# ORGANISING PARTNERSHIPS FOR KNOWLEDGE TRANSFER IN A CROSS-CULTURAL AGRICULTURAL CONTEXT:

## The case of Sino-Mozambican Partnership for Rice-Farming in Southern Mozambique

**Thesis submitted in accordance with the requirements of the University of Liverpool for the Degree of Doctor of Business Administration**

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# ABSTRACT

This thesis reports on a study of a partnership that sought to establish high-yield rice production within the Baixo-Limpopo region of Mozambique. This project is part of the wider Sino-Mozambique cooperation to boost agriculture development in Mozambique; particularly to resolve the problem of low productivity of the local rice farmers.

The thesis reports an action research study of how stakeholders have sought to improve the management and organisation of the project to avoid the cost of working across-cultures, by accepting difference as a resource for innovation. Drawing on the literature on knowledge transfer, inter-organisational collaboration and cross-cultural relations, I explain the ways in which the management task faced by stakeholders in the project context is complex. Then, I describe a participatory action research (PAR) intervention in which project stakeholders were empowered to own the project improvements and actively participate in their realisation. The PAR approach aimed to construct the problem, plan actions, implement them and evaluate the practical effectiveness of the action plan by means of a workshop at which stakeholders debated and shared evidence of improvements.

The research has made a number of practical contributions to improve the organisation of the partnership created to deliver this rice farming project. Firstly, the study showed that energising stakeholders – for instance stimulating, championing the cause for their involvement, and employing collaboration as a vehicle for stakeholders pursuit of group interest – is a key feature of their motivation to join the project. Secondly, the study showed that partnerships could be managed to facilitate knowledge transfer in the project by first developing and operationalising collaborations between stakeholders, and then driving knowledge adaptation. Thirdly, it has shown that adapting established knowledge, as long as it is demonstrated to best suit the local needs, helped reconcile the tensions within the partnership. Fourthly, the study suggested that seeking mutually beneficial outcomes makes it possible to achieve reconciliation of competing strategies and goals between public, private, and community stakeholders. Fifthly, the study provided insights about team behaviour in collaborating stakeholders, wherein each member plays a different role in a complementary way across the value chain. Beyond this specific project's context I suggest management implications for innovation professionals working on knowledge transfer projects involving stakeholders from different national cultures.

On the basis of the research I articulate implications for public policy. At the level of national policy, there are implications for the organisation of "Public Private Partnerships" in Mozambique. More widely, I suggest lessons for the enactment of Africa-China cooperation projects in agriculture. Finally, I suggest possible areas of future academic research.

# TABLE OF CONTENTS

# LIST OF TABLES

# LIST OF FIGURES

# LIST OF ACRONYM

| | |
|---|---|
| **HFB** | Hubei Farming Bureau |
| **IRGA 317** | Rice variety labelled IRGA 317 |
| **ITC** | Community Land Agency |
| **MASA** | Ministry of Agriculture and Food Security |
| **MOA** | Ministry of Agriculture |
| **MOFCOM** | Ministry of Commerce |
| **MOST** | Ministry of Science and Technology |
| **NGO** | Non-Government Organisation |
| **PAR** | Participatory Action Research |
| **RBL** | Baixo Limpopo Irrigation Scheme Public Company |
| **RQ** | Research Question |
| **SOE** | State Owned Enterprises |
| **UEM** | Eduardo Mondlane University |
| **USD** | United States Dollars |

# DEDICATION

This dissertation is dedicated to:

My family whose patience with my studies is only surpassed by the patience with my sons, Frank, Lilito, Celeste, Alan and Ian, who, I hope, will mature to be wiser and stronger than their father.

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# AUTHOR'S DECLARATION

I do hereby declare that this thesis is the result of my own research, except to the extent indicated in the Acknowledgements and References and by comments included in the body of the report, and that it has not been submitted in part or full for any other degree to this or any other University.

Signature of Student

Date: August 2017

# PART I

**Introducing the research problem**

# Chapter 1
# Introduction

This thesis reports on a study of a knowledge transfer initiative that sought to establish high-yield rice production within the Baixo-Limpopo region of Mozambique. As part of a strategic plan for food security, the Mozambican government has established partnership agreements with Chinese government agencies for the transfer of knowledge related to the production of high-yield rice crops. The research problem arises in the context of implementation of a Sino-Mozambique cooperation project that is of considerable importance because of its significance in the China-Africa relations in agriculture. This large scale rice project (the Baixo-Limpopo Cooperation project) – considered amongst the largest Chinese investments in the agricultural sector in Africa – has been a subject of debate surrounding China-Africa relations (Brautigam and Ekman, 2012, Chichava, 2014; Chuanhong, Xiaoyun, Gubo, and Yanlei, 2015).

In the process of articulating the research problem, I provide an introduction to contemporary China-Africa relations in general (section 1.1.1), and Sino-Mozambique agricultural partnership specifically (section 1.1.2). The cooperation project itself is known as the "Baixo-Limpopo Irrigation Scheme", and in section 1.1.3 I describe the timeline and events that occurred at its founding. The relationship between the Mozambican Government, the Chinese investor and the establishment of the Baixo Limpopo Irrigation Scheme public company (RBL) is described in section 1.1.4. Finally, my own role within the company and research motivation is outlined in section 1.1.5. The research problem is then presented in section 1.2 in terms of the contribution that this study makes to practitioners, to policy and research. To conclude in section 1.3, I explain with reference to a diagram, the sequence of events that the research followed. This is set against the project timeline.

## 1.1 Research Context

### *1.1.1 China-Africa relations in agriculture*

Agriculture is amongst the main areas of China's strategic investment in Africa (Buckley, 2013). Research by Buckley (2013, p. 6) indicates that in 2009, China had 142 agricultural projects in Africa in the form of infrastructure development, the supply of agriculture equipment, training, technical assistance, scholarships, crop production, breeding, transport and storage. This study also indicates that trade between China and Africa grew from USD 12.14 million in 1950 to USD 1 billion in 1980, then to USD 166.3 billion in 2011, with some local specialty African exports benefiting from a zero tariff rating since 2005. Chinese investment in Africa also grew rapidly in agricultural sector with figures indicating that 54 Chinese projects existed covering 4.9 million hectares of land.

China-Africa relations are supported by a number of Chinese institutions and actors. Figure 1.1 shows Chinese key institutions and actors involved in China-Africa cooperation and their relationships.

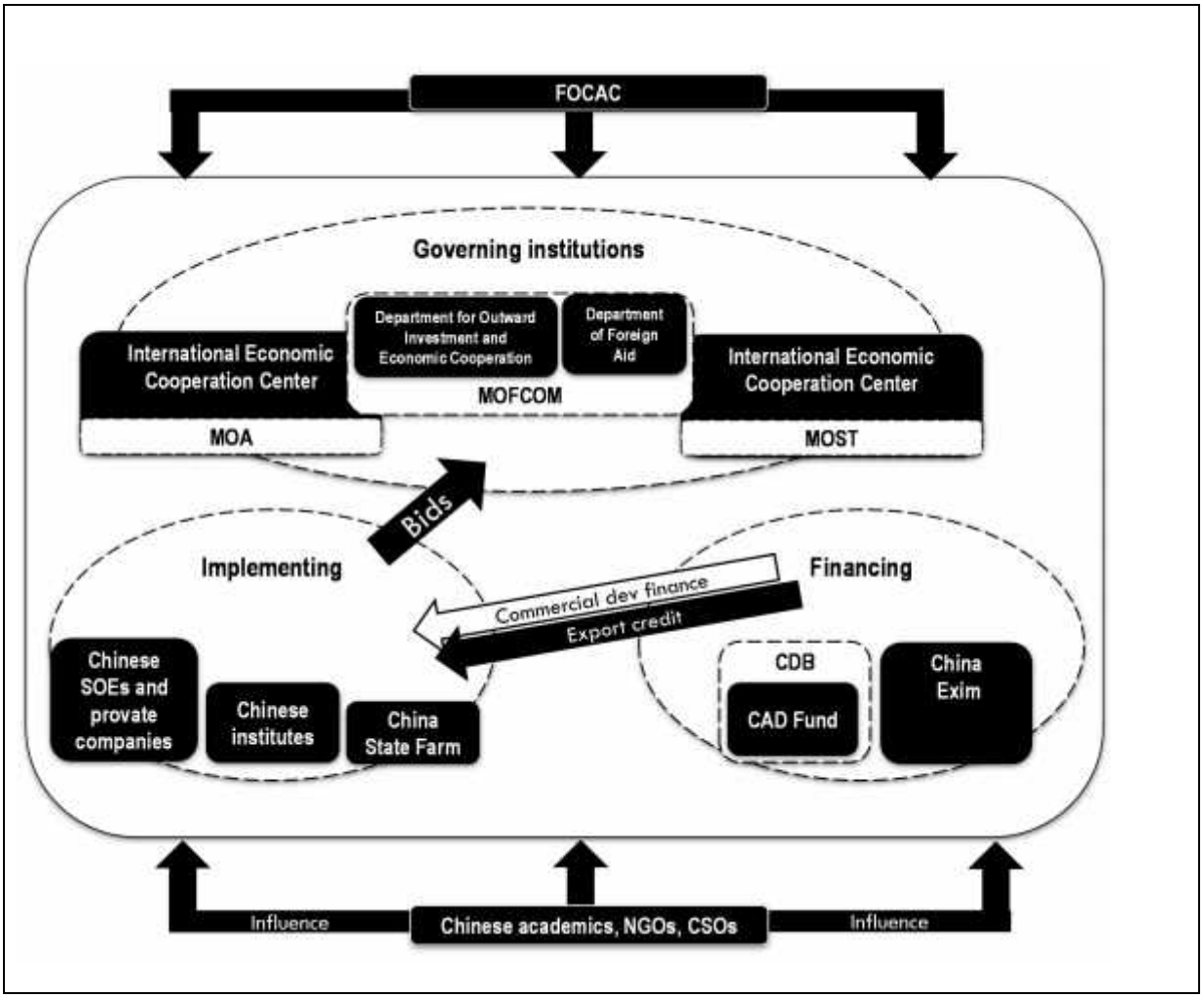


Figure 1.1. Chinese key institutions and actors involved in China-Africa cooperation and their relationships (source: Buckley, L. (2013, p. 5).

Before a given Chinese agricultural project is implemented in Africa by Chinese institutes, state owned enterprises (SOEs), private firms and state farms, there must be a coordination of the Ministry of Commerce (MOFCOM) with the Ministry of Agriculture (MOA) and Ministry of Science and Technology (MOST). The implementation of the project is contracted through a competitive bidding process. The financing for such projects is a combination of commercial development capital and export credit from China Development Bank (CDB) and Export Import Bank of China (China EXIM). The China-Africa Development Fund (CAD Fund) which is part of CDB, promotes the development of China-African commercial relations. It has established a joint company with the China State Farm Agribusiness Corporation to make agricultural investments in Africa. Along with all these relationships, the interface between relevant Chinese actors and

African partners, as well as the policy framework platform for their engagement, is provided by the Forum on China-Africa Cooperation (FOCAC). The FOCAC ministerial meetings happen every three years and alternate venue between China and African countries. The actors in these relationships, as well as the policies governing them, are increasingly being influenced by Chinese NGOs and researchers.

The review of China-Africa agricultural relations by Buckley (2013) has distinguished three chronological stages of cooperation. The first stage ran from the 1970s to early 1980s, then shifting to the second stage in the 1990s, and after this to the third stage in the 2000s. The initial concern of China-Africa agricultural cooperation in the 1970s was on African food security. China has relatively little arable land compared to other countries in the world and yet is able to feed its enormous population by employing its technologies and experiences. On the other hand, Africa has since 1973 become a net importer of food; spending annually millions of dollars importing rice and other grains. China has been cooperating with African countries, sharing its technologies and experience in agriculture as a way to help Africa overcome its food security problems.

The second stage of agricultural relations in the 1990s saw the focus shift away from food security issues and concentrated in economic cooperation experiments (Chuanhong et al, 2015). These experiments took many forms, including i) consolidation of existing projects known locally as "Chinese farms", ii) participation of Chinese experts in various United Nations' development projects in Africa, iii) aid support for joint ventures of Chinese companies in Africa, iv) public-private partnerships, v) cooperation contracts, and vi) debt-equity swaps and lease arrangements to help Chinese enterprises become shareholders within former Chinese aid projects that were being privatised. The new cooperative modalities under experimentation focused on economic relations with African countries whose assumptions were mutually beneficial projects.

The third (and current) stage of cooperation in the 2000s was initiated with the establishment of the Forum on China-Africa Cooperation (FOCAC). One of the premises that shaped this cooperation model is the principle that aid projects are more likely to be sustainable if they are combined with profitability motives of the Chinese partners who are involved in these projects as owners or leaseholders (Brautigam and XiaoYang, 2009, p. 693). Hence, these mutually beneficial projects should be market-oriented and company-led investments (Chuanhong et al, 2015, p. 5). For example, an African country would benefit from agricultural demonstrations and training in Chinese technologies, whereas the Chinese enterprise might benefit from promoting its technology and expanding trade opportunities in the African market (Chichava, Duran, Cabral, Shankland, Buckley, Lixia, and Yue, 2013, p. 106). As a follow-up to consolidate this cooperation model, a set of "going global" policy instruments (Buckley, 2013, p. 3‘; Brautigam and XiaoYang, 2009, p. 692) were released to encourage the Chinese firms to increase overseas investments, build global brands, and provide high-value technologies and services for export. Some of these

instruments were concessional loans for Chinese firms entering in joint ventures, and preferential buyer's credits that induced African governments to finance the imports of Chinese goods and services.

Given the larger context of China-Africa relations, a further angle of understanding the project context involves the Sino-Mozambique engagements in agriculture.

### *1.1.2 Chinese agricultural investment in Mozambique*

Mozambique, with 36 million hectares of arable land crossed by a network of 60 rivers, has a massive agricultural potential with the majority of its population depending on the agriculture for their subsistence and employment. With 3.7 million of smallholding farms, the agricultural sector is dominated by subsistence smallholder farmers that use rain fed farming and low-yield technologies with average area of 1.1 hectare per family (MINAG, 2011, p. 5). Data from the national plan for rice development in Mozambique (MASA, 2014) indicate that about 3 million hectares have potential for irrigated farming in which rice is amongst the most important staple food crops. From a total of 900,000 hectares of potential rice farming arable land only one third is currently in use. Current consumption is estimated at 550,000 tons of processed rice against 300,000 tons produced locally, leading to a consumption gap of 250,000 tons (MASA, 2014). Along with this, the Mozambican Government has prioritised the increase of rice productivity through technology transfer to smallholder farmers. The Baixo Limpopo region is one of the areas in Mozambique where yields for rice have not reached levels above 3 tons per hectare, whereas rice-farming in China has been reported to employ high-yield technologies reaching above 12 ton/ha (Kajisa and Payongayong, 2011).

Mozambique is among China's foremost investment destinations while at the same time China has become since 2008 the Mozambique's second largest investor (Chuanhong et al., 2015, p. 5). The Chinese engagement in agricultural development in Mozambique has lasted more than thirty years, and began as Chinese foreign aid (Brautigam and Ekman, 2012, p. 4). After Mozambique's independence from colonialism in 1975, a group of at least 120 Chinese agricultural experts arrived to assist Mozambique to develop 230 hectares of a state farm at Moamba in Maputo Province, and 3,000 hectares at Matama in Niassa Province. In the 1980s, China donated farm machinery and sent a team of 26 agricultural experts to assist with "communal agricultural projects in Maputo's urban 'Green Zone' programme, but were driven out by the Mozambique's civil war" (Brautigam and Ekman, 2012, p. 4).

After the civil war ended in 1992, the Sino-Mozambique agricultural relations started to grow and investment figures started to increase. As data from research by Brautigam and Ekman (2012, p.5) indicate, Mozambique had received by 2000 one Chinese project: a USD 500,000 Chinese agricultural project of 20 hectares that Anshan Grain and Oil Export Import Company had invested at Zhongan vegetable farm near Maputo in 2000. Then, between 2000 and 2011, nine new Chinese investment projects were approved for a total of USD 10.1 million. Of these projects, the two most substantial were the USD 6 million proposed by

China Grains and Oils Group Corporation, and the USD 1.5 million investment proposed by Hubei Liangfeng. In addition, the Chinese government agreed to provide aid finance for an agro-technology demonstration centre at Umbeluzi at Maputo Province in Southern Mozambique. This was one of twenty demonstration centres that China had pledged to establish in African countries between 2006 and 2012 (Brautigam and Ekman, 2012, p.5).

### *1.1.3 The Baixo-Limpopo cooperation project: A chronological perspective*

The cooperation project at Baixo Limpopo irrigation scheme started in 2007 following a "Twining Agreement" between Governments of Hubei (China) and Gaza (Mozambique), upon which 300 hectares of arable land were allocated to Hubei to grow rice, and other crops. Under this agreement, the Gaza Provincial government had a responsibility to provide all the necessary services for the project, including the import of agricultural machinery and seeds from China, monitoring of seeds, selection of local farmers to benefit from training, and tax payments. The Hubei Government, on the other side, was responsible for developing land and infrastructure, transfer of high-yield Chinese farming technology to local farmers and helping the farmers improve their yield. Based on this agreement, the Hubei-Gaza Friendship Farm was established at Baixo Limpopo irrigation scheme in Gaza province: a highly suitable area for rice production. Hubei Farming Bureau (HFB) was then designated by the Chinese government as the operator of the farm. HFB is a department of Hubei's local government, with expertise in managing large-scale agricultural projects. HFB owns 13 farms directly and yet has a further responsibility (administration and policy formation) for another 40 farms in Hubei region. When it was appointed to manage the friendship farm in Mozambique, HFB originally did this by setting up a China's state-owned enterprise in Mozambique called Hubei Lianfeng, and staffed this enterprise with farm managers and staff from 18 of HFB's state farms. HFB also brought the funding from each of its 18 farms so that the financial risk would be more widely spread within the 18 farms. The managers of the Friendship Farm continued to receive their salaries and pensions from the state farm from which they came as they could return to their old jobs when they returned back to China (Chuanhong at al. 2015, p. 7).

After four years of collaboration (2008- 2011) – primarily consisting of "rice yield tests with support of the Gates Foundation, under a framework of Green Super Rice Program" (Chichava et al, 2013, p. 107) – thirty Chinese rice varieties and one local variety, called 'Limpopo rice', were tested. Further in the same period, infrastructure for rice drying, processing and storage were established at Xai-Xai city (Mozambique). Encouraged by the positive results from implementation of the Hubei-Gaza Friendship Farm, both sides decided to scale up the existing Friendship Farm with the goal of contributing to solving food security problems in Mozambique. In early 2012, Wanbao Grain & Oil, a private agricultural enterprise from Hubei province, was introduced to the project. Firstly established as a state-owned enterprise in 1952, Wanbao was restructured as a private company in 2004. It forms part of "the first batch of national agricultural 'dragon-head' enterprises in China" focused on the purchasing, processing, storage, sale and logistics of

grain and oils (Chuanhong at al. 2015, p. 7). The company has five subsidiaries from which one operates overseas: Wanbao Africa-Agricultural Development Project (Chuanhong at al. 2015, p. 7).

Soon after its establishment in Mozambique in December 2012, Wanbao entered in partnership with a local counterpart – Baixo Limpopo Irrigation Scheme Public Company (RBL) – a Mozambique state-owned company in charge of the Baixo Limpopo irrigation scheme who had previously collaborated with the Friendship Farm. In a contract between the two parties, RBL granted to Wanbao a 50 years concession to 20,000 hectares of farmland in Baixo Limpopo irrigation scheme; out of which 10 percent of the developed land was to be allocated to local farmers. As specified in the contract agreement, Wanbao was to invest in agricultural infrastructure including irrigation and agro-processing facilities, to provide training for the local farmers in Chinese rice-farming technologies and to fully exploit the contracted area within three years from 2013 to 2015. The rice produced was to be sold in the local Mozambican market, thereby bolstering Mozambique's food security. After a successful training in a plot of one hectare, a farmer would continue to be involved in the project through a contract farming arrangement with guaranteed support in seeds, accessing markets for the rice produced and accessing credit. RBL was responsible for identifying and selecting the local farmers, organising them for training and supporting the project implementation at the local level. The total investment would be USD 250 million (Chuanhong at al. 2015, p. 7), from which USD 133.43 million was for the development of irrigation infrastructure, USD 22.83 million for agriculture production, USD 72.367 million for agro-processing, and the remaining USD 8.02 million for project management and institutional support.

