informed choice making about how to enhance trust and how to adjust the organisational model to the conditions in Zambezia. We conclude that all three questions - why, how, and what - are central in an iterative process combining the identification of intervention logics, the description of strategic processes, and the documentation of concrete actions and events. We suggest that such an iterative process opens opportunities for creating a fit between a promising intervention model and unpredictable realities in agricultural production and trade.

Annex 1: Presentation of research findings during strategic stakeholder dialogue (Maputo, February 7, 2011)

Ploughing, Buying and Coordinating

How to make the cooperative model in the Zambézia rice value chain work?

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Focus: diablo chains in non-perishables

Lead firms active at the bulking node also control trade and processing and induce certain degrees of vertical integration
EOZ = lead firm in the making

Producers' organizations seek modalities for up-scaling farmer based economic initiatives and localized innovations
1st tier / WUA / Land rights

The agri-food chain serves a variety of end-use markets, particularly domestic food markets
1st grade, 2nd grade, flour

The agri-food chain incorporates a large number of smallholder agricultural producers
> 30,000 rice farmers

- Chain linkages are obvious due to the need to aggregate volumes and to coordinate and regulate productive activities and transactions embedded in markets for undifferentiated products

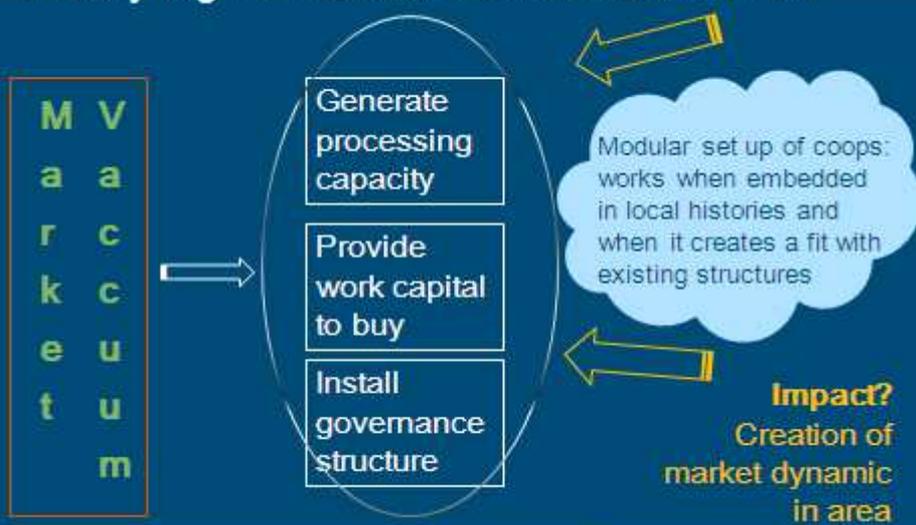


Rationale of the action research programme

- Pro-poor development is not an automatic outcome of value chain development or market access
 - Purposeful (re)configuration of the agri-food chain
 - Institutional crafting of governance and cooperation
 - Engagement with strategies of upstream actors
- Pro-poor value chain development benefits from novel conceptual approaches and frameworks
 - Test and evaluate intervention strategies through an experimental version or sample of an operation or institutional practice
 - Identify mechanisms and levers for pro-poor development and assess what works where and why
 - Build innovative capacity with cooperating chain actors and producers' organisations to make value chains work better for pro-poor development



Theory logic: rice value chain in Zambezia



Existing rice sourcing strategies (≠ coop)

Local farmer

- Sells at local markets
- Process the rice
- From personal stock (savings)
- Enough quantity to earn the money needed
- Only in case of necessity

Small ambulant traders

- Local or regional traders
- For city markets or non rice areas
- Small quantities (1-2 bags)
- Buy processed rice directly from the farmers
- Transport by bike or public transport
- Unpredictable presence
- Price is always negotiated



Existing rice sourcing strategies (≠ coop)

Medium traders

- Group of traders sourcing and transporting together
- Appear unadvised
- Communicate via local major markets as information nexus
- Buy 1-2 tons a time, from different farmers
- Buy unprocessed rice
- Process manually or at local small mills
- Resell products in cities

General features rice trading

- Uncertainty on timing, quantity and price
 - Good production -> buyers less eager to travel far -> small volumes are traded
- Markets are the major communication centres
 - Both farmers and traders leave the message at markets when they have interest to sell/buy
- Slow but steady market throughout the year



Coop functionality and buying

Farmers' appreciation - Rice buying procedures

- "Coop buys all the rice that we offer" (type, quality, quantity)
- No need for processing by hand
- Treated in a fair way / we are not being tricked
- (Intention - Coop always comes back – 1st tier procure management)

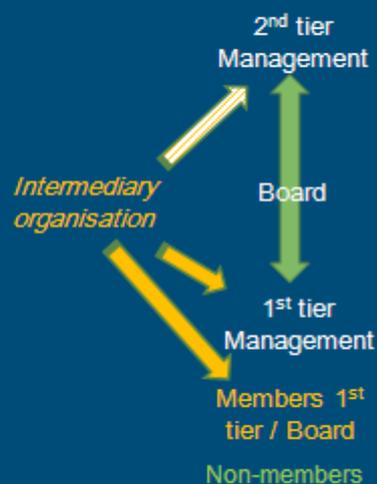
These aspects seem to more important than:

- Good price
- Being a co-owner



Checks and Balances in Context

- Capabilities at different levels
 - education, networks, experience, overview
- Accountability mechanisms
 - local governance culture of patronage, strong leadership and appreciation of loyalty over criticism and transparency
- Brokering role of intermediary => triangle of accountability
- Tension areas in functional governance acknowledged and acted upon by all three parties
 - Experiment with Activity-Based-Costing - tool in relation management



Tailoring governance to 1st tier coops

- Institutional histories of 1st tier coops (2 old, 2 new)
 - management / joint action
 - Embedded in history around land, water rights
- Water, soils and plants
 - Concentration / fragmentation of production areas => procurement / scale
 - Different rice varieties adjusted to agro-ecological conditions
- Layout of road networks and market access
- Is there a need for developing a portfolio of organisational models and management strategies?



Buying function – members & non-members

2009	# producers	# coop members	per centage	Total (ha)	Rainfed
Nantes (concentrated)	11486	65	0.6%	4986	88%
Nicoadal (distributed pockets)	9971	125	1.3%	9971	96%
Namacura (distributed pockets)	8111	20	0.2%	6807	100%
Mopeita (distributed pockets)	2923	?	?	1940	100%
	32491	210	0.6%	23704	

Important to consider linkages of 1st tier to (groups of) non-members



Farmers groups: searching in joint action



- 1998/8-2003
 - Struggle over control over land
 - Management by local farmer / Ownership association
- 2002-2006
 - Commercialization of rice
 - Management by association – management strategy controlled by support organisation
- 2006-2008
 - Management by different groups; management problems in coops
 - Support agencies - credit
- 2008 - 2009
 - 3 tractors; management contracted out – scheduling of access to ploughing service
 - Tensions between organisations – direct payment for services
- 2009-2010
 - Election year / Local leadership: tangible services
 - Farmers in rainfed areas organised themselves in groups
- 2010
 - Fine-tuning of strategies at local level (WUA+ Coop)
 - Diesel and spare parts – initiative to arrange access by farmers groups / skilled mechanics



Prioritizing: Critical Control Points