To implement the project, Wanbao sub-contracted the China National Chemical Engineering Company to work on the construction of infrastructure. A further sub-contracting arrangement was made with four Chinese state farms to undertake large-scale rice farming (Chuanhong at al. 2015, p. 7). Consistent with the contracts with the Chinese state farms, Wanbao was responsible for all infrastructure investments including the initial purchase of all farming machinery, which the farms would then repay under terms of 'leasing' over a period of three to five years. The farms were only allowed to plant rice and sell it unprocessed to Wanbao at a fixed price. However, in the future Wanbao was aiming to rely more on the trained local farmers to do the primary rice production in order to allow the project to grow and yet bemutually beneficial to both famers and Wanbao, given that the contracting arrangement with the state farms was too costly for Wanbao (Chuanhong at al. 2015, p. 8).

At the time of the research, the project had invested about USD 100 million from the planned 250 million. It had developed 7,000 hectares of land from the planned 20,000 hectares; a 150,000 tones of rice storage from the planned 450,000 tones; and was in construction a 700 tones per day rice-processing plant. Figure 1.2 below shows the project's developed infrastructure and equipment. The project had employed 2,000 local workers as construction workers, farm, cooking and office staff, in addition to 700 Chinese

workers employed as management staff, construction workers and technicians (Chuanhong at al. 2015, p. 8).


Figure 1.2. Supportive infrastructure and equipment to the project rice value chain

Regarding the Chinese rice-farming technology, this differed from the local farming system in various aspects. Under local rice-farming system, local rice seeds have relatively low branching capacity with farmers' yield that rarely reached levels above 3 ton/ha, the seeds are planted at a rate of 110-120 kg/ha in poorly prepared soil thereby leading to poor irrigation control. Under the Chinese rice-farming, the situation is different (see in Figure 1.3 below the critical success factors in Chinese rice-farming).


Figure 1.3. Critical success factors for rice-farming technology

Rice seeds can achieve a yield potential of 12 ton/ha, as the seeds are pre-germinated before planting in levelled and paddled soils. A precise planting of pre-germinated seeds is done in the paddled soil, and a more efficient irrigation control is undertaken.

The Figure 1.4 below shows the timeline and changes that occurred at the outset of the cooperation project.

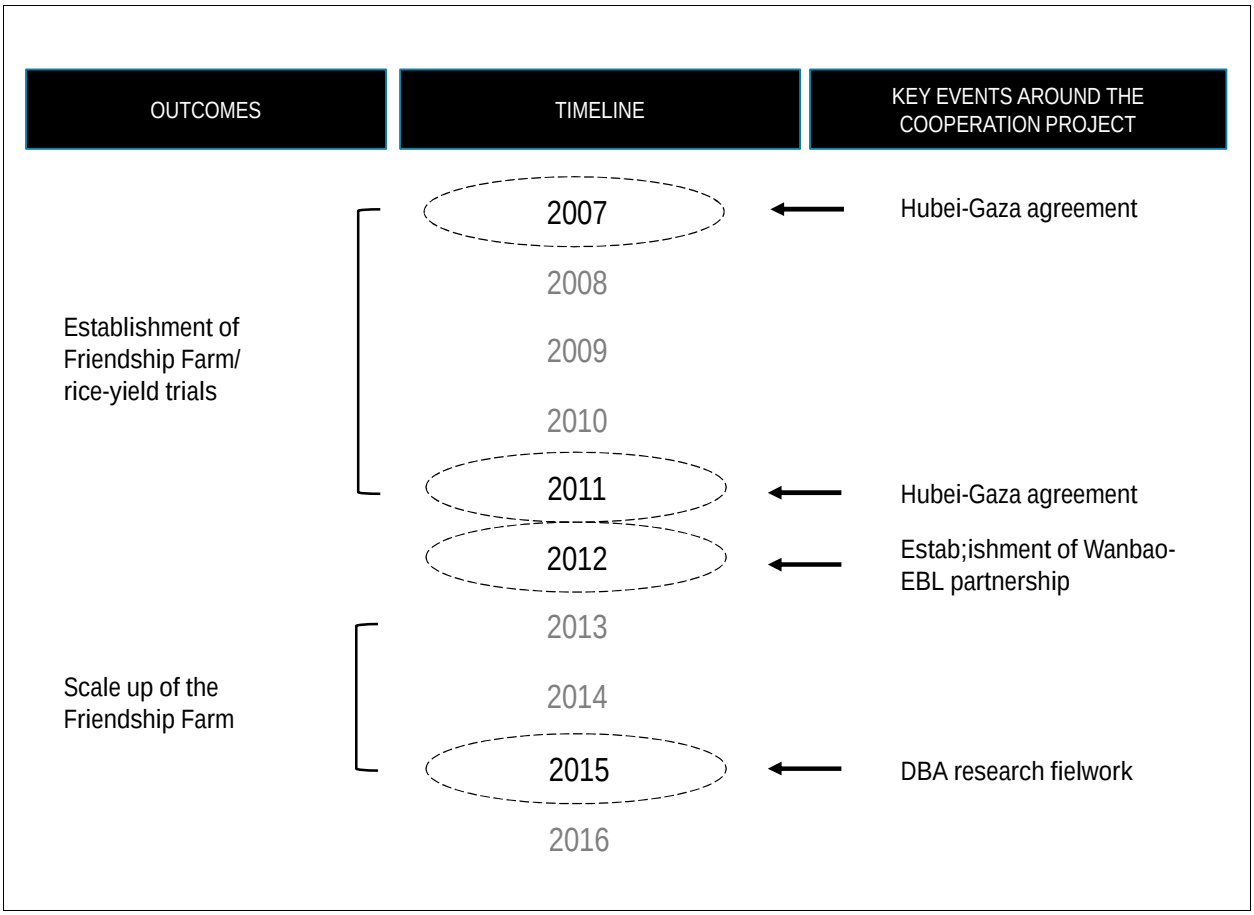


Figure 1.4. Timeline and changes that occurred at the outset of the cooperation project

### *1.1.4 The Baixo Limpopo irrigation company and its positioning in the project*

The Baixo Limpopo irrigation scheme is one of the two largest irrigation schemes in the country with 16,000 hectares of developed area out of a total perimeter of 70,000 hectares. The scheme is located in Southern Mozambique in Gaza Province extending over Chongoene, Xai-Xai, Limpopo and Chibuto Districts (see Figure 1.5 below).

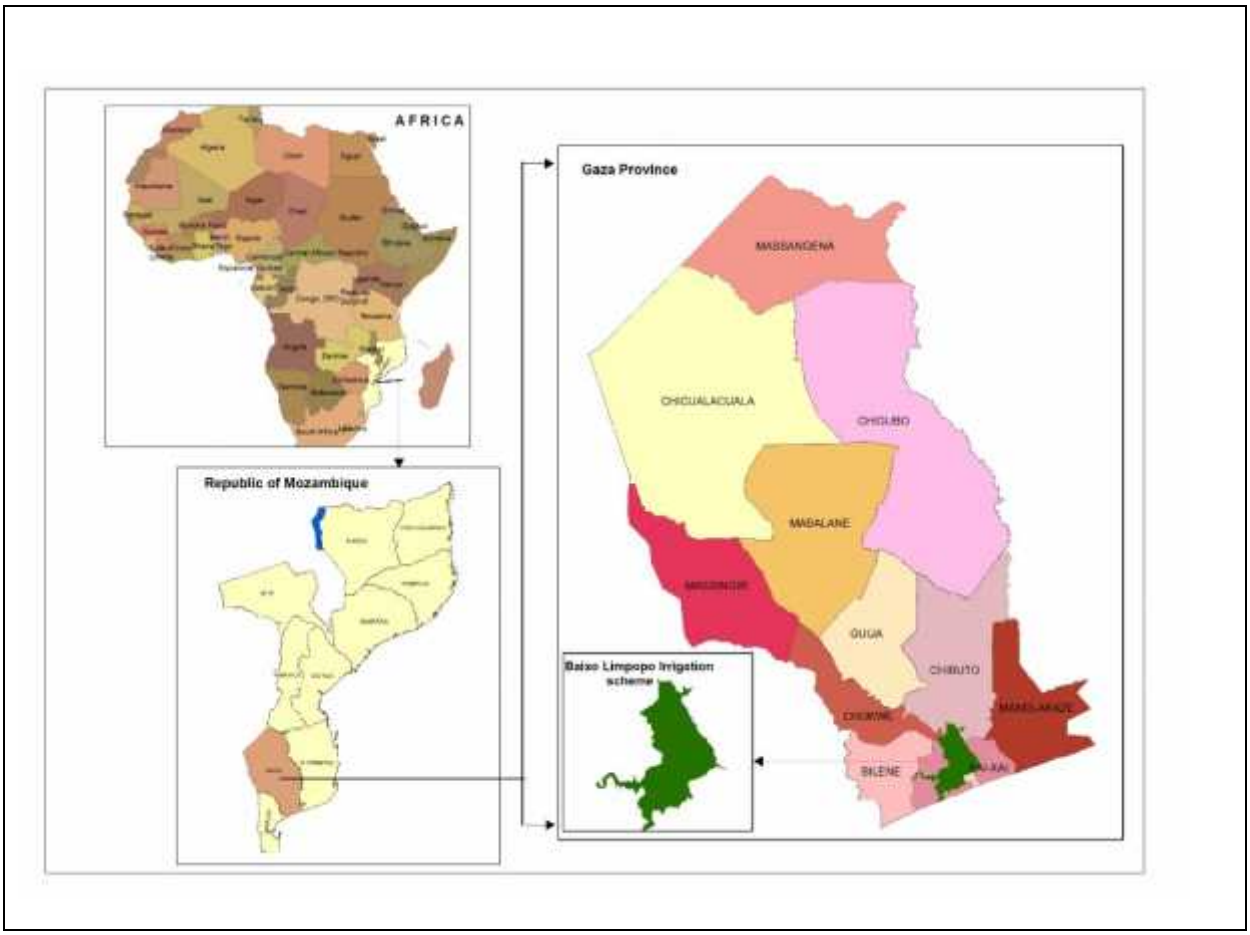


Figure 1.5. Location of project site

The scheme started in 1951 during the colonial period, and after being operated for a number of years after Mozambican independence, it was left abandoned for many years. The agricultural component of the Massingir dam rehabilitation project that was implemented from 2003 to 2009 brought important institutional and infrastructure development to the scheme. The arrival of Chinese and other investors in the scheme is seen by most people as a “new hope in the efforts to boost Mozambican agriculture" (Chichava et al., 2013, p. 107). The Hubei-Gaza agreement established that a rice production project would be established which would transfer Chinese rice-farming technology and skills to local farmers. This agreement, however, did not specify what technologies and skills would be transferred, how the local farmers would be selected to benefit from the project and what was to be done with the rice produced in the project. The establishment of RBL at Baixo Limpopo irrigation scheme in April 2011 sought to operationalise the Hubei-Gaza agreement with RBL taking a leading role in local value chains, namely: (i) the scheme’s land use rights and license for river water abstraction held by RBL which included the area of the Hubei-Gaza Friendship Farm; (ii) RBL’s responsibility for organisation of local farmers, their intermediation with input suppliers and service providers; (iii) a wide drainage network whose operation in

the rainy season mainly depends on RBL's Umbapi pump station; and (iv) responsibility to assist local farmers with improving their production and productivity.

RBL is a state-owned enterprise with management responsibility over the Baixo Limpopo irrigation scheme. At the time of research fieldwork in January 2015, a total of 16,000 hectares had been developed and in production in the whole scheme. Of this total 9,000 hectares were private investments including 8,000 hectares developed by Wanbao company. Contract farming was among the land use management approaches that RBL used to attract private investment while allowing direct involvement of the local farmers in primary production. The RBL-Wanbao partnership implemented such a project that linked to suppliers of inputs and loans. This resulted in local farmers benefiting from improved farming technologies and from training on the farming skills. In this scheme a farmer, after a successful training in a plot of one hectare, would be allocated a definitive farm with four hectares of developed land and linked to a local bank to access loans. A target of 1,000 local farmers was expected to benefit from this project.

RBL's responsibility for the management of water and irrigation infrastructure is associated with the fact that RBL is a holder of an extensive network of irrigation and drainage canals. This includes a large pump station for irrigation and drainage, and a set of machinery that help undertake canal maintenance. Water users within the irrigation scheme contract with RBL a piece of developed land on annual basis for their use. The contract includes the allocation of water for irrigation, maintenance of irrigation and drainage canals and farm structures. The Hubei-Gaza Friendship Farm also lay within this drainage network, being dependent on RBL's Umbapi pump station and on RBL's machinery

As even this short history of the cooperation project reveals, RBL plays an active role within the value chain of a complex cooperation project, involving many stakeholders. Understanding this complexity, and a desire to improve the management of stakeholder partnerships provide the impetus for the research. The background to this research motivation is discussed in the following section.

### *1.1.5 Researcher motivation and position within the study*

I come from a 'hard thinking' tradition in which reality is seen as existing 'out there', discoverable by human beings, and observable from outsiders of the scene. I cemented this philosophy with my education as an agricultural engineer and later along my career as agricultural research officer during the 1990s at the National Institute of Agricultural research in Mozambique. During those times in my role as an agricultural research officer, I conducted scientific research that sought to establish and validate cause-and-effect relationships between variables. Using scholarly knowledge and methods aimed at advancing scientific knowledge, I sought to target an audience that were my research peers in conference meetings and agricultural organisations. The primary goal of such research was the publication of new findings in trade magazines, or conference papers whose evaluation would normally be done by a peer review body. My positioning during such research was that of an outsider of the scene seeking data from farmers

following which I would withdraw from scene upon the research project completion. This was my research experience prior to entering my DBA programme.

Since I began my DBA programme at Liverpool, my framing and attitude towards research seems to have shifted substantially and have positioned towards a scholar-practitioner lying in between a scientific researcher and a consultant (see Table 1.1 below).

With this positioning, my research intent is to improve the management of partnerships surrounding the irrigation scheme, but to do so through a process of interaction with those stakeholders. I began to realise that the underlying research problem required an emancipatory agenda of widening the 'ownership' for the management of the technology transfer project through engaging in an action research intervention project. I saw this doctoral research as an opportunity not only to help understand the complex context in which I am embedded, but also to make improvements in the cooperation project by including the stakeholders in the management of the project.

Since April 2011, I have served as Chairman and CEO in RBL playing a critical role of attracting the Chinese investors including other partners that provide a range of services to local farmers. Also whilst at RBL I have worked with the Government leadership, local media and local non-Governmental organisations (NGOs) in providing assistance to local farmers, dissemination of the programme, and advocacy. These experiences explain in part why I had passion in studying management issues across value chains rather than limiting to studying a single organisation.

Since I began my DBA programme my primary interest has concerned the management of inter-organisational relationships including the stakeholder management: I have explored these topics under different dimensions using different modules thought in Liverpool's DBA programme as a lens. My interest in this research began to arise upon the realisation that I was embedded in a complex cross-cultural problem that required an agenda of engagement with the project stakeholders. My aim was to improve partnership management in the Baixo-Limpopo cooperation project, to empower project's stakeholders to own improvements in the project and to actively participate in their realisation.

TABLE 1.1 SCHOLAR-PRACTITIONER RESEARCH AS COMPARED TO SCIENTIFIC RESEARCH AND CONSULTANCY

| Aspects of Research | Scientific | Scholar-practitioner | Consultant |
|---|---|---|---|
| Means | Scholarly knowledge & methods | Scholarly knowledge & methods | Experiential knowledge & methods |
| Ends | Advancing scientific knowledge, or addressing a gap in the literature | Progress with an organisational issue | Progress with an organisational issue |
| Primary Audience | Academic peers | The organisation with the issue | The organisation with the issue (the client) |
| Secondary audience | Organisation who participates in project | Practitioner peers | None |
| tertiary audience | None | Academics in the field | None |
| Who defines the research aims | Defined by the researcher & born of academic literature debates | Defined through the interaction of the Researcher & the organisation | Defined by the organisation (the client) |
| Principal role of academic literatures | Key. Comprehensive understanding of extant relevant knowledge | Selective. Seeks to make critical use of literature | Minimal. Draws mainly on previous experience of comparable situations. |
| Diagnosis of problem | Conducted by researcher on their own terms | Conducted by Researcher on scholarly and organisational terms | Conducted by researcher on their own terms |
| Action within research | Publication of papers | New actions within organisation and/or own practice are central to whole research process | Production of report and recommendations for action within the organisation |
| Evaluation of research | Peer review of academic contribution | Critical and a prelude to generation of next cycle of issues | Rarely undertaken by neutral |
| Withdrawal from research setting | When project complete | Stays with organisation. Project continues in form of next action research cycle | When project complete |
| Role of organisation's members in research | Provider of data | Co-owner of problem, employer of researcher, resources the 'action' | Problem owner, client |
| Position of Researcher vis-a-vis organisation | External, independent of organisation | Internal, dependent on organisation | External, dependent on organisation |
| Orientation of researcher vis-a-vis the research | Removed | Reflexive | Reflective |

Source: Liverpool DBA Programme material provided by Paul Ellwood.

## 1.2 Problem Statement

In recent years, Chinese engagement in agriculture in Africa has attracted much attention from media, academics and policymakers worldwide (Chuanhong et al., 2015, p.4). Discussions around the nature of such an engagement has not limited at macro-level but also been reflected at the micro-level of project's implementation. The project that is the case for this study refers to a Sino-Mozambique agricultural cooperation project that involved Chinese agricultural technology and transfer of skills to local farmers to boost their farming productivity. The local farmers' assistance in the project came in form of aid combined with business run by Chinese enterprises.

The context of this DBA study is one of knowledge transfer that is taking place across cultures: the Chinese rice-farming technology and skills being applied amongst rice farmers in Mozambique at Baixo Limpopo irrigation scheme. The Chinese agricultural technologies in form of high-yield rice seeds, specialised tractors for soil levelling, paddling and harvesting, and procedures for seed pregermination were brought by Chinese investor (Wanbao). Wanbao sub-contracted the Chinese state farms who brought the skills for seed planting and crop management. The local farmers were the main beneficiaries of the technology and skills transfer. Also involved in the project were the Mozambican Government, local authorities and RBL whose role was to intermediate and coordinate the activities along the rice value chain. Service providers supplied the farming inputs including chemicals, water and farming loans to the farmers, while the media disseminated information about the project. There were also NGOs that provided a sort of advocacy to the farmers providing advice about organisational and land related issues. Each of these groups appeared to struggle for their own identity and interest, with each group having a different perception or expectation about the project.

The research problem is one of managing such a complex partnership in order to deliver on its objectives. The literature on China-Africa relations tends to approach the Sino-Africa agricultural engagements from two conflicting perspectives. A considerably larger set of studies see China as a development partner (Chuanhong et al., 2015; Buckley,2013; Brautigam and Ekman, 2012; Brautigam, 2011, 2010; Moyo, 2010; Le Pere, 2007; Goldstein and Reisen, 2006; Taylor, 2006). These studies emphasise China's experience in agriculture and its value and relevance for transforming Africa through collaboration. This perspective has been shared mainly by Chinese leaders and scholars, African governments, experts and elites who hold a view that China's agricultural investments in Africa are good for African development by contributing to solving Africa's food security problems (Chuanhong et al, 2015, p. 5).

A second group of studies treats China as an economic competitor or as a 'new colonizer' (Chichava, 2015, 2010; Mc Michael, 2012; Wild and Mepham, 2006; Fishman, 2005). This framing, as pointed by Chuanhong et al., (2015, p 5) sees China engaged in "a neo-classically driven, self-interested grab for resources to feed its own fast-paced economic growth" (Chuanhong et al, 2015, p. 5). The followers

of this view have used evidence to support their position, namely: i) that China is facing new pressures for food security and scarcity of land for farming, with the cultivated area approaching a 'red line' of 120 million hectares, thereby becoming a net food importer in 2003; ii) that development of cities in China have replaced farming areas thus pushing millions of Chinese farmers out of their farms; and iii) that Chinese impressive achievement in agricultural food production has been realised at the cost of intense use of fertilizer and heavy depletion of the soil and water resources with associated high pollution and energy use, and social exclusion of a large fraction of society (Buckley, 2013, p.10). A question frequently asked by the 'economic competitor' followers is "whether the agricultural development models being transferred in China's exchanges will replicate these problems in Africa" (Buckley, 2013, p.10). Further, this framing views "China's recent aid and other related efforts in African countries' agricultural sectors as hegemonic and part of a bid to take control over resources and politics on the continent"(Chuanhong et al. 2015, p. 5)

Part of the problem with the majority of these studies is that they have treated China as the dominant driving force in the China-Africa relations such that Africans are simply reduced to passive actors. A further problem is the excessive focus on the 'state' with relatively little consideration for actors and actors' micro-level mechanisms of interaction at the project implementation level (Chuanhong et al, 2015, p. 5). Only a few studies have examined the micro-level interaction mechanisms among stakeholders at the project level, and how the agricultural development models being transferred to Africa have been adapted through joint collaboration of the project stakeholders to meet their needs, ( Chaterlard and Chu, 2015; Chuanhong et al., 2015).

The scarcity of information on activity at the organisational level within a single project as well as the nature of challenges encountered in the working of partnerships is regrettable. This is the sort of awareness that project stakeholders in Baixo-Limpopo Cooperation project appear to need in order to improve their assumptions, attitude, skills and behaviour towards a better relationship. Further on, it would foster stakeholders' awareness to a wider range of mechanisms for building and maintaining relationships than they would have ever gained through their own experiences, thereby improving their own practices and relationships. Therefore, this study operates at the organisational level, and seeks to improve the management of the partnership. Improvements in partnership behaviours and management would secure long term commitments and scale up a large number of diverse organisations to establish high-yield rice production within the Baixo-Limpopo region of Mozambique. The study of projects of this nature would generate actionable knowledge that other professionals could adapt to their own situations. Further, results of this study are also of interest to policy through a better understanding of the context and the support needs of such projects. For research, this study would also help inform understanding of concepts underlying partnerships. This would lead to improvements in existing conceptual models for collaborative partnerships under culturally diverse environments.

This study aims to contribute to practice by introducing changes in rice- farming and in patterns of collaboration of stakeholders to the Baixo-Limpopo cooperation project. The purpose of this action research study is to foster improvements in the management of partnerships within the project in circumstances where multiple goals, interests, expectations and identities of stakeholders are at play. Further, the study aims to empower stakeholders to own these improvements and actively participate in their realisation. Hence, this study is a subjective PAR project which creates many intangible and unmeasurable outcomes from the management of partnerships which is judged by the research participants – not an economic evaluation of crop productivity which is beyond the scope of this study.

### 1.3 The Structure of the Thesis with Timeline

In this section, I explain with reference to the diagram in Figure 1.6 below, the sequence of events that the research followed, a great part of which happened during 2015. This thesis is structured in eight chapters. Following this introductory chapter, chapter 2 reviews the academic literatures related to the context of cross-cultural technology transfer. The review started in early December of 2014 with a focus on three bodies of the literature: Knowledge transfer, inter-organisational collaboration, and cross-cultural relations. Chapter 3 describes the research methodology that I adopted to realise the research purpose. The research methodology is that of participative action research. This is consistent given objectives of this study related to specific improvements in my context, empowerment of stakeholders to take ownership of these improvements, and actionable knowledge of use to related professionals. Chapter 4 describes how the process of constructing the problem was undertaken and which main problems were identified. .The process of constructing the problem started in 20th of January 2015 with interviews of project stakeholders, resulting in a rich picture of the underlying problem at the project.

Chapter 5 describes the process of action planning. This process of planning took place in the first workshop with innovation actors in 20$^{th}$ of April 2015 resulting in the formulation of an action plan for implementing the project. In chapter 6 I describe the implementation and evaluation of the action by innovation actors. The implementation stated in 23$^{rd}$ of July 2015 and the evaluation of outcomes took place in the second workshop with the innovation actors in 21$^{st}$ of August 2015, which resulted in specification of the learning. Lastly, in chapters 8, 9 and 10 I report my reflections and conclusions, particularly the study's contribution to practice, policy, and future research.

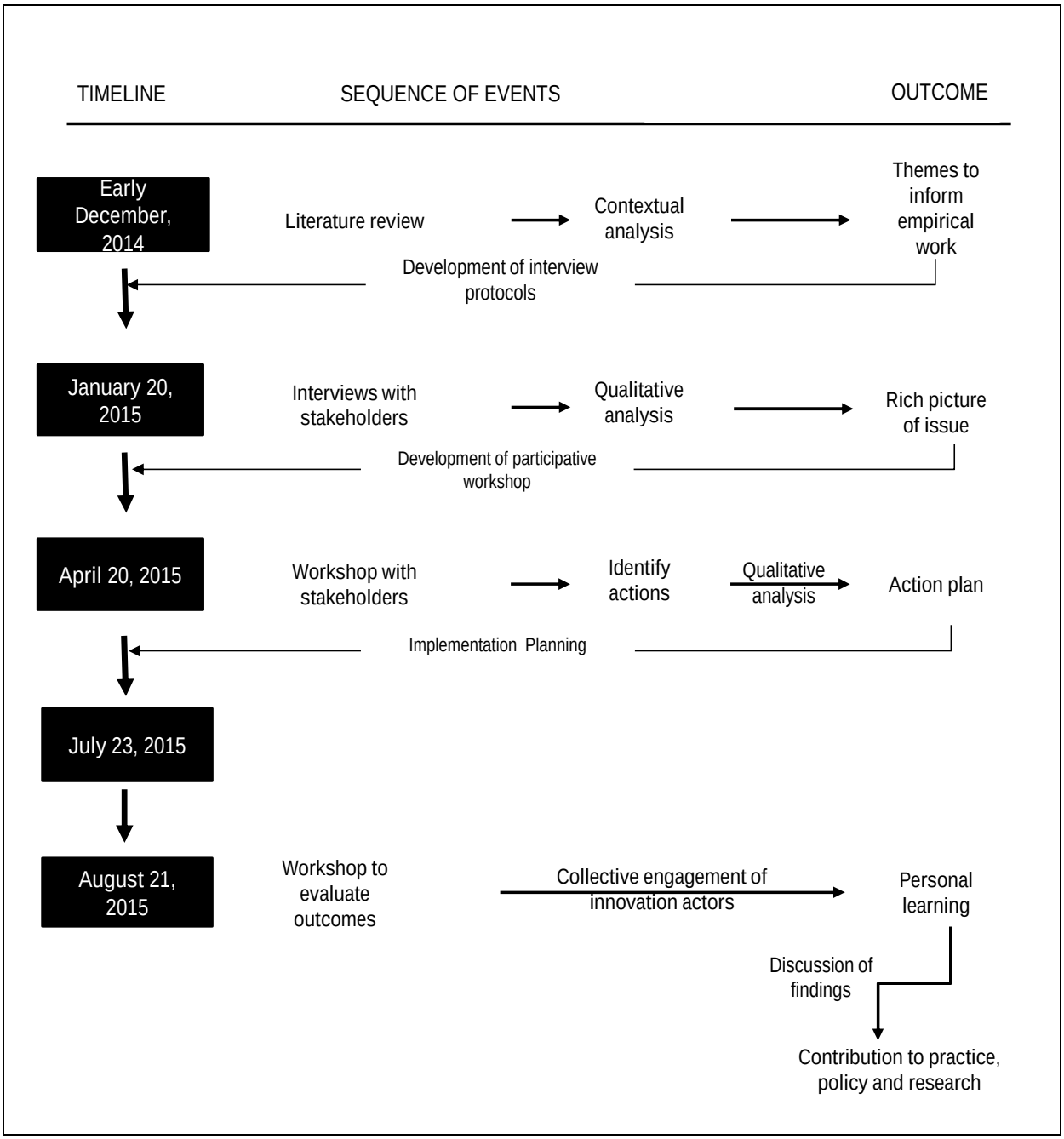


Figure 1.6. Sequence of events in the research and timeline

# Chapter 2
# Literature Review

## 2.1 introduction

Chapter 1 introduced the Baixo Limpopo Cooperation project: a knowledge transfer that is taking place in Mozambique with Chinese agricultural technology. Various stakeholder organisations – including Chinese technicians from Wanbao, RBL, and the farmers – have collaborated for implementation of the project. To aid an improvement in the partnership management in this context, three dimensions of complexity are important to review. The first dimension is related to the challenges for knowledge transfer itself. Knowledge transfer, as approached in the review, is a process of exchange between knowledge source and knowledge recipient in a given context (Li, Chang, Lin, and Ma, 2014, p. 280). The complexity within this relationship is found in the characteristics of the source, recipients, and knowledge transferred. The second dimension concerns difficulties that arise because the project collaboration is taking place between different organisations. The third dimension relates to the transnational character of the transfer and takes account of the different cultural orientations between Chinese and Mozambican stakeholders.

Based on this project context, I found that the analysis of the academic literature on knowledge transfer, inter-organisational collaboration, and cross-cultural relations provided a grounding on which to base the intellectual content of the project. In this chapter I begin by reviewing the literature on knowledge transfer (see section 2.2). Then, in section 2.3, I provide a review of the literature on inter-organisational collaboration. Thereafter I examine in section 2.4 the cross-cultural relations literature. Following this, in the section 2.5, I discuss how these literatures can be integrated to aid an understanding of the grounding of the partnership management. In concluding remarks (section 2.5.3) to the chapter, I explain how literature review informed the selection of PAR.

It should be noted that the sequence of sections follows a gradual increase of the complexity. For example, in section 2.2, I deal with the first dimension of the complexity – the knowledge transfer. With the review of inter-organisational collaboration, a new element – collaboration among organisations – is introduced, which adds one more element of complexity. In the section on cross-cultural relations, a further new element is introduced to reflect the fact that there is an inter-organisational collaboration that involves partners from different national cultural values. In the section on managing the partnerships, I discuss all three literature reviews to understand the extent and how the three dimensions of complexity can be managed.

## 2.2 Knowledge Transfer

### *2.2.1 Knowledge transfer and technology adoption*

This section aims to discuss some of the main themes in 'knowledge transfer' research and their relevance to the Baixo Limpopo cooperation project. The term 'knowledge transfer' has been used in several bodies of literature across disciplines, including in economics (Arrow, 1969; Johnson, 1970; Dosi, 1988), anthropology (Foster, 1962; Service, 1971; Merril, 1972), business (Teese, 1976; Lake, 1979), management (Rabino, 1989; Chiesa and Manzini, 1996; Laamanen and Autio, 1996; Lambe and Spekman, 1997), and rural sociology (Rogers, 1962; Roger and Shoemaker, 1971). In this section, I draw attention to the literature within the rural sociology discipline, where researchers have linked knowledge transfer to the adoption of new agricultural practices by farmers.

The term 'knowledge transfer' has been categorised based on three different perspectives (Ajmal and Koskinen, 2008, p. 8). The first perspective sees 'knowledge as solution' with emphasis on exchanges seeking to solve problems or improve operating situations. The main issues and debates associated with this perspective are concerned with generation or selection of appropriate technology, and motivation of its users to adopt it. The approach to knowledge transfer by rural sociologists lies within this perspective (Rogers, 1962; Rogers and Shoemaker, 1971).

The second perspective sees 'knowledge as experience', treating knowledge as commodity which must be obtained and accumulated for future use. The flow of knowledge within this perspective is across time rather than across space as is the case in the category of 'knowledge as solution'. The emphasis of this perspective, as pointed by Ajmal and Koskinen (2008, p. 8), is on capturing practitioner experiences (including mistakes) so that others can avoid 'reinventing the wheel'.

The third perspective sees 'knowledge as socially created'. According to this social creative perspective, knowledge is created and shared among people through interpersonal social relationships. The main issues and debates associated with this perspective are concerned with design aspects to enhance interpersonal relationships, facilitate sense-making, discussion, and negotiation (Ajmal and Koskinen, 2008, p. 8).

This study was carried out within the context of a project that deals with transfer of high-yield rice-farming techniques and know-how to local farmers in Mozambique. The project operates within the view of 'knowledge as solution' that aims at resolving local farmers' problems of low productivity. This political basis for establishing the Baixo Limpopo cooperation project was to facilitate the adoption of Chinese rice-farming knowledge as the solution to Mozambique's low rice productivity (cf. Rogers, 1962). China is among countries that are leading the global market in rice-farming technology using field puddling and sawing of paddy pre-germinated seed. As part of a strategic plan for food security, the Mozambican government has identified the Chinese high-yield technologies as a way for the Mozambican farmers to achieve rice high

yield production. Consistent with Rogers' (1962) work on adoption by farmers of new technology and practices (namely innovations), the farmers' adoption decision is centered on the imitation of respected individuals. Hence, the challenge pertains with identifying interventions aimed at influencing the spread of innovations focused on strengthening the interpersonal influence of these respected persons within their social network (Greenhalgh, Robert, Macfarlane, Bate, Olympia, and Peacock, 2004, p. 589). The social creative view of knowledge also taken in this study is concerned with organisational design aspects to enhance interpersonal relationships, facilitate sense-making, discussion, and negotiation (Ajmal and Koskinen, 2008, p. 8). This perspective about knowledge is particularly suitable for aiding my understanding of the partnership management.

In order to develop the 'knowledge as solution' perspective for this context, section 2.2.2 reviews the literature concerning antecedents of knowledge transfer performance. The management of this partnership of stakeholders may benefit from an understanding of the critical elements at play during knowledge transfer.

Section 2.2.3, aims to contextualise this discussion by examining how these elements have been approached within agriculture sector. I expand upon and contextualise the concept of 'knowledge as socially created' in section 2.3 by reviewing the literature on inter-organisational collaboration.

### *2.2.2 Antecedents of knowledge transfer performance*

Unpacking the 'knowledge as solution' category, Li et al. (2014) define knowledge transfer as "… the process that knowledge is transferred from sources to recipients in a specific context, and then the recipients internalise and apply the knowledge in practice to obtain competitive advantage" (Li et al. 2014, p. 280). This definition implies a simple categorisation of the antecedents of knowledge transfer performance. These categories are (i) the characteristics of knowledge, (ii) characteristics of the source, and (iii) characteristics of the recipient. The categories are used in Table 2.1 below to summarise the antecedents of knowledge transfer performance. It is important to draw attention to the fact that Li et al.'s (2014) are concerned with knowledge transfer cross national borders. The following sub-sections will explain in detail the factors listed in Table 2.1.

TABLE 2.1 ANTECEDENTS OF KNOWLEDGE TRANSFER PERFORMANCE

| Category | Antecedent to knowledge transfer performance |
|---|---|
| Characteristics of the Knowledge | ▪ Knowledge categories: human versus social or structured;<br>▪ Knowledge dimensions: explicit versus tacit, independent versus systemic, and simple versus complex. |
| Characteristics of the source | ▪ Quality of relationship between source and recipient;<br>▪ Incentive to share knowledge and consume time in the transfer;<br>▪ Capacity to accumulate, code and express the knowledge;<br>▪ Frequent communication;<br>▪ Credibility;<br>▪ Transfer willingness;<br>▪ Transfer ability;<br>▪ Reliability. |
| Characteristics of the recipient | ▪ Motivation;<br>▪ Absorptive capacity;<br>▪ Retentive capacity;<br>▪ Quality of relationship between source and recipient;<br>▪ Frequent communication;<br>▪ Ability to decode, learn and assimilate the knowledge transferred. |

i. Characteristics of Knowledge

An important idea in the literature is that different categories of knowledge may be associated with different challenges for the transfer of that knowledge. Bhagat, Kedia, Harveston, and Triandis, 2002, p. 206) suggest a typology that uses three knowledge categories: human knowledge, social knowledge, and structured knowledge. Human knowledge is comprised of individuals' knowing or know how, and manifests in the form of skills and practices. Social knowledge exists in relationships among individuals as far they work together. It manifests in our ability to collaborate with one another and to develop transactional relationships. Structured knowledge is embedded in organisational systems, processes, rules, and routines.

These three knowledge categories are further elaborated in terms of three dimensions of knowledge (Bhagat et al., 2002, p. 206):

- Explicit vs. tacit,
- Independent vs systemic, and
- Simple vs. complex.

**Explicit vs tacit knowledge**. Firstly, explicit knowledge, as discussed by Nonaka and Takeuchi (1996), is codified as documentation, reports and blue-prints. It can be articulated in words and numbers and shared as data, text, scientific formulae and specifications, and other formal symbols. Thus, a technology could be expressed as one specific form of explicit knowledge (for example as a patent). It can be transferred using structured means such as information systems (Goh, 2002, p. 27). In contrast, tacit knowledge implies that knowledge is not separable from the knower. Tacit knowledge is implicit, embedded in processes, behaviours, mental models, beliefs and perspectives of people (Polanyi, 1966). It is deeply rooted in individuals' cognitive processes and/or ingrained in the routine and non-routine processes of an organisation's unique culture and values (Daft and Lengel, 1986). Transfer of tacit knowledge generally requires extensive personal contact such as face-to-face contact, shared experience and practical action as well as socialisation (Davenport and Prusak, 2000; Rashman and Hartley, 2002, p. 530) based on the depth of the social relationship and trust between the parties. It is suggested that tacit knowledge cannot be explicated but rather, transferred through socialisation (Chen, Sun and McQueen, 2010, p. 229). In the specific case of the research context, while there is an agricultural technology associated with the project (namely improved seeds, specialised machinery and equipment), it is not easily codified as there is a strong tacit element in which the technology is embedded. Therefore, the transfer taking place in the project could not be characterised simply as technology transfer, but rather as knowledge transfer.

**Independent vs systematic knowledge**. The second dimension in this typology reflects the extent to which the knowledge is embedded in the organisational context (Bhagat et al, 2002). Knowledge is said to be independent when it can be described by itself. On the contrary, the systemic knowledge must be described in relation to the knowledge existing in the knowledge source. An example below illustrates how knowledge can be positioned on the independent/systemic dimension. In the particular context of this project which is the cross-cultural transfer of Chinese rice-farming, on the one hand, high-yield seeds can be seen as a part of a larger system: the Chinese rice-farming which involves practices of field levelling and puddling, sawing of pre-germinated paddy seeds in flooded field, and good crop management. On the other hand, the high-yield seeds can be seen as a relatively independent knowledge as its development can occur independent of other components of the Chinese rice-farming technology and skills.

**Simple vs complex**. With regard to the third dimension, simple knowledge can be captured with a little amount of information, being relatively easy to transfer. In contrast, the complex knowledge evokes more causal uncertainties. It requires greater amount of factual information, hence more effort is needed than is required in transfer of simple knowledge. Garud and Nayyar (1994, p. 370) provide an example of ceramic material used in spark plugs to illustrate how knowledge can be positioned on the simple/complex dimension. In the context of spark plugs, the ceramic material could be considered to be relatively complex. However, in the context of automobile engine in which spark plugs are used, the ceramic material could be taken as relatively simple.

Using these dimensions, Baghat et al. (2002, p. 207) classified the three categories of knowledge (human, social, and structured). They found that human knowledge was either tacit or explicit (or both), either independent or systemic, and either simple or complex. The structured knowledge was either simple or complex, but generally more explicit than tacit, and is by nature largely tacit and systemic (Figure 2.1).

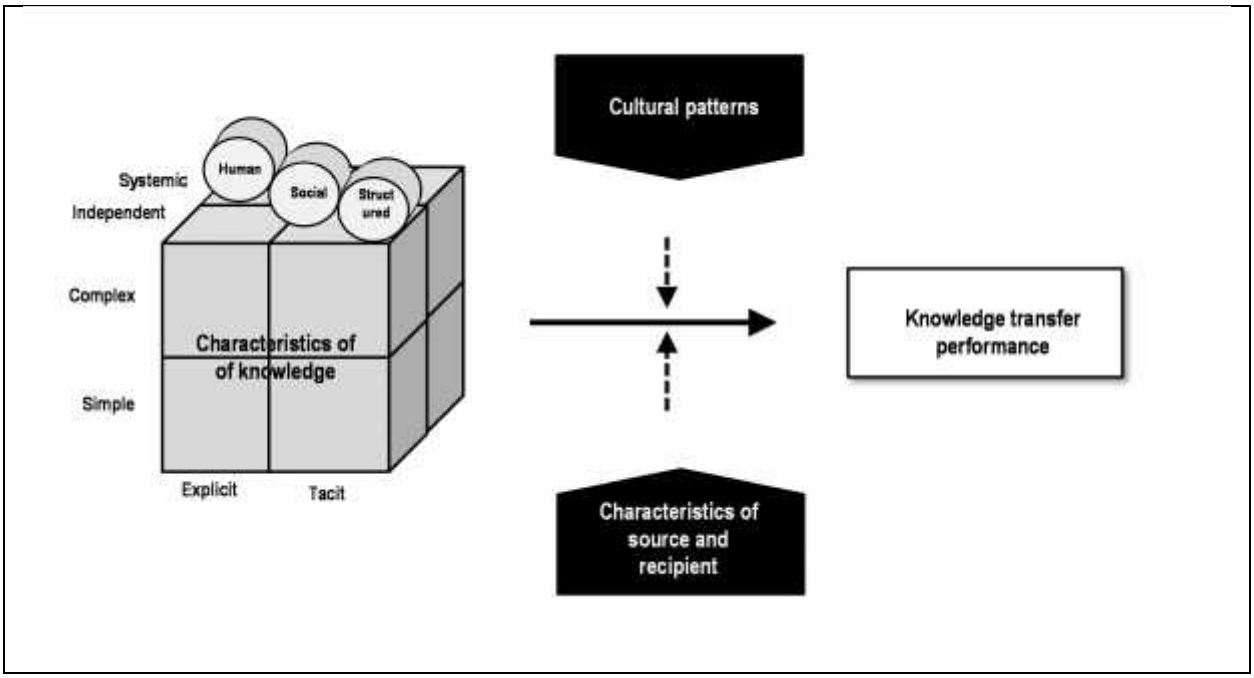


Figure 2.1. A model of knowledge transfer in a cross-border context (source: Baghat et al., 2002, p. 206)

In this project, knowledge being transferred could be classified as relatively complex, and largely tacit and systemic. The “complex” dimension reflects the fact that knowledge represents interaction of different parts including improved seeds, specialised tractors for field levelling and puddling, practices of field levelling and puddling, pre-germination and sawing of paddy seed, and crop management. The “systemic” dimension manifests in rice-farming knowledge that is built across different actors in the project. For example, the practice of paddy seed pre-germination is provided by Chinese partners, while the approach and criteria for selection of project farmers is provided by RBL. The “tacit” dimension reflects the fact that part of knowledge is transferred based on knowhow or skills.

What becomes clear from this discussion is that knowledge with a high degree of tacitness evident in this project, potentially presents extra challenges for effective transfer (Table 2.2).

TABLE 2.2 DIFFERENT TYPES OF KNOWLEDGE TRANSFERRED AND SOURCES OF COMPLEXITY

| Source | Recipient | Knowledge | Source of complexity |
|---|---|---|---|
| Suppliers of specialised tractors and implements | Farmers | Practices of soil levelling and puddling | Practices based on know how (tacit) |
| Suppliers of high-yield seeds | Farmers | Use of high-yield seeds and chemicals | |
| Providers of training | Farmers | Crop management | Practice of crop management based on knowhow |
| Providers of training | Farmers | Practice of seed pre-germination and sawing in flooded field | Practices based on transfer of skills (tacit) |
| RBL | | knowhow on approaches and criteria to select project farmers | Network coordination skills (complex) |
| Different actors | Different actors | knowhow on integrating credit financing in a well-coordinated supply chain | Collective knowledge |

ii. Characteristics of source and recipient during knowledge transfer

The literature suggested that there is a strong relationship between characteristics of the knowledge source and recipient and the performance of knowledge transfer. Goh's (2002, p.27) work found that a lack of motivation, absorptive capacity and retentive capacity of the recipient, as well as the poor quality of the relationship between source and recipient impacted negatively on the knowledge transfer performance. Giuliani and Bell (2005, p. 47) in studying the influence of firms' absorptive capacities on the knowledge transfer in a wine cluster in Chile, have found that "knowledge is not diffused evenly in the air, but flows within a core group of firms characterised by advanced absorptive capacities". Along with this, Cohen and Levinthal (1990, p.128), in studying the organisational ability to learn and assimilate new and external knowledge, found that this was a function of the firm's level of prior related knowledge: its absorptive capacity. Szulanski (1996), in exploring "internal stickiness" (namely impediments to the transfer of best practices within the organisation) in eight companies, found that the main barriers to knowledge transfer was the recipient's lack of absorptive capacity, and an arduous relationship between source and recipient. Added to this, Szulanski (1996) found that the source's motivation and incentive to share knowledge and consume time in the transfer, as well as the source's capacity to accumulate, code and express the knowledge influenced knowledge transfer performance. The work of Joshi, Sarker, and Sarker (2007. p. 332) supports that frequent communication is a behaviour that should be encouraged among source and recipient to improve knowledge transfer. They also conclude that source credibility is an antecedent to knowledge transfer, hence the need for source and recipient to develop a trustworthy

relationship. Several studies reviewed in this paragraph identify source-related and recipient-related determinants which impact on knowledge transfer performance. These impacts may also be affected by characteristics of knowledge being transferred (namely knowledge-related determinants). For example, transfer of knowledge with strong tacit and systemic elements may require increased frequency of communication and quality of relationship between source and recipients. This interaction between the three categories (knowledge-related, source-related, and recipient-related determinants) constitutes an additional source of complexity in knowledge transfer.

Empirical studies on knowledge transfer have found positive correlations between knowledge transfer performance and transfer willingness, transfer ability, reliability of source (Minbaeva and Michailova, 2004; Minbaeva, 2007). However, some studies have reported non-significance of the correlation between transfer willingness and performance of knowledge transfer (Minbaeva and Michailova, 2004; Wang, Lin, Jiang, and Klein, 2007). This would be the case where the source does not have the required ability to transfer knowledge. The recipient's ability to decode, learn and assimilate the knowledge transferred has been reported to positively impact on knowledge transfer performance. This, as Hamel (1991) notes, is because these are required characteristics in knowledge transfer for recipient's absorption, comprehension, application and innovation of knowledge.

By uncovering potential sources of difficulties related to characteristics of knowledge, source and recipients, this sub-section identifies sources of complexity for the management of partnerships that involve knowledge transfer. This review shows that combinations of the human, social, and structured knowledge categories that result in tacit, systemic, and complex knowledge are by nature more difficult to transfer and to absorb. In this particular project, the Chinese rice-farming exists as a combination of social, structured, and human knowledge. As a social knowledge, the Chinese rice-farming has built in collaboration networks linking suppliers of improved seeds, specialised tractors for soil levelling and paddling, harvesters, and drying equipment. The human knowledge in Chinese rice-farming manifests in the form of skills for seed pre-germination, rigorous seed planting in flooded soil and irrigation management. The structured knowledge is reflected in organisational routines and rules about how the farming processes are organised on a daily basis, the crop budgets for rice-farming, how trained farmers are selected to benefit from the knowledge, where the inputs and services are acquired, and what the size of plot is during training and afterwards.

Related to the characteristics of the knowledge sources, it is clear from Table 2.1 that determinant aspects include: motivation, incentive, willingness, ability, and reliability for sharing knowledge and consume time in the transfer, their capacity to accumulate, code and express the knowledge; quality of their relationship and communication with recipients; and credibility. On the side of knowledge recipients, determinants of difficulties in knowledge transfer include: recipients' motivation, absorptive and retentive capacities, quality of relationship and communication with sources, and comprehension, application and

innovation of knowledge; ability to decode, learn and assimilate the knowledge transferred. All these aspects might constitute challenges that add to the complexity of partnership management.

### *2.2.3 Knowledge transfer in agricultural sector*

A major theoretical framing that has shaped understanding of knowledge transfer in the agricultural sector is the 'diffusion of innovation' theory developed by Rogers (1983). In this theory, innovations were practices perceived as new by the consumers (farmers); diffusion was the spread of such practices from research or science by education or extension agents (i.e. agents used to transmit information and agricultural technology to farmers). The innovations were spread to farmers by imitation or through active knowledge transfer initiatives such as training. The farmers' adoption decision was perceived as centering on the imitation of respected individuals. Discussions and debates in the literature regarding innovation diffusion, as pointed by Greenhalgh et al. (2004, p. 589), tended to map the social networks around respected individuals and studied adoption decision of the farmers. These studies centered on identifying interventions aimed at influencing the spread of innovations focused on strengthening the interpersonal influence of these respected persons within their social network.

This description of the innovation diffusion could be expressed in terms of the concepts of knowledge transfer treated in subsection 2.2.2 above: practices are a specific form of knowledge while the diffusion mechanism is one way of transfer of such knowledge; the new knowledge generated from research or science is simply diffused to farmers. This way of approaching knowledge transfer has been subject to critique because of questionable assumptions which the model builds upon (Moschitz and Home, 2014, p. 2). The first assumption of the model is seeing innovative practices as intrinsically good things that improve productivity and market competitiveness. According to this assumption, both the productivity and market competitiveness are two crucial aspects for progress independently of the farmers' views, needs and knowledge. The emerging concerns of negative impacts of large scale mechanised farming with associated consequences to reduced rural employment and quality of life of the rural people, among others, have shifted the orientation of agricultural development. Along with this, it has been realised that agricultural innovation does not automatically lead to positive impact in the rural areas (Moschitz and Home, 2014, p. 2; Rogers, 1983, p. 92). This is because there may be conflicting interests between 'demand driven' innovation and rural development goals. The focus has increasingly been shifted from farmers to rural groups of which farmers are part, from agricultural sector measures to territory-based measures, and from private goals to public goals (Knickel, Brunori, Rand, and Proost, 2009, p. 887). Increasingly the emphasis is on integrating the agricultural production with rural development goals.

The second assumption with Roger's (1983) diffusion lies in seeing research or science as the only legitimate source of knowledge and generator of innovations. This assumption neglects the role played by other societal actors including the farmers' contribution to innovation generation. Knickel et al. (2009, p. 886) contend that farming knowledge as generated and accumulated by research and science increasingly

is "at odds with reality and is not a true representation of the way forward". Such agricultural knowledge is organised in segments disconnected from everyday farming practice, with the result that the farming images generated by research and science diverge from farm level realities (Knickel et al., 2009, p.886).

Overall, there has been a change from the linear diffusion model into a systemic view of knowledge transfer as a way to align agricultural production with contemporary rural development goals. This implied the inclusion of farmers as important actors, rather than merely as recipients of research based knowledge. Along with this, research or science are no longer perceived as the only legitimate source of knowledge, but co-produce knowledge with many other stakeholders and engage in collaboration to shape innovations.

### *2.2.4 Summary*

The review of the literature on knowledge transfer and particularly on antecedents to knowledge transfer performance shows the extent to which the characteristics of knowledge, source, and recipients constitute a potential source of challenges to partnership management in the project. Furthermore, the review of innovation diffusion sheds more light on the grounding on which to base the intellectual content of the Baixo Limpopo cooperation project. The knowledge transfer literature, as reviewed in 2.2.2, has approached the process of knowledge transfer as a relationship between sources and recipients of knowledge. Consistent with early research on innovation diffusion, agricultural innovation follows a simplistic view whereby innovation originates in research or science, and then applied to the production process, after which is diffused (by imitation or through active knowledge transfer) to the consumers if economically successful. This model seems to reflect the steps taken between 2007 and 2011 when the Baixo Limpopo Cooperation project was established. The rice-farming knowledge originated formally in research in China. It was introduced to Mozambique's farming as innovation involving high-productive seeds and procedures for rice farming. It was then tested during four years before its diffusion to the farmers through training.

Whereas this literature helps to explain the managerial thinking at the outset of this Sino-Mozambique agricultural project, it misses some critical elements. The first is how Rogers' (1983) pro-innovation view, reflected in large scale mechanised farming, could be reconciled with immediate rural development goals of a developing country associated with increasing rural employment and the food security. The second element is how autonomous organisations, including the Wanbao, Government, and farmers come to collaborate as co-creators of knowledge. Another aspect to consider is how these innovations brought to Mozambican farmers have been adapted through joint collaboration of the project stakeholders to meet their needs. What forces drive such inter-organisational collaboration? With the aim of shedding more light on this project context, in section 2.3, I provide the review of literature on inter-organisational collaboration.

## 2.3 Inter-Organisational Collaboration

### *2.3.1 A typology of inter-organisational collaboration*

This section discusses how stakeholder theory has addressed the topic of inter-organisational collaboration. Scholars within this literature (Gray and Wood, 1991; Wood and Gray, 1991; Butterfield, Reed, and Lemak, 2004; Heugens, Van Den Bosch, and Van Riel, 2002) have approached inter-organisational collaboration as a process and addressed how stakeholder organisations are motivated to join together to develop relationships geared towards achieving mutual gains. This description delineates three elements – preconditions, process, and outcome – that are germane to an understanding of inter-organisational collaboration.

A typology of inter-organisational relationships has been developed by Kaats and Opheij (2014, p. 13), based upon dimensions of joint decision making and the duration of commitment (see Figure 2.2). Collaboration falls in the middle and grey area in between market transactions and hierarchy structure. In this area, the decision making is complex because no one collaborator dominates and each of the parties retains their autonomy. At the same time, the duration of the relationship is "longer than short term but not quite forever" (Kaats and Opheij, 2014, p. 13). Powell (1990, p. 300) provides the key features that characterise the market and hierarchy structures. On the one hand, in hierarchy structures such as mergers and acquisitions, then employment-type contracts are the norm, and relationships operate within a hierarchical structure of authority. The climate is more formal and bureaucratic; communication is regulated by means of routines, and the administrative fiat and supervision are used for conflict resolution. On the other hand, in market transactions, the normative basis are contracts involving property rights; with communication regulated by means of prices, while conflict resolution is realised with resort to courts for enforcement.

The grey zone in Figure 2.2 is the area where neither the law of organisational hierarchy nor the law of market transactions work (Kaats and Opheij, 2014, p. 13). Within this area, the basis for collaboration is the complementary strengths of the various parties. Within such an open-ended climate, then communication is regulated by relationships in which parties rely on reciprocity and reputation concerns to resolve emerging conflicts (Powell, 1990, p.300). From the project context, no one of the parties (Wanbao and RBL) "determines the goals and needs of the other party to help fulfill those goals" (Kaats and Opheij, 2014, p. 12). There is neither any hierarchical structure of authority that guides relationships nor routines that regulate communication between people from RBL and Wanbao. Each party retains its autonomy in relation to the other party. Their relationship is based on trust (rather than on legal enforcements) and is driven toward realising mutual gains.

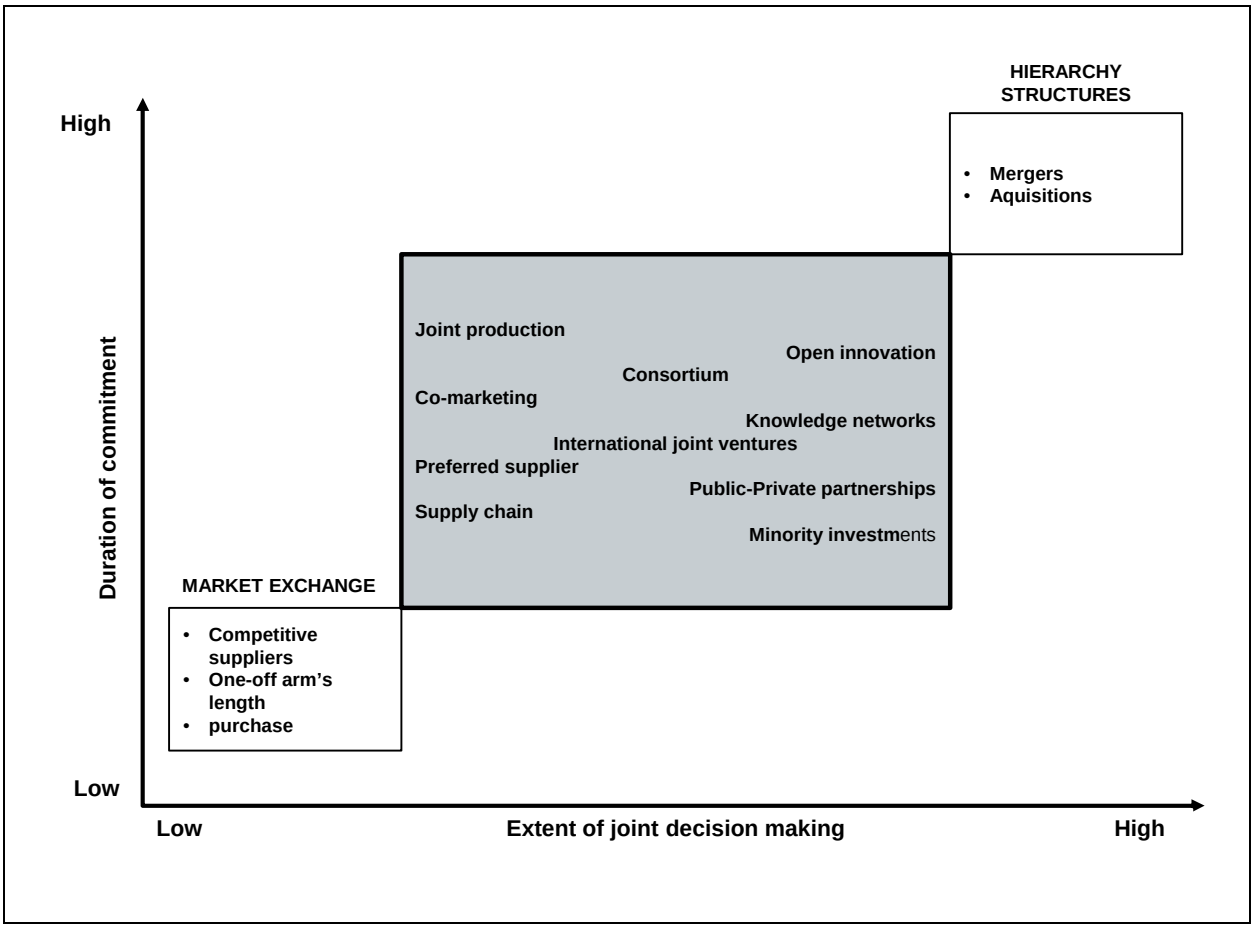


Figure 2.2. Inter-organisational relations (source: Kaats and Opheij, (2014, p. 13)

In this study, I have adopted the definition of collaboration used by Huxham and Vangen (2005) cited in Gustafsson and Magnusson (2016, p. 19) "... any situation in which people are working across organisational boundaries toward some positive end". This definition may be particularly suitable for the research context because it emphasises that collaboration is concerned with relationships between organisations. It does not include the relationships between individuals within an organisation. In addition the definition underlines a shared goal of reaching a positive end. In this particular project context, the important relationships are not those existing between staff within a single organisation such as RBL. The staff do not retain independent decision making powers because their patterns of relationships is shaped by "one's position within the formal hierarchical structure of authority" (Powell, 1990, p. 302). On the contrary, in cross-organisational relationships between RBL and Wanbao, parties hold a complete autonomy even having agreed a set of shared rules to guide collaboration. These parties must "orient their processes, decisions, and actions toward issues" related to the motivations that joined them together (Wood and Gray, 1991, p. 148).

### *2.3.2 Three phases of collaboration*

In this section, I structure my discussion on inter-organisational collaboration using the preconditions-process-outcome model (Gray and Wood, 1991; Wood and Gray, 1991). This model has been concerned with the study of preconditions, process and outcome of collaboration. The model was firstly used by Wood and Gray (1991) when they mapped various theoretical perspectives to explain what motivates the stakeholder organisations to join collaborations (preconditions), how such collaboration actually happens (process), and what sort of collaboration effects are expected by partners (outcome). I have adopted the structure of these authors for this study as their work has been widely cited in the inter-organisational collaboration literature.

i. Preconditions for collaboration

Gray and Wood's (1991) and Wood and Gray's (1991) research seeks to explain why stakeholder organisations are motivated to join the collaborations. Stakeholders have different motivations to decide engage in collaborations. Kaats and Opheij (2014, p. 10) have reviewed various motivations and grouped them into a few categories: realising of market advantage, realising of cost advantage, realising of knowledge development, and management of external pressure. Table 2.3 presents an overview of these four substantive motives to collaborate.

TABLE 2.3 OVERVIEW OF SUBSTANTIVE MOTIVATION TO STAKEHOLDER COLLABORATION

| Market development | Cost advantages | Knowledge development | External pressure |
|---|---|---|---|
| Developing joint market power; | Realising advantage of scale | Organising joint innovation | Political pressure: 'one face to citizens' |
| Improving and increasing distribution power | Overcoming investment impediments | Gaining access to new technology | Legal obligation of public consultation |
| Gaining access to new markets | Establishing joint supporting services | More efficient and rationalised production | Moral appeals from society or politics |
| Protecting against competition | More efficient and rationalised production | Learning from partners' skills and knowledge | |
| Supply chain integration through better supply chain coordination | | Learning from partners' cultures | |
| | | New patents as well as access to patented knowledge | |

**Source**: Kaats and Opheij (2014, p. 10)

One substantive motive as reviewed by Kaats and Opheij (2014, p. 10) is market development. Stakeholder organisations may decide to join collaboration in order to develop joint market power, gain access to new markets, or to assure chain integration through better chain coordination. Dacin, Oliver, Roy (2007) studied the legitimacy in strategic partnerships as a mechanism to gain access to new markets. Their findings indicate that stakeholders seek greater legitimacy through partnerships in order to gain increased access to markets, and gain ability to attract further resources. These stakeholders will act to maintain their legitimacy status given the changing demands over time. So a stakeholder selects a partner that helps satisfy its legitimacy demands. For supply chain integration, Gray and Wood (1991, p. 14) see stakeholders' motivation to collaborate as being triggered by an awareness to achieve shared understanding of a problem, and to develop a collective response to it. In Nathan and Mitroff's (1991, p. 179) work, it was shown that collaboration emerge among stakeholders as they recognise their *inter*dependence.

The second substantive motive reviewed by Kaats and Opheij (2014, p. 10) is the cost advantage. Stakeholders' organisations may opt to collaborate as a way to realise advantage of scale, establish joint supporting services with the partners, realise more efficient and rationalised production, or to overcome investment impediments. Hence, cost advantage is realised by maximising efficiency. Based on Gray and Wood (1991, p. 14), stakeholder organisations will opt to initiate collaboration if this helps maximise their efficiency and reduce transaction costs. These stakeholders will for example adopt a collaboration structure which reduces the costs of information and resources exchange among the collaborating members. Joint supporting services may be realised by recognising high stakes and high dependence. In a study of cross-sector collaboration Logsdon (1991) emphasises organisational inter-dependence; arguing that, in a resource-scarce environment, no organisation is able to allocate resources to solve every problem it faces. In such situations the organisation needs to "make choices about which problems are most critical to their fundamental interests" (Logsdon, 1991, p. 25). The environment that surrounds firms' business is so complex and challenging that no firm alone can rely on its competencies and capabilities. The findings of Logsdon's (1991) case research suggest that stakeholder organisations will not join into collaboration unless two conditions are satisfied: high stakes and high interdependence. This means, in other words, that a potential stakeholder partner needs to have developed a high degree of interest in solving a social problem and to have developed a high perception of interdependence with other stakeholders in solving the problem.

Where knowledge constitutes a valuable resource to the organisation then the third substantive motive involves knowledge development. Such circumstances may drive stakeholder organisations to initiate collaboration as a mechanism to organise joint innovation, gain access to new technology, use partner complementary competences, and learn from partners' skills, knowledge and cultures, as well as a form to access patented knowledge (Kaats and Opheij, 2014, p. 10).

The fourth substantive motive is the external pressure (Kaats and Opheij, 2014, p. 10). This motive is related with the stakeholders' need to manage political pressure to which they are subject, and to comply with the legal obligation of public consultation. It also relates with the organisation's imperative of complying with moral appeals from society or politics. The latter includes the partners' need to share purpose, to protect interests in commons resources, and the need for governance rules. Roberts and Bradley (1991) found that stakeholders' motivation into joining collaboration was driven by a shared purpose to produce social change. Also working in an international level study, Golich (1991, p. 245) found that stakeholders were motivated to collaborate to protect interests in common resources that were at risk of depletion or confiscation by others. In this manner, linking self-interest with community interest was crucial to set up a collaboration (Golich, 1991, p. 245). Gray and Wood (1991, p. 14) further hold that stakeholders' motivation to collaborate is attributed to institutional environmental forces. The impact of these forces on collaboration can be enabling or inhibiting depending on how they are configured at a given time. Pasquero (1991) in a macro-level study of motivation forces analysed collaboration at a societal level. Based on Pasquero's research, the configuration of the societal forces in Canadian experiment is what motivated different segments of society into collaboration for addressing environmental protection.

ii. Collaboration as a process

One common feature of the literature that treats collaboration as a process is that it adopts a dynamic and longitudinal view of the process of collaboration rather than a cross sectional one (Gray and Wood, 1991, p. 15). For example, Sharfman, Gray and Yan (1991) track changes in the adjustments that happen in the process of collaboration over time. As the collaboration or the external environments are subject to change, this can lead to misalignment between the environment and the collaboration, putting the survival of the latter at risk unless it adjusts to realign with its environment. Roberts and Bradley (1991) investigating collaboration in a longitudinal study of policy entrepreneurship conducted from 1983 to 1988, capture a couple of process elements which are necessary for a collaboration to take place: explicit and voluntary membership, organisation of task-specialised action, interactive processes, and limited time. Based on this study, collaboration happens by bringing these elements together and setting them up. According to Pasquero's (1991) work, the process of collaboration involves institutionalising some form of collaborative arrangement and share the responsibility among the stakeholders as a way of moving from structure to action.

In their discussion of collaboration in terms of preconditions-process-outcome, Gray and Wood (1991) argued that the process element was the least understood at that date as it remained a black box in the literature. Updating Gray and Wood's (1991) work, Thomson and Perry's (2006) have developed our understanding of the interactive process of collaboration by identifying the following five dimensions:

- Governance
- Administration
- Norms of trust and reciprocity
- Mutuality
- Organisational autonomy

**Governance**. Thomson and Perry (2006, p. 24) described governance dimension as mechanisms and structures that collaborative stakeholders require to govern their behaviour, relationships and ways of sharing power, and of achieving agreement in collaborative activities. This includes rules about the type of actions that are allowed or not allowed to be done, who is permitted to make decisions, which amount of information is needed and how the involved parties share the costs and benefits (Gustafsson and Magnusson, 2016, p. 27). This allows that the collaborative organisations work together avoiding future misunderstanding and conflicts between parties. Formal and written contracts between collaborating parties are ways that bind them, assign obligations for each involved part, and establish joint rules for their collaboration. Gustafsson and Magnusson (2016, p. 27) add that contracts' negotiation is important in a way that enables cost and risk reduction because the involved parties avoid future disputes (p. 27).

**Administration.** Thomson and Perry (2006, p. 25) advance a strong claim that 'collaborations cannot administer themselves'. The administration dimension provides the systems and structures required to move from contracts into action. The literature describe some factors that are found crucial for administration: planning, coordination and monitoring mechanisms; clarification of parties' on the jointly agreed roles and responsibilities; presence of achievable goals and good communication among parties (Thomson and Perry, 2006, p. 25); the right balance between administrative capacity and the capacity to build inter-organisational social relationships; boundary-spanning skills (i.e. the ability to build interpersonal relationships among partners and play as a broker) (Williams, 2002, p. 109).

**Norms of trust and reciprocity.** The literature of inter-organisational collaboration describes 'trust' as a process that builds gradually among collaborative partners and needs energy and time investment (Thomson and Perry, 2006, p. 28). If we say that we trust in our partner, it means that we hold a belief that our partner: i) has a past record of honesty and that she or he makes a good-faith effort to behave in accordance with collaboration commitment; ii) does not take advantage of events when she or he has opportunity to do that (Thomson and Perry, 2006, p. 28). Based on Dyer and Chu (2011, p. 11), trust in inter-organisational collaboration is made of three elements, namely reliability, fairness and goodwill. If we need to be perceived as reliable by our partner, we need to do good-faith decisions in accordance to the agreed commitments. To be perceived as a fair partner, we need to accept adjustments related to changed circumstances of collaboration. We are perceived to be acting with goodwill if we never take advantage of

our partner even in circumstances where opportunity for that arises. Further elements associated with trust treated in the literature include: i) the argument about power balance tending to foster trust among collaborating partners; ii) history of connection with other organisations which creates record of communication and trust; and iii) the reputation for trustworthy behaviour which partners build over time through collaborative interaction (Ring and Van de Ven, 1994, p. 105). These same authors added that the building of personal relationships among collaborating partners can substitute formal and written contracts resulting in inter-organisational relationships that lead to mutually beneficial gains to all parties involved over time. Closely related to trust is the concept of reciprocity, defined by Thomson, Perry, and Miller (2007, p. 28) as a "sense of duty that collaborating partners have towards each other, in a way that one partner might be willing to bear a larger initial cost believing that the partner will reciprocate in future".

**Mutuality**. Mutuality is a dimension of social capital and establishes that stakeholder-organisations should gain mutual benefits (Thomson and Perry, 2006, p. 27). The literature on inter-organisational collaboration identifies various types of mutuality which are fundamental for inter-organisational collaboration. These include: (i) gains related to either the collective interest and the self-interest of collaborating organisations; (ii) gains related to information sharing and outcome of the collaboration; and (iii) gains associated with the respect of each other's' difference in terms of organisational operation, culture, expectations and limitations (Thomson and Perry, 2006, p. 27).

**Organisational autonomy**. The organisational autonomy dimension refers to the tension between self-interest and the collective interest that arises during collaboration. This tension results from the fact that a collaborative organisation attains an individual identity as it must comply with own mission, while, on the other hand, the organisation holds an identity of a collaborative partner with commitments in complying towards a shared purpose. This dimension is problematic by nature as it requires the partners' effort to reconcile arising tensions in order for the collaboration to survive. Wood and Gray (1991, p. 160) have argued that if a collaboration is to happen at all, the collaborating stakeholders must understand that the collective enterprise is to serve their interests. However the interest may not be identical to the other organisation. Wood and Gray (1991, p. 160) have identified three different types of interests, namely the shared interests, differing interests and opposing interests. According to these authors, the shared interests are collective interests of the collaboration, while the opposing interests are self-interests of the individual collaborative stakeholders that interfere with one another. The differing interests are based on different expectations of the different involved stakeholders but they do not interfere with one another. What makes the collaborations is the potential to provide benefit for both collective and individual interests (Wood and Gray, 1991, p. 160).

iii. Outcome of collaboration

Research on the outcomes of collaboration has addressed categories of outcome effects and the criteria for measuring collaboration outcomes. I discuss below the two aspects in detail. Hardy, Phillips, and Lawrence (2003), in attempting to integrate collaboration effects reported in different research, have identified three broad categories of collaboration effects: strategic effects, political effects and knowledge creation effects (see Table 2.3 below).

TABLE 2.4 COLLABORATION OUTCOMES MAPPED BY THREE BROAD CATEGORIES OF EFFECTS

| Strategic effect | Political effect | Knowledge creation effect |
|---|---|---|
| Capacity building: acquisition of resources and skills that cannot be produced internally, including knowledge transfer where knowledge is seen as a resource. | Changed structure of inter-organisational relationship: making some organisations more central;<br>Change in inter-organisational influence: acquisition of power and influence as a means to protect specific organisational interests. | Knowledge creation effects of collaboration;<br>learning new technologies and skills. |

**Source**: Hardy et al. (2003)

The first view is labeled “strategic effects” and looks at the collaboration as a process that leads to capacity building. This is in the sense that organisations acquire the resources and skills which cannot be produced internally. This view has treated the knowledge transfer in terms of a resource that flows among collaborating partners  A second view treats the outcome of collaboration in terms of changed structure of the inter-organisational relationship, making a point that some organisations become more central. A further perspective approaches the collaboration outcome as a change in inter-organisational influence, namely the acquisition of power and influence as a means to protect specific organisational interests. This applies mainly in circumstances where collaborating partners hold different beliefs, values and culture. The final perspective focuses on knowledge. Here, knowledge is seen as something that is created through interaction among collaborating partners. The process of collaboration is aimed at knowledge creation and at learning new technologies and skills. Bessant, Alexander, Rush, Tsekouras, and Lamming (2012, p. 1091) found that learning networks were created to realise, amongst others, the following benefits: (i) structured reflection from different perspectives; (ii) shared experimentation that reduces the "risks of trying new things"; (iii) sharing experiences; and (iv) shared learning that allows for surfacing assumptions. This category seems to be particularly suitable for this DBA. As noted earlier (section 2.2.1) the notion of knowledge within the project being something that is socially-created aids an understanding about how knowledge on Chinese rice-farming has been adapted by concerned stakeholders to suit their specific area.

With regard to the measurement of collaboration outcomes, Logdson (1991) emphasised that outcomes of collaboration should focus on whether concrete problems were solved as a result of collaborative efforts. Offering a different perspective, Roberts and Bradley (1991) determined the success of collaboration using a criteria of "generated innovativeness". For Pasquero (1991), the outcome of collaboration was the shared responsibility among partners. Westley and Vredenburg cited in Gray and Wood (1991) measured collaboration outcome both in terms of whether partners achieved a common understanding on how to manage their problems, and in terms of achieved commitment to the bridging role. Finally, Sharfman et al. (1991) evaluated the outcome of collaboration in terms of an acquired ability to adjust to the changes and maintain alignment with environment. For this project context, it seems to be early to choose which criteria would be most suitable for measuring the collaboration outcomes. Indeed, the challenge of sharing and reconciling the success criteria of multiple actors informs (in part) the participatory mode of action research in this project (chapter 3).

### *2.3.3 Summary*

This discussion has contributed to my understanding of the research context to the extent that it delineates the forces driving collaboration amongst autonomous stakeholder organisations, such as Government, farmers, RBL and Chinese technicians. Collaboration has been described as concerning with relationships between organisations where neither the law of organisational hierarchy nor the law of market transactions govern the process (Powell, 1990, p. 300). Three key phases of collaboration – preconditions, process, and outcome (Gray and Wood, 1991; Butterfield et al., 2004; Heugens et al., 2002) – were discussed around which various forces are at play. These forces include: (i) the motivations (preconditions) driving stakeholders into collaboration; (ii) actions, behaviour, and decision making that delineate the actual process of collaboration; and (iii) various categories or criteria that help stakeholders evaluate the effect of their engagement in collaboration.

This discussion sheds more light on the project context in terms of allowing an appreciation of the complex nature of relationships between the project stakeholder organisations. It also helps to uncover the sort of forces shaping the stakeholders' motivations, decisions and actions during collaboration. In the project context, the stakeholders retain relationships that build upon complementary strengths of the collaborating parties. Each organisational stakeholder in the project is autonomous, holding an individual identity. This raises tensions from the fact that each stakeholder must comply with its own mission, while at the same time committing towards a shared project purpose. Since neither hierarchy structure of authority nor market exchange enforcements are applicably in such a context, the stakeholders are driven into engagement by their high stake and interdependence. They are also driven by the desire to realise mutual gains. In order for these to be realised, trust among project stakeholders is needed. Yet, one issue here is the fact that to create trust one's requires a lot of energy and time investment because it builds gradually among collaborative partners.

While inter-organisational collaboration explains how autonomous organisational stakeholders come into collaboration, still an element is missing germane to this DBA research project: how different cultural orientations among interacting stakeholders reflect in the project context? The literature review in the next section (2.4) address this question by providing insights on the cross-cultural relations.

## 2.4 Cross-Cultural Relations

### *2.4.1 Understanding cultural differences*

In this section, I provide a review of the cultural dimensions contextualised for the Baixo Limpopo Cooperation project according to three value systems that are present in the project context. The project's organisational context is comprised of several cultural influences: the majority of farmers associations constituted by local farmers, the Government agencies, Chinese private firm, Italian private firm, NGOs, and service providers. The farmer associations' value system is here referred to as Afrocentric, and that of the Chinese private firm as Chinese value system. Additionally, other organisations in the project, namely Government agencies, Italian firms, NGOs and service providers have revealed management styles which reflects a mix of Afrocentric and Eurocentric value systems. I applied the three value systems – Afrocentric, Eurocentric, and Chinese value system – to embody the cultural diversity in the project context and simplify the discussion of the cultural dimensions. Further, I examined some of the difficulties posed by differences in cultural values.

Culture has been described as "the collective programming of the mind which distinguishes one group or category of people from another" (Hofstede, 1993, p. 89), in a way that cultural distance has a strong implication on the nature of transacting patterns between the people involved. This definition implies a multiple layered construct with different levels like an onion (Smit and Cronjé, 2002, p. 255) that constitute a basis for differentiating a group of people from another. An outer level comprises of visible cultural aspects such as language, how the different groups communicate, dress and what technologies they use. While visible, these aspects become complex to interpret without knowledge of inner levels. The norms and values represent the intermediate level which includes aspects such as people values, traditions, habits, customs and rituals. Norms reflect people's sense of what is right or wrong while the values reflect people's sense of what is good or bad. This level represents the people's logic to explain or justify their behaviour that manifest in their artefacts and products. Finally, the implicit basic assumptions represent the inner level. This level is made of unconscious cultural aspects which include people's shared ideas and beliefs that are taken for granted (Smit and Cronjé's, 2002, p. 255).

Along with the above description, cultural differences between countries may be described using cultural dimensions. The position of a country on these dimensions helps us to understand how their societies operate (Hofstede, 1993, p. 89). While various cultural dimensions exist in the literature that might be potentially useful, I found the four dimensions of Hofstede (1980) to be particularly suitable for

developing my analysis of the project context. According to Hofstede (1980), national cultures can be mapped by their fit into four dimensional framework of: (i) individualism vs. collectivism; (ii) large vs. small power distance; (iii) strong vs. weak uncertainty avoidance; (iv) masculinity vs. femininity. Table 2.4 below summarises the cultural dimensions which I discuss in detail thereafter. To complement Hofstede's dimensions, an additional dimension of Glenn and Glenn (1981) that capture the "degree of involvement" (namely, the associative vs. abstractive cultural orientation) was used.

TABLE 2.5 CULTURAL DIMENSIONS

| Dimensions | Afrocentric | Eurocentric | Chinese value system |
|---|---|---|---|
| Social orientation | Collectivism | Individualism | Collectivism |
| Power distance | Large power distance | Small power distance | Large power distance |
| Uncertainty avoidance | Strong uncertainty avoidance | Weak uncertainty avoidance | Strong uncertainty avoidance |
| Goal orientation | Quality of life (Femininity) | Career success (Masculinity) | Quality of life (Femininity) |
| Degree of involvement | Associative | Abstractive | Associative |

Source: Hofstede (1993) and Kedia and Bhagat (1988).

The table shows that the Eurocentric culture value system has its own configuration on the five dimensions. In comparison to the African and Chinese value systems, the Eurocentric presents an individualist social orientation combined with small power distance, weak uncertainty avoidance, a masculinity goal orientation, and an abstractive degree of involvement. The African and Chinese value systems are collectivist with large power distance, strong uncertainty avoidance, femininity goal orientation, and an associative degree of involvement. This distinction should make us aware that people in a given value system "...may think, feel, and act very differently from us when confronted with basic problems of society" (Hofstede, 1993, p. 90). This demonstrates that organisational stakeholders from diverse cultures may be misinterpreted by one another on the basis of actions, behaviour, approach to the problem, and decision making. This may lead the interacting partners in feeling misunderstood, mistreated, frustrated, or impatient. Below I contextualise in detail each cultural dimension for this DBA project.

**Power distance**. Power distance can be used to describe the degree of inequality or relationship between a superior and subordinate which people in a country expect and accept as normal (Hofstede, 1993, p. 89). The distance may vary from relatively equal to extremely unequal. In large power distance

cultures, the subordinates usually will not approach and contradict their superiors. This acceptance of inequality may entail voluntary dependence of subordinates on their superiors or imposed dependence. The power in these cultures may be manifest by the charisma of the superior, the patriarchal relations or the ability to use force. On the contrary, in small power distance cultures, the power may be manifest by the superior's expertise and the ability to give rewards.

A difference in power distance among collaborating organisations might raise problems of relationship between them. In large power distance cultures, people during negotiation will stop and wait for instruction from their superiors, especially in relation to unexpected issues. The negotiations may take longer or even several rounds, and this might constitute a source of misunderstanding when partners from small power distance cultures interpret such a behaviour as part of an autocratic decision making system. On the other side, partners from the larger power distance culture may understand their partners from the small power distance cultures as very democratic.

**Social orientation: individualist vs. collectivism.** Individualism – the opposite of collectivism – describes the "degree to which people in a country prefer to act as individual rather than as members of groups (Hofstede, 1993, p. 89). It is generally accepted that Africans tend to group together as collectivists within a framework of shared norms, values and belief systems (Smit and Cronjé, 2002, p. 259). Africans live for community rather than for themselves. This is why when they come across a problem they will deal with it communally. For the Baixo Limpopo cooperation project, collectivism means that a local farmer in the project would deal with her or his problems communally. An unsolved problem of an individual farmer could be able to attract many other farmers in the group to join and go on strike, resulting in decline of the whole image of the collaboration.

**Goal orientation: masculinity vs. femininity**. Hofstede (1993, p. 90) and Smit and Cronjé (2002, p. 262) have described goal orientation as the degree to which people in the country prefer career success (masculinity) over quality of life (femininity) and vice-verse. These researchers have polarised goal orientation in terms of masculinity and femininity qualities. Masculinity cultures stress career success' values such as competition, assertiveness, performance, and success commonly associated with the role of men. Rather, the femininity cultures give preference to quality of life's values such as solidarity, care for the weak, maintaining warm personal relationships, and service: values which are more associated with woman's roles (Hofstede, 1993, p. 90; Smit and Cronjá, 2002, p. 262).

In the case of Baixo Limpopo cooperation project, the polarisation in cultures could constitute a potential source of problems to inter-organisational collaboration. For example, the lack of consideration of a partner's femininity act of maintaining warm personal relationship would destroy her or his pride and dignity and cause dissent. The masculinity culture gives more emphasis to success and performance, while the femininity culture is concerned with commonality and solidarity with all other people.

**Uncertainty Avoidance.** Uncertainty avoidance is "the degree to which people in a country prefer structured over unstructured situations" (Hofstede, 1993, p. 90). In structured situations there are clear rules as to how people should behave. When they come across situations that they perceive as unplanned, contingent, unclear, or unpredictable, people in strong uncertainty avoidance culture get stuck with a feeling of "what is different is dangerous". Their actions strictly follow a code of behaviour (Smit and Cronjé, 2002, p. 261).

This has a potential to raise relationship problems in Baixo Limpopo cooperation project as the project context is dynamic and circumstances of the partners' collaboration may have changed. A partner adopting a strong uncertainty avoidance culture will only see one way of doing things with no room for adjustments of what was previously agreed upon. Rather, the weak uncertainty avoidance culture is more flexible, holding a feeling of "what is different is curious" (Hofstede, 1993, p. 90).

**Degree of involvement: associative vs. abstractive**. Associative versus abstractive cultural orientation describe the degree in which people are comfortable in utilising "associations among events that may not have much logical basis", than to utilise cause-effect relationships (Kedia and Bhagat, 1988, p. 566). These authors note that this difference in orientations can be a source of potential miscommunication. People from the associative orientation tend use a face-to-face communication. This takes place among people who "share a large body of information based on both historical and contextual modes" (Kedia and Bhagat, 1988, p. 566). Hence, context in which communication takes place is so crucial that it determines how effective will be the communication. On the contrary, in abstractive culture, most communication relies on "mass media and related technological mechanisms" (Kedia and Bhagat, 1988, p. 566).

For the Baixo Limpopo Cooperation project, this means that co-existence of these two cultural orientations has the potential to create tensions during stakeholders' collaborations. On the one side, associative people may be understood by abstractive people to be working outside the rules. On the other side, abstractive people may be perceived as those who put rules before friendships.

### *2.4.2 Developing intercultural competence*

In this study, I adopted the definition of intercultural competence used by Lloyd and Hartel (2010) "a set of skills, knowledge and attitudes that are used when interacting with culturally diverse team members" (p. 846). Such interactions can be described using the framework of intercultural sensitivity proposed by Hammer, Bennett, and Wiseman (2003, p. 424) (Figure 2.3). This framework posits six cultural orientations along which people progress through in their journey of intercultural competence.

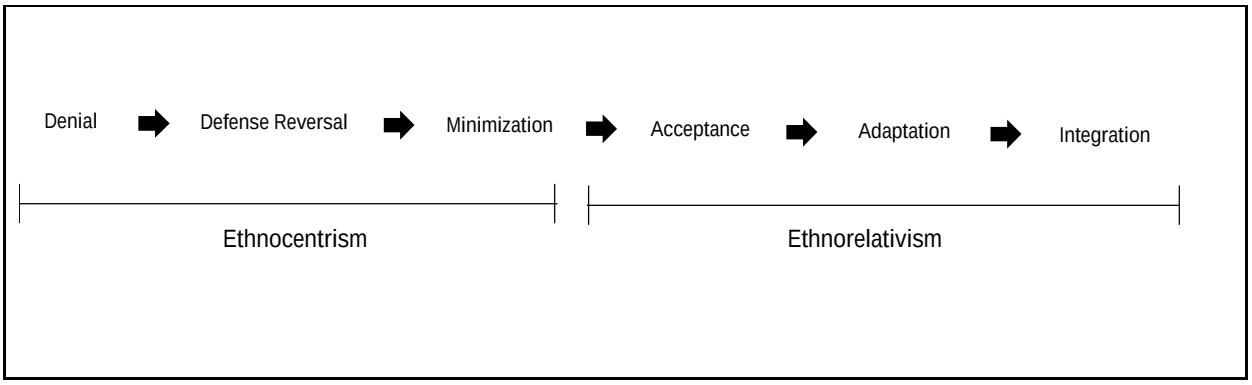


Figure 2.3. Cultural orientations (source: Hammer et al., 2003, p. 424)

An implicit assumption present in the framework is that the more people enhance their intercultural relations, the more sophisticated their cultural experience. Accordingly, the continuum begins from the people behaving as ethnocentric whereby they position progressively along denial, defence, and minimisation orientations. Ethnocentric means that "one's own culture is experienced as central to reality" (Hammer et al., 2003, p. 424). These orientations, according to Hammer et al., can be seen as ways of avoiding cultural difference, either by denying its existence (denial), by raising defences against it (defence), or by minimising its importance (minimisation) (Hammer et al., 2003, p. 425). At denial stage, one's own culture is experienced as the only real one, such that there is no perception of a cultural difference. At defence stage, one's own culture is not the only one perceived but is understood as the only one viable. At minimisation stage one's own culture is understood as universal and similar to someone else's culture.

At a more advanced stage along the continuum, people stand as ethnorelativist, positioning progressively along acceptance, adaptation, and integration culture orientations. Ethnorelative means that "one's own culture is experienced in the context of other cultures" (Hammer et al., 2003, p. 425). These orientations, according to Hammer et al., are ways of seeking cultural difference, either by accepting its importance (Acceptance), by adapting perspective to take it into account (Adaptation), or by integrating the whole concept into a definition of identity (Integration) (Hammer et al., 2003, p. 425). At Acceptance stage, one's own culture is experienced as just one among various other world-views. At adaptation stage, the experience of another culture yields a "perception and behaviour appropriate to that culture" (Hammer et al., 2003, p. 425). At integration stage, "one's experience of self is expanded to include the movement in and out of different cultural world-views" (Hammer et al., 2003, p. 425).

In developing the intercultural competence, we can improve our communication with one another. This will allow us to evaluate more accurately how our own behaviour is affecting cross-cultural collaboration. Further, it can help us to react in a more realistic and less judgmental for to the different behaviours expressed by our partners (Lloyd and Hartel, 2010, p. 847).

### *2.4.3 Summarising cultural orientations within the project*

Five cultural dimensions that I have reviewed in this section show how difference in cultural orientations among project stakeholders could lead to misinterpretations during collaboration. My own research context reflects such cultural differences to the extent that it integrates different cultural orientations. At least three culture value systems are present in the project: Afrocentric, Eurocentric, and Chinese value system. These cultural differences in the project have manifested in different moments. One potential moment is during the transfer of rice-farming technology and know-how. For example, a feeling of frustration might rise from Chinese partners when they come to realise that what they initially thought was a problem experienced by an individual local farmer suddenly has become a big problem that paralyses the whole project because other farmers in the project have solidarity to their peer.

A second potential moment of cultural difference manifestation is in interactions of project stakeholders during negotiation of cooperation agreements. Organisational stakeholders from diverse cultures could misinterpret one another in the basis of the decision making style during negotiations, the patterns of behaviour and approaching to the emerging problems, goal orientation, reaction to a change in plans, and orientation to the formal and informal relationships. This may lead the interacting partners feeling misunderstood, mistreated, frustrated, or impatient. For example, stakeholders from Eurocentric value system will need patience when dealing with their Chinese partners during negotiations as these might have limited power of authority in taking decisions without consultation to their superiors. Likewise, partners in the project might not be flexible enough to changing circumstance in the project. They could only see one way of doing things with no room for adjustments of what was previously agreed upon in the project.

In developing our intercultural competence, we could be aware of the behaviours expressed by our partners. This would help us react in real time and improve our communication. Having reviewed so far each of the three bodies of literature, in next section (2.5), I bring together all the three literatures to understand to what extent and how the three dimensions of complexity can be managed.

## 2.5 Towards Improvements in the Management of Partnerships in the Baixo-Limpopo Irrigation Scheme

The three streams of literature reviewed in this chapter enable an understanding of the complexity of managing the stakeholder partnerships within this project. This final section integrates these different threads in order to develop key themes for partnership management. On the basis of such themes the chapter will be ended by articulating the research questions that will inform the action research.

### *2.5.1 Collaborating for knowledge transfer*

It has been shown in section 2.3 that collaboration can be an important meaning for partnering stakeholders across different organisations to realise the knowledge transfer. While knowledge transfer

may be understood from a simple source-recipient relationship model (Li et al., 2014), it seems to be a consensus within the learning and innovation literature (Bessant et al. 2012; Moschitz and Home, 2014) that knowledge is created through interaction among collaborating partners. Within an agricultural context Rogers (1962) approached the knowledge transfer as a diffusion of innovation in which practices or ideas considered new (i.e. innovations) and generated from research or science were spread (diffused) to recipients. Moschitz and Home (2014) have discussed this diffusion of innovation approach in the context of learning networks for innovation. They argued that this approach aligns with agriculture policy which treats innovation as a novelty outcome produced from research whose transfer must be coordinated with extension services, education and other organisations support systems (credit and input providers, and farmers' associations).

Research undertaken in the context of learning networks for innovation (Bessant et al. 2012; Biggs, 1990; Moschitz and Home, 2014; Röling, 1994) have positioned strongly against the view of 'innovation as a novelty'. Also understood from these studies, is that innovation is created through interaction among collaborating partners. For example, Knickel et al. (2009), and/ Rivera and Sulaiman (2009) have noted that research or science are not the only creators of innovation. Rather, other social actors, such as farmers, private sector or other concerned stakeholders are engaged as co-creators of knowledge in a joint learning and negotiation process. Hence, the focus has shifted from farmers as recipients of innovation to rural groups in which farmers are part as innovation co-creators, from agricultural sector measures to territory-based measures, and from private goals to public goals (Knickel et al., 2009, p. 887).

Stakeholders' collaboration for knowledge sharing happens through a web of "relationships that are negotiated in an ongoing communicative process, and which relies on neither market nor hierarchical mechanisms of control" (Valkokari, Paasi and Rantala, 2012, p. 32). This collaboration unfolds through informal mechanisms such as "shared interests, common languages, similar cognitive structures and trust between partners" which are taken as key success factors for partnership performing (Valkokari, Paasi and Rantala, 2012, p. 32). In these collaborations, parties holding different world-views are brought together as crucial elements in uncovering tacit knowledge. These partnerships help bring a multitude of roles to meet different demands that arise. They also bring together diverse resources of knowledge into collective learning. For this project context, for example, different demands that could arise during knowledge transfer would require different roles being played in parallel. Hermans, Stuiver, Beers, and Kok (2012, p. 127) studied the type of roles and functions stakeholders fulfil in the development and transfer of agricultural knowledge. They also investigated how these functions are distributed over the different participants in time. They found that all network functions (knowledge co-creation, knowledge upscaling, and knowledge outscoring) need to be played in the network and participants can play in parallel more than one role. Further, they suggested that the participating organisations should evaluate the activities of their representatives in the collaboration on the success of the whole network and not just on whether their own

objectives have been met. This may suggest that all the stakeholders, including farmers, diffusors, Government, leadership, and media are equally important actors.

### *2.5.2 Collaborating across cultures*

As discussed in section 2.3 stakeholder theory scholars (Gray and Wood, 1991; Wood and Gray, 1991; Butterfield et al., 2004; Heugens et al., 2002) have delineated three phases that are key to an understanding of inter-organisational collaboration: preconditions, process and outcome. Accordingly, managing the partnerships may be framed by addressing problems around these three elements, particularly understanding what motivates organisational stakeholders into joining collaboration, how the process of collaboration unfolds, and what sort of outcomes stakeholders seek to realise. The works of Gray and Wood (1991), Wood and Gray's (1991), and Kaats and Opheij (2014) have reviewed how stakeholders base their decision making for joining, acting and evaluating collaborative outcomes. Furthermore Thomson and Perry (2006), concentrating on the collaboration as a process, have reviewed five dimensions of the process of collaboration that managers need to handle: governance, administration, trust and reciprocity, mutuality and autonomy. And yet, addressing these dimensions in the context of this DBA project may raise additional problems of different interpretations resulting from the different cultural orientations of partners.

A couple of examples across these collaboration dimensions will help to illustrate potential problems. As mentioned in section 2.3 on inter-organisational collaboration, governance includes rules about type of actions that are allowed or not allowed during negotiations, and who is permitted to make decisions,. In large power distance cultures, partners will always stop and consult their superiors in case they experience doubts or come across unexpected issues during negotiations. An inverse behaviour can be expected in small power distance cultures were representative partners are empowered to take decisions. The administration dimension includes such things as boundary-spanning skills which enable one to move into action. Yet, this move might imply challenges for partners working within the abstractive culture orientation. Within a belief of working within a set of established rules, these people tend to behave as close and more formal in their approach to relationship. Such behaviour, however, might raise concerns among associative people who may perceive their partners' action as 'putting rules before friendships'.

A further collaboration dimension reviewed is trust as associated with reliability, fairness and goodwill. To be perceived as fair partner, we need to look at collaboration as a dynamic process rather than as static. This implies accepting adjustments to changed circumstances of collaboration. A partner from a strong uncertainty avoidance culture will tend to be less flexible, with no room for adjustments of what was previously agreed upon. A further element associated with trust reviewed is history of connection with other organisations which creates record of communication and trust. Femininity cultures give preference to maintaining warm personal relationships, a cultural orientation that is more favorable along with this specific trust related element than are masculinity cultures. The literature suggests that in order to manage such

cultural incompatibility one needs to develop an intercultural competence by accepting incorporating other cultures' perspectives into one's own.

### *2.5.3 Concluding remarks and research questions*

This research seeks to improve the effectiveness of the Baixo Limpopo irrigation scheme, by focusing on the way in which stakeholders contribute to the management of partnerships within the project. The study will examine the work and experiences of the rice farmers, Chinese technicians, Government, and other stakeholders associated with the project. The study's aim is to make improvements in the management and organisation of the project; in particular by assuring that stakeholders avoid costs of working under diversity by accepting their difference as a base for innovation. The three threads of literature examined in this chapter explain the ways in which the management task faced by stakeholders in this context is complex. The ideas discussed within each of these streams inform the empirical element of this DBA project in a manner explained in the next chapter.

The three fields of the literature reviewed in the context of this research seem to be intrinsically bound. However, the challenge of improving the management of the project is, at its core, a challenge of inter-organisational collaboration. Therefore, I adopt the preconditions-process-outcome model of collaboration (Gray and Wood, 1991; Wood and Gray, 1991; Butterfield et al., 2004; Heugens et al., 2002) as a framing device to articulate the specific questions which the study attempted to address:

- In what ways can relevant stakeholders be motivated to join the project?
- In what ways might the project be managed in order to support knowledge transfer between the partners? And
- What actions are required in order to realise mutually beneficial outcomes for the project's partners?

Answers to these questions were sought by pursuing a participatory action research methodology that is explained in the next chapter. Both these questions and the choice of methodology are consistent with the two overarching aims of this research (cf chapter 1): (i) to improve the management and organisation of the partnership in circumstances where multiple identities, interests, perceptions and expectations of stakeholders were at play; and (ii) to empower stakeholders to own these improvements and actively participate in their realisation.

# PART II

**Research design**

# Chapter 3
# Research Design

## 3.1 Introduction

Chapter 1 introduced the Baixo Limpopo Cooperation project: a knowledge transfer project that is taking place in Mozambique with Chinese agricultural technology. In chapter 2, I reviewed three threads of literature that explain the ways in which the management task faced by stakeholders in this context is complex. This chapter describes the research design; a participatory action research approach to improving the management of partnership, and empowering stakeholders to actively participate in the realisation of such improvements. I begin by providing an introduction to the research methodology (section 3.2) in terms of its history and underlying principles. Thereafter I report on how the research process unfolded (section 3.3), the data was collected and analysed (section 3.4). In concluding remarks (section 3.5) to the chapter, I summarise the research design.

## 3.2 Introduction to Participatory Action Research

The research context is complex comprising actors from different organisations, each with a different perspective and contribution to make to the project. The research used a participatory action research (PAR) approach as it both gives voice to different perspectives, and has the potential to realise both scientific and practitioner goals (Eden and Huxham, 1996). A PAR approach recognises the cross-cultural dimension that requires giving voice to participants, and is congruent to the overarching aim of widening ownership of knowledge transfer improvement to the participants. In this manner PAR is consistent with the distributed agency within the project. In progressing through unfolding cycles of action and reflection the PAR approach draws attention to the "social creative" perspective on the knowledge flow in the project (Ajmal and Koskinen, 2008, p. 8), and also the emancipatory nature of the process. There is also an established tradition of PAR within agricultural knowledge transfer programmes (Oreszczyn, Lane, and Carr, 2010, p. 407; Horton, 1991; Ortiz, 1991).

Participatory approaches in agriculture emerged out of experiences of failure of existing approaches to deliver the desired outcomes (Oreszczyn et al, 2010, p. 407). They started to be promoted in the 1980s as an alternative to Rogers's (1962) approach to diffusion of innovation. At that time, agricultural professionals had begun to realise the inappropriateness of disseminating 'high-input technologies in diverse, risk-prone' and variable farmers' conditions (Rivera and Sulaiman, 2009, p. 268). These authors argued that participatory research methods would empower farmers to participate in knowledge co-creation to solve problems. The underlying assumption was that farmers had considerable

relevant and contextual knowledge while their capacity to use and improve such knowledge could be strengthened (Rivera and Sulaiman, 2009, p. 269).

PAR has been described as 'collaborative and equitable research' (Pant, 2014, p.585). That implies people agreeing to work together on a common concern to change themselves both individually and collectively (Mctaggart, 1997, p. 31), and also everyone striving to contribute to the collective goal without being coerced (Whyte, 1991, p. 240). Each participant at the same time seeks to improve her or his own work, the work of others with whom he or she collaborates, as well as everyone aim to realise the collective goal. Ruano (1991) describes how researchers have paved their way for establishing a collaborative partnership research, by starting as "participant observers, showing respect for the work of practitioners and technical specialists, and seeking to learn from them". As researchers gain an "understanding of the organisational culture and work systems", they find ways to contribute that are appreciated by other collaborating partners. The key point is that the researchers' contribution to partnership should add value and be worth of appreciation by participants. PAR is therefore relevant to this study because of the aim of bringing a diversity of project stakeholders together to work to an agreed partnership agenda. Every participant in the partnership brings a unique contribution and shares in responsibility, building upon one another complementary strengths, and has a perception that her or his contribution is of value to problem solving within the partnership (Whyte, 1991, p. 240). Thus, in this research, I acted as both facilitator and technical resource within PAR design. My contribution to the PAR process was in a number of ways: providing a framing device to articulate sharing of collaboration experiences during participants' interviews; in selection of methods of enquiry and data analysis; in suggestion of themes to facilitate communication in participants discussions during the workshops; in presentation of points of view to stimulate participants reflection and discussion; in facilitating the discussions with participants, and with wider stakeholders, and during negotiations, and in helping to develop and operationalise the networks to serve as a bridge between stakeholders and to stimulate participants learning..

Another key feature of participatory action research is 'commitment to action and social change' (Pant, 2014, p. 584). Lewin (1948) characterised social change as a three-stage process comprised of unfreezing, changing, and freezing. The change aims to alter "the initial situation" of the stakeholders in the direction of a more self-managing state, and liberation through greater self-realisation (Greenwood and Levin, 2007, p. 6). This characterisation is of particular interest for the project context to the extent that it helps to direct the research agenda toward addressing real-life problems and challenges that stakeholders have come across in the project. These stakeholders have not been in possession of relevant information to help them gain insight into the actual working of the partnership and into understanding the various dimensions of partnership complexity. The sort of knowledge generated by PAR may serve stakeholders interests in a number of ways (Pant, 2014, p.584): to clarify the problems and challenges facing the project; to create their awareness of the need for action; to focus attention on specific areas of concern; to identify resources; to design strategies for change; and to assess the impact of those strategies. Hence, the

purpose of introducing changes was in the direction of realising an improved state of self-managing partnership by empowering stakeholders to own these improvements and to actively participate in their realisation.

The process of participation is conceptualised by Pant (2014, p. 584) to pass through three-stages: moving from passive to more interactive and finally to self-mobilisation. Participation is passive (first stage) when participants are “only superficially involved in decision-making" (Pant, 2014, p.584), with researchers maintaining a unilateral control over the research process (Whyte, 1991, p. 241). This is typical with conventional social science research where researchers have the influencing power, holding the responsibility for design and leadership of the research project. Participants, in such circumstances, are simply informed about the objectives of research and approach for information (Pant, 2014, p.584). When the decision-making is based upon negotiation and consensus between stakeholder participants and researchers (second stage), real participation is starting to take place. That means that participants have a partial but an acceptable control over the research, in the sense of having an ownership of the research process. Finally when participants self-mobilise (third stage), it means that they hold a full responsibility over organising, implementing and monitoring of the entire research (Pant, 2014, p. 584).

In this study, stakeholders came to the project with different power, status, influence, and facility with language. I am included in this diversity of people collaborating in PAR, in my capacity as a CEO of RBL. At the outset, these stakeholders coming together to work on a common concern poses challenges for the ideal of participation during the PAR process. In this particular case, participants’ engagement has based upon negotiation and consensus during PAR sessions of discussion. The stages of participation conceptualisation by Pant (2014) shed light on what is meant by the term participation in the context of this study.

### 3.3 The Participatory Action Research Process

In this section, I provide a detailed description of the PAR process, illustrated diagrammatically by the Figure 3.1 below. On the left side are indicated the phases of research constituting the core cycle of PAR. The research activities and outcome constituting each phase are presented on the right side of the diagram. This reflects a secondary cycle involving a process of reflection unfolding within each PAR phase. The two cycles (core and secondary) together constitute a cycle of action and reflection whose outcomes generate learning (Coghlan and Brannick, 2010).

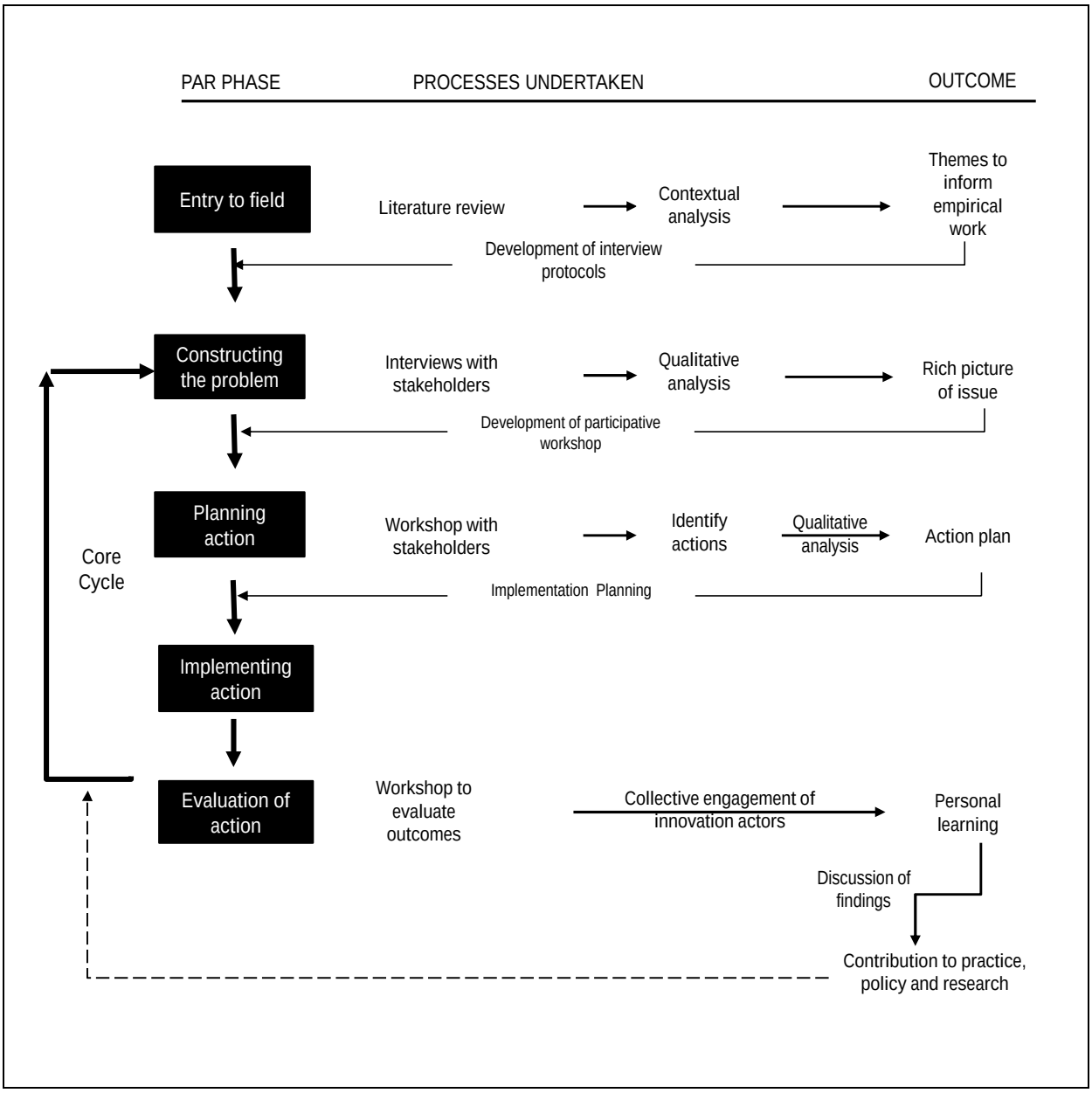


Figure 3.1. Participatory action research process

The phases of the PAR process may be summarised as follows: (i) Initially, I made my own analysis of context ("entry to field" phase); (ii) subsequently, through a process of interactive dialogue and active participation of all key stakeholders, these analyses are brought to collective construction of problem ("constructing the problem" phase); (iii) at that phase, stakeholders begin planning to identify action improvements to the prevailing situation ("planning action" phase); (iv) armed with one or more potential action plans, stakeholders proceed to testing and adaptation ("implementing action" phase); this may be repeated before a promising solution is realised; (v) stakeholders then do an evaluation ("evaluation" phase)

and either use or discard the new ideas (Horton, 1991, p. 226-227). The research participants stayed the same across all of the phases of the research except in the action implementing phase where joint reflection meetings and collaborative interventions in conjunction with wider project stakeholders were undertaken. A detailed discussion of events related to each PAR phase follows:

**Entry to field phase.** This phase started with review of initial academic literatures in early December of 2014 with focus to three literatures (knowledge transfer, inter-organisational collaboration, and cross-cultural relations), and was the subject of chapter 2. The aim of this phase was to make sense of what we already know from the literature on the research problem. The review identified broad themes and patterns across the literatures. The search for literature mainly was done using the electronic database Web of science, a collection covering a significant portion of my literatures. I also used the search engine Google Scholar. Using keywords and the criteria of relevance to the research purpose and context, authors who are very active in the research topic, most cited papers, most specialised literature for the African and China context, as well as existing reviews published in reputable journals, I narrowed down the literature search. I also used Back and Forward search techniques where literature is checked for further understanding in the subject (Levy and Ellis, 2006, p. 190-191). All these processes resulted in themes that informed empirical work.

**Constructing the problem phase**. This phase was concerned with evaluating the current project together with stakeholders. It started in 20th of January 2015 with interviews of project stakeholders and continued until 26th of February 2015, with the help of a checklist of questions informed by the literature review. A group of 16 research participants were recruited, ensuring that all relevant stakeholders with association to the project – seven (7) rice farmers out of which four (4) were from ARPONE farmers' association, two (2) from Chimbonhanine association, and one (1) from Agro-Nhacutse young farmers' association; two (2) participants from Wanbao; two (2) from Government officers; one (1) from a local financing bank; two (2) from local non-government organisations, one (1) from a local media, and one (1) from a local private agricultural firm. - were represented in the PAR (Table 3.1). Each participant was approached on the basis that she (or he) had been involved in the project for at least one year. The PAR process was facilitated by me in my capacity as the CEO of the Government agency (RBL) charged by the Mozambique government with coordinating the project.

**Planning action.** This phase was initiated at the first PAR workshop in 20th of April 2015. Participants were the same as those interviewed. The aim of the workshop was to collaboratively identify ways that could help bring improvements in the management of the partnership. To guide the discovery of follow-on actions, I arranged a collaborative engagement with participants using Torbert and Associates' four parts of speech action inquiry (see in Appendix A the agenda for the Planning Workshop). That consisted of combining inquiry with advocacy, by bringing out my own suggestions, inferences and

assumptions in public for critique and testing (Coghlan and Brannick, 2010, p. 30). I started the process by explicitly framing the purpose and underlying assumptions of the workshop. Thereafter I discussed the problem and challenges perceived in the light of participants' interviews, along with observations from the project. I shared my sense-making of the research problem and themes. Then I explicitly illustrated the current state, a future desired state for change, and required engagement mechanisms that should more likely help achieve such a state. A critical aspect here was presenting emerging themes as part of my own sense-making of what participants had said in interviews, and what was happening in the project. These meanings were presented explicitly to the workshop participants for open critique. In the last part of the workshop, I questioned participants in the quest to understand their perceptions and views on the targets and the engagement mechanisms toward change. Included within this inquiry was a proposal for follow-on actions. This phase resulted in formulation of an action plan for implementing the project.

TABLE 3.1 SUMMARY OF PARTICIPANTS

| Organisation role in the project | Position of the participant |
|---|---|
| Association of farmers of Ponela Block (ARPONE): group of 54 local farmers, the first to benefit from transfer of Chinese technology and skills under the programme from 2008 to 2011. | 3 local farmers |
| | President of association |
| Association of five university graduated young farmers (Agro-Nhacutse): group of five young farmers who have joined the programme since early 2014 to benefit from the training in Chinese rice-farming technology and skills. | Young farmer |
| Chimbonhanine farmer association: group of farmers who have joined the programme since 2013 to benefit from the Chinese rice-farming technology and skills. | 2 local farmers |
| Wanbao: Chinese investor and partner of RBL that disseminates Chinese rice-farming technologies and trains the local farmers in rice farming skills. | Local manager |
| | Technical staff |
| Government | District commissioner |
| | District director of economic activities |
| Local NGO – Women Development Fund (FDM): It holds responsibility over farmers' organisation in the Baixo Limpopo region including the research site. | Local manager |
| Private financial services provider – GAPI: It provided credit for agricultural inputs for farmers of ARPONE. | Local manager |
| Local Government agency responsible over media broadcasting programs (Radio Xai-Xai). It has an agreement with RBL for broadcasting of the knowledge transfer programme. | Local coordinator |
| Local NGO for community mobilisation and advocacy over land-related issues – ITC. | Local manager |
| Local private agricultural firm working with Wanbao and RBL over provision of land preparation services – Igo Sammaritine. | Local manager |

**Implementing action.** During the phase of implementing action, which stated in 3rd of July 2015, I fostered collaborative interventions in conjunction with wider project stakeholders to implement the plans and cause changes in the project. Collaborative interventions involved couple of separate sense-making sessions with local farmers and rounds of negotiation meetings with the local farmers and with Wanbao managers.

**Evaluation of action.** This phase was undertaken at the second PAR workshop with participants in 21st of August 2015. These participants were the same as those that were interviewed and attended the planning workshop. To collaboratively engage the workshop participants, I also employed Torbert and Associates' four parts of speech action inquiry (see in Appendix B the agenda for the Evaluating Workshop). The aim of the workshop was to critically evaluate how effective the action-plan had been implemented. Where the change brought gains to the stakeholders, the evaluation critically questioned if the action undertaken was the cause of improvements. Where the change did not bring gains, the concern was to identify what feeds into the next cycle of constructing, planning and action' (Coghlan and Brannick, 2010, p. 10).

## 3.4 Data Collection and Analysis

Data collection and analysis developed throughout different phases of the PAR process in a recursive way, which reflected the iterative nature of action research (cf. Figure 3.1 above). The study employed multiple methods of inquiry along the PAR process as a mechanism to provide evidence that might challenge or confirm perceptions expressed in the workshops. The inquiry methods consisted of semi-structured interviews, access to documentary data, voting methods in PAR workshops ("ticks on flipcharts"), audio-taped observations, field notes, researcher's field diary. I used these methods to record people's perceptions and experiences, and to capture actions on what happened in the project. Data analysis during the PAR process involved thematic analysis ("constructing the problem" phase, "planning action" phase), reflection of progress ("implementing action" phase), and evaluation of achieved outcome against planned action ("evaluation" phase). Table 3.2 provides the summary of methods used for data collection and analysis along the PAR process. A full description of the data collection and analysis for each PAR phase follows.

### *3.4.1 Constructing the problem phase*

. I interviewed each participant privately regarding their involvement in the project. Based upon the literature (chapter 2) and the unfolding learning within the PAR project, I produced a checklist to guide the interviews with participants. The participants were encouraged to talk about their motivation to join the partnership, and about how that happened subsequently. They spoke about their perception on how the

partnership actually worked and was helping the project. Finally, they talked about how they had worked with other partners to ensure that collective gains were achieved. I employed diagnostic enquiry techniques (Coghlan and Brannick, 2010, p. 29) using questions such as “How do you feel about this? Why do you think this happened? And what did you do?” The interviews were audio-recorded upon participant consent to facilitate data transcription into electronic format and subsequent analysis. Each interview did not take longer than one and half an hour.

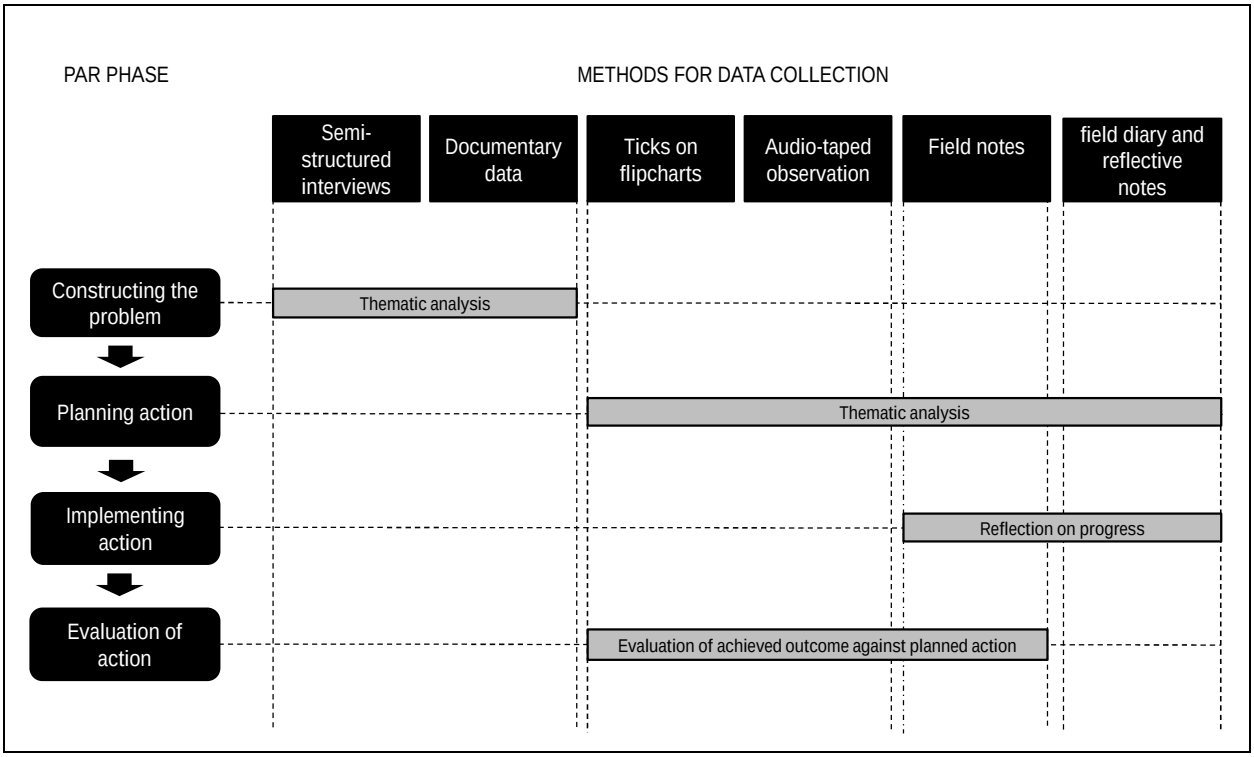


Figure 3.2. Methods used for data collection and analysis along the PAR process

To complement the data provided by participants and confirm perceptions expressed in the interviews, I accessed documentary data. These data came in the form of documents on partnership agreements, land lease contracts, sell and buy contracts, and crop budgets. These documents are part of the formal partnership agreement between RBL and Wanbao that was signed in 2012. The agreement establishes premises and terms for collaboration, and describes the project. Included was a document on the Twining Agreement between the Government of Gaza Province (Mozambique) and Government of Hubei Province (China). That agreement establishes the premises and terms of co-operation between the two provinces including co-operation in agriculture. Along with this, the Baixo-Limpopo Cooperation project constitutes an operationalisation of this political agreement. Land lease contracts establishes the premises and terms for an investor to use the land in the Baixo Limpopo irrigation scheme. Sell-and-buy contracts specify all the logistics involved in the rice-farming up to commercialisation of produce, the terms of each

part involved. Finally, the crop budgets provide detail of quantities and prices of the inputs and outputs of the rice-farming. Hence, the documentary data captured activities that happened in the project or prior to the project.

Thematic analysis of data during this PAR "constructing the problem" phase consisted of several procedures (Bazeley & Jackson, 2013): data management, reading and memoing, classifying, and interpreting the data. Data management involved organising data – the interview transcripts, documentary data, and reflective notes – into computer files within NVivo 8.0 computer software. Following the organisation of the data, I continued the analysis by getting a sense of the whole data. This involved reading through the interviews' transcripts, project documentation, and reflective notes several times and highlighting segments of text that I found to be relevant for this DBA study. Some of these segments represented information that I expected from the participants before the empirical work; others were surprising information that I did not expect to find, or the information that was conceptually interesting or unusual. The next step consisted of moving from the phases of reading and memoing to classifying the data. Here forming the codes represented the key routine of data analysis. The process of coding progressed one interview question each time along all the transcribed interviews. This aimed at exploring how participants saw a problem from different perspectives. Aggregating the highlighted text segments which fitted the organising framing used to structure the participants' interviews guided the search for evidence. This resulted in a list of statements that were merged into different first order themes. While acknowledging the influence of the organising framing, the process still could be described as "open coding" as additional codes could emerge during the analysis.

Moving beyond coding, classifying involved trying out different aggregations of the first order themes and looking for categorisations which matched these aggregations. Along with this, the use of the preconditions-process-outcome model of collaboration (Gray and Wood, 1991; Wood and Gray, 1991; Butterfield et al., 2004; Heugens et al., 2002) – as a framing device that the interviews were structured around – helped the data analysis. This meant that all the codes could be scrutinised and assigned either to preconditions, process, or outcome of collaboration. However, when a given theme did not fit the organising framing but still I found it to be of interest to this study, it meant that a new category had to be added. This process of iterating between empirical data and initial themes from literature, aggregating the participants' transcripts and naming them meant that the first order categorisations were of a theoretical nature (Miles, Huberman, and Saldaňa, 2014). Hence, the first level categorisations represented a link between empirical data and theoretical themes in ways that suggested further literature to be searched to inform the building of actionable knowledge. In Figure 3.3, I present (cf Gioia, Corley, and Hamilton, 2013) the three streams that structured the initial literature review (first column); the 37 different first order themes (second column) aggregated after seven (7) first level categories (third column).

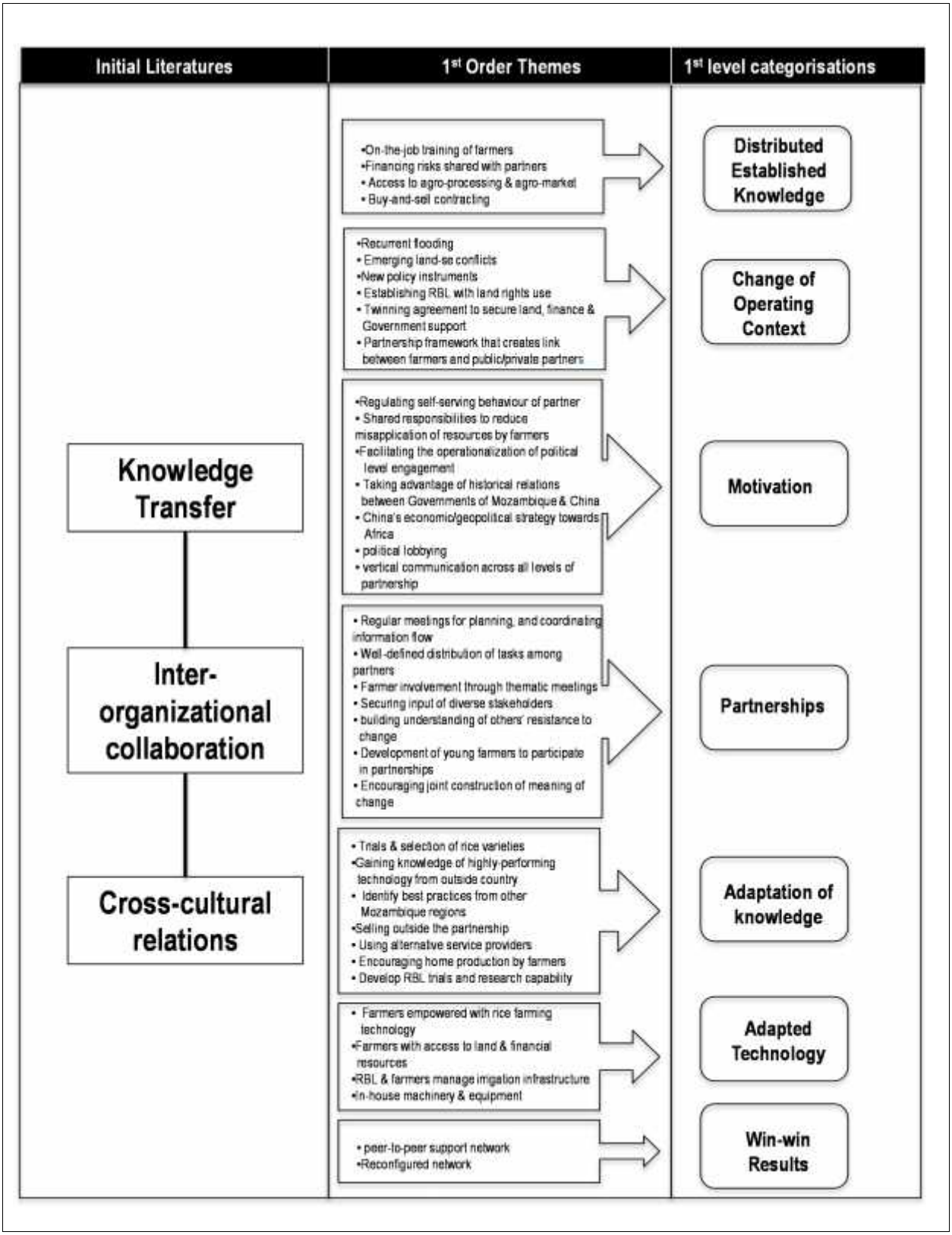


Figure 3.3. "Constructing the problem" phase: Data structure of first level categorisation (cf Gioia et al, 2013)

The subsequent step of the data analysis consisted of working with first level categorisations to create second level aggregate dimensions. Figure 3.4 shows (cf Gioia et al., 2013) the transition from first level categorisation (first column) to second level aggregate dimensions (second column). Three second level aggregate dimensions emerged from this iterative process of thematic analysis: namely the initial conditions, engagement mechanisms, and desired conditions. This analysis proceeded in a largely inductive manner (particularly in the first level of codding), but with the labelling of the 2nd level aggregate dimensions being informed by the literature review.

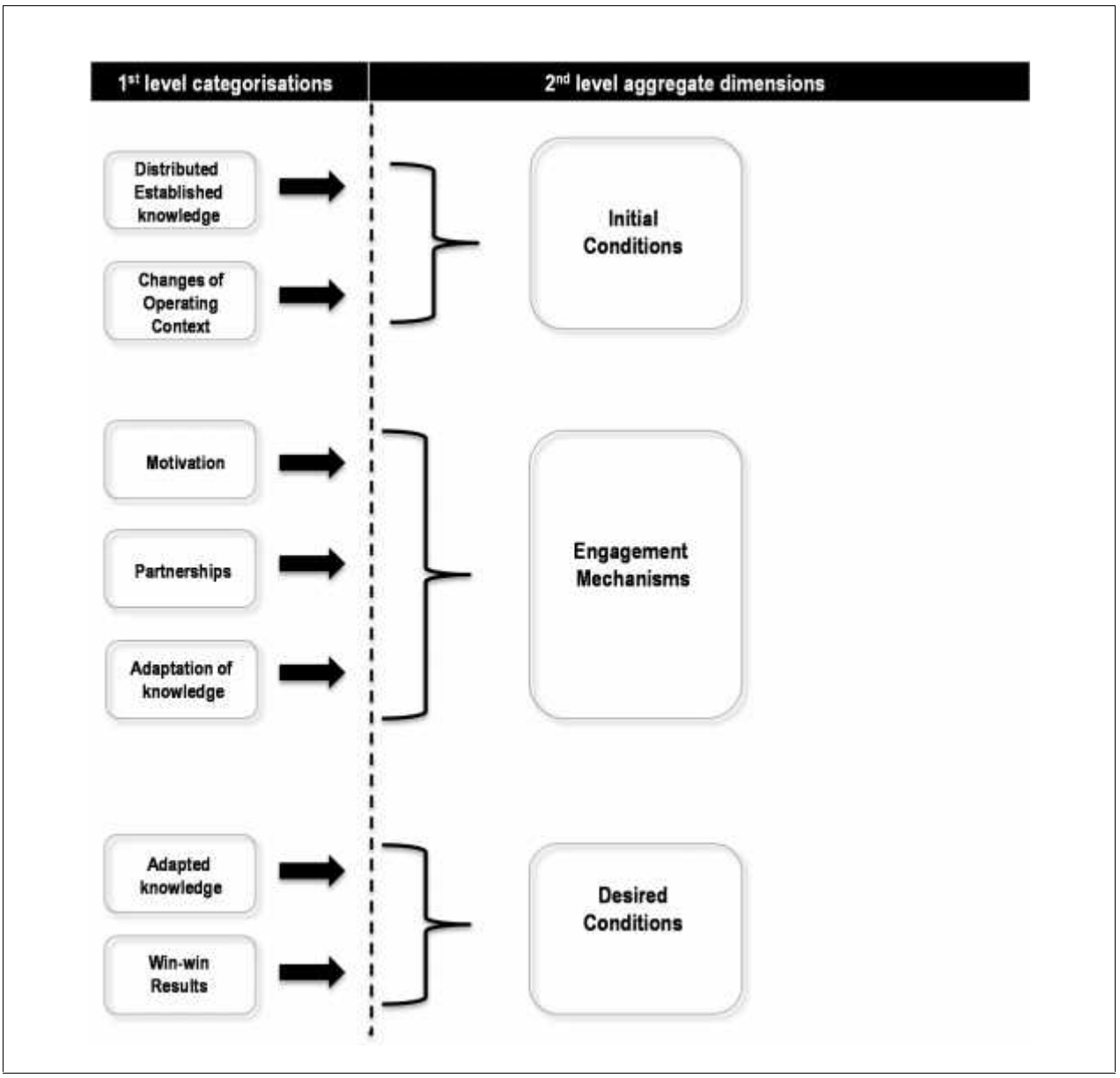


Figure 3.4. "Constructing the problem" phase: Data structure of second level aggregate dimensions (cf Gioia et al, 2013)

In the final step, interpreting the data was undertaken and involved developing a description of “what” the participants experienced in the project, including verbatim examples. In addition, interpreting involved a description of “how” the experienced happened, and this encouraged me reflect on the context in which the participants’ experience happened (Creswell, 2013, p. 191). The following sections will present the participants’ experience in the project structured after the three second level aggregate dimensions (initial conditions, engagement mechanisms, and desired conditions).

### *3.4.2 Other PAR phases: planning action, implementing action, and evaluation of action*

During PAR "planning action" phase, I undertook data collection on participants’ discussion by combining different means: audio recording the session; taking notes of participants’ ideas and agreements along the session; and using ticks on flipcharts next to the "challenges" and "implications for action" and ask participants vote on the ideas to capture their attitude. Additionally, throughout this study, I invested regular effort into developing reflective writing by producing a lengthy critically reflective note following my monthly meetings with my thesis supervisor. This was aided by a researcher’s field diary which helped with the recording and analysis of the experiences, thoughts and feelings as the research project progressed. During the discussion with participants at the workshop, I adopted a stance of “Confrontive inquiry” (Coghlan and Brannick, 2010, p. 29) with such questions as “Have you thought about doing this….?”, “have you considered that … might be a solution?” along with the Torbert and Associates’ four parts of speech action inquiry. This helped to share personal thoughts with the participants and challenge them to think from a new perspective. I performed thematic analysis of the workshop’s field notes and reflective notes by using the data analysis procedure explained earlier (cf. sub-section 3.4.1) within NVivo data analysis software. This process resulted in identification of several segments of text found to be significant for this study. The list of text segments were merged into different first order themes. Thereafter, I progressed with the process of grouping these first order themes into aggregate categories by referring back (to the literature) and forth to empirical evidences from the field and reflective notes.

During PAR "implementing action" phase, data collection consisted of taking notes of the project stakeholders’ ideas, discussions and agreements during the sessions. In addition, a researcher’s field diary helped to capture my own experiences, thoughts and feelings over time. Data analysis involved organising the field notes into “word document” computer files, relating these data to the themes (categories) that had emerged in early stages of the PAR cycle, and building critical reflections of what I experienced during the implementation phase.

For PAR "evaluation" phase (cf. Figure 3.1), data were collected during an evaluation workshop by a number of means: audio recording the session; taking notes of participants' ideas along the session; using ticks on flipcharts next to the "reconciling action undertaking" and asking participants vote on the ideas. By these means I sought to manage the challenge of having to adopt multiple roles of capturing empirical material in the guise of participants' contributions. Data analysis involved organising the field notes transcripts into "word document" computer files, making sense out of these files of data by relating them to other thematic categories generated in earlier PAR stages, writing notes and building detailed descriptions of participants' ideas within the context of the setting of the participants, the workshop, or the project.

## 3.5 Concluding Remarks

This chapter described how the choice of PAR methodology helped to address the DBA research overarching aim of widening ownership of improvements in knowledge transfer to the participants. The PAR process was described in detail by providing explanation on the linkages between unfolding cycles of action and reflection. In the following chapters of research findings, I document a narrative description of the outcome at each PAR phase (rich picture, action plan, and personal learning). The chapters on discussion of findings will concentrate on reflections upon these outcomes in terms of how they contributed to address the research questions, to actionable knowledge, as well as to a wider context (practice, policy and research).

# PART III

**Research findings**

# Chapter 4
# Constructing the Problem

## 4.1 Introduction

Chapter 1 introduced the Baixo Limpopo Cooperation project as one of knowledge transfer that is taking place in Mozambique with Chinese agricultural technology. In chapter 2, the literature review explained the ways in which the management task faced by stakeholders in this project context is complex. One source of complexity are the difficulties that take place during transfer of farming knowledge from Chinese to the local farmers because this knowledge has been disseminated as knowhow. Another complexity concerns the difficulties that arise because the project collaboration has taken place between different and autonomous stakeholder organisations. Since neither hierarchy structure of authority nor market exchange enforcements are applicably in such a context, the stakeholders are driven to collaborate by their high stake, interdependence, and desire to realise mutual gains. An additional complexity relates to the transnational character of the transfer and takes account of the different culture orientations between Chinese and Mozambican stakeholders. In chapter 3, I introduced the PAR methodology that helped to achieve an improvement of partnership management and empower stakeholders to actively participate in the realisation of such an improvement. Interviews to participants and analysis of relevant documentation related to the project were undertaken by pursuing the PAR methodology to construct the problem that is important to address.

This chapter reports the research findings structured in terms of three aggregate dimensions from the thematic analysis: initial conditions, engagement mechanisms, and desired conditions (see sections 4.2, 4.3, and 4.4). In concluding remarks to the chapter (section 4.5), I articulate the research problem on the basis of this analysis.

## 4.2 Initial Conditions

When asked to talk of the project, the participants often described the key features which they saw as constituting Chinese rice-farming technology and skills. In addition, they referred to new institutional arrangements and bio-physical factors which not only provided support to the project set up but also have shaped the course of the project itself.

### *4.2.1 Distributed established knowledge*

The initial project conditions involved a demonstration of high-yield seeds of rice, specialised tractors for soil levelling and puddling, infrastructure for paddy seed pre-germination, machinery for rice harvesting, and facilities for paddy rice drying, storage and processing. In addition, the project provided on-the-job training of the local farmers in skills for pre-germination and sowing of paddy seed in wetland fields, as well as for the management of the crop. Project documents describe in which way this training was undertaken in the beginning of the project: training of the local farmers in "...*pre-germination of paddy rice seed with high yield achieving 12 ton/ha, ...flooding water to the puddled field, …sowing the pre-germinated seed at a rate of 35 kg per hectare and draining out water within 24 hours after sowing, ...and allowing water to stand in the field depending upon the height of the seedling for 40 days*..." (RBL, 2014, not published); that training happened in farmers' own fields with a size that ranged from 5 to 10 hectares each. This training was augmented by logistics of inputs that consisted of farmers receiving a full package of in-house services (soil preparation and puddling), inputs (seed, and fertilizer) including rice harvesting, transport, and drying as well as guaranteed market. In addition, the project advanced 50 percent of production costs (not including labour costs that were the farmers' responsibility). The system operated under a sell-and-buy contract between Wanbao and the local farmers, in which advanced farming costs were deducted afterwards. This meant that assets such as machinery for soil preparation and rice harvesting, facilities for rice drying, storage and processing, as well as market were all held in-house in the project.

As one local farmer who joined the project in 2011 at the ARPONE association[1] explained,

> *"Since 2011 I have undertaken pre-germination instead of planting in dry. Following the fourth day in water the already pregerminated seed is removed from water and planted. Six hours after planting the water is drained from the field, and three days later, the plant will have germinated completely. When the plant germinates, it is like the seed had been in soil for 18 days".*

This same farmer considered it important that financial risks of the farming operations be shared among partners, "*The expected results will be an increase in yield*" provided there is "...*cooperation in which each party is accountable for its actions, with agreed terms well respected, and penalties for non-fulfilment*". Another important aspect of the project according to this participant was enabling "...*the farmers to know that their product will be bought, with the necessary quality to compete, and that their production will be protected with the reduction of importing products*."

[1] Local farmer 1, ARPONE, interview 21.01.2015.

### *4.2.2 Change in Operating Context*

One new arrangement to the project context was the twinning agreement that helped to secure land, finance and Government support to the project. As indicated in documents of rice production in Mozambique accessed during this study, the country's consumption gap of rice accounts for 250,000 tons, which corresponds to a demand of 550,000 tons of processed rice against a supply of 300,000 tons of processed rice locally produced. This situation is reported to have resulted mainly from low productivity of the local rice farming practices, and to have led to Governments of Gaza Province (Mozambique) and Hubei (China) enter in a "Twinning Agreement" in 2007 to establish terms for intergovernmental cooperation in agriculture. Hence, the Baixo Limpopo Cooperation project became a way of operationalising this agreement, and an opportunity to make use of more than 30 years' of historical cooperation with China. On the Chinese side, the project aimed at meeting a commitment that the Chinese Government had made during the China-Africa Summit, which involved China supporting an establishment of centres of technology demonstration in 14 African countries. As expressed by a local manager of Wanbao[2], the Chinese partner with responsibility over demonstration of rice-farming technology and the training of the local farmers, "...*we aim to teach local farmers how to increase yield. It is cheaper and low risk for us to involve the local people to produce*..."

Another arrangement within the project involved setting up the partnership framework that created a link between farmers and public/private partners. The Mozambican Government approved in 2009 the Agrarian Sector Strategic Plan (PEDSA) that includes one policy framework for "Public Private Population" partnership (PPPP), which is an important instrument for this project. This was enforced by the establishment in March 2010 of the RBL, a state-owned company with responsibility over assistance of the local farmers and with land use rights over an area of 70.000 hectares including the area allocated to the project.

However, emerging land use conflicts had a strong influence on the project. Worth noting was a decision made by the Chinese Government in June 2011 to change investment scope in the project by scaling up the existing Hubei-Gaza Friendship Farm. Following this change there was an expansion of the initially allocated 300 hectares for the project into development of 20.000 hectares with an investment cost of USD 250 million. Such a change was marked by a cessation of the Hubei Farming Bureau, the Chinese operator of the Friendship Farm and the Chinese private corporation (Wanbao) taking charge of Chinese interests. As a result of the increased scope of the project, new challenges related to land use emerged. Some examples are the reduction of community grazing land, and the increasing number of people to allocate farms and involve in the project. It was noticeable during the interviews that participants were aware of challenges that emerged during the project. One local manager from a locally operating Non-Government

[2] Local manager 8, Wanbao, interview 22.01.2015.

Organisation (NGO) for community mobilisation and advocacy in the project area[3] reflected upon the issue on Mozambican State ownership of land law versus customary land use rights. Under Mozambican land law, the State retains ownership of all land and yet the rights and participation of local communities in land tenure and administration (customary land use rights by fact of occupation) are stronger. Associated with this, it was revealed during this study that vast areas of land leased to the project had for long time been used for extensive cattle grazing by local community also have customary land use rights. Given that the community grazing area was suffering a reduction as a consequence of land development by the project, land use conflicts emerged.

Finally, bio-physical factors – such as the floods – had an influence to the course of the project. The floods in two successive years (2012 and 2013) affected part of the project area contributing to a financial shortage within the project and downsizing of its investment scope. One local farmer at Chimbonhanine association[4] commented of the bio-physical factors that affected his farming, *"There are events which I would not forget, like the fact that there were two occasions in which we did not get yield. The first time was the loss of production due to floods..."*

### 4.3 Engagement Mechanisms

When encouraged to share their experiences on collaboration within the project – namely their motivation to join the partnership, their perception on how the partnership actually worked and was helping the project, and about how they had worked with other partners to ensure that collective gains were achieved – the participants recalled to problems ranging from motivation, partnerships, to the adaptation of different aspects of farming.

#### *4.3.1 Motivation*

The participants' answers were related to motivation factors which induced the stakeholders into joining the partnership. Service providers and other stakeholders in the project were being attracted into the project by a perception of high stakes, interdependences, and complementarity. A manager of one farm holding company[5] – who also collaborated with RBL in the project and had a sell-and-buy contract with Wanbao for the sale of rice – reported of his motivation as a way to achieve *"...mutual complementarity… face together the market of rice..."*

[3] Local manager 15, ITC, interview 10.02.2015.

[4] Local farmer 6, Chimbonhanine Association, interview 09.02.2015.

[5] Local manager 16, Igo Sammaritines, interview 12.02.2015.

One local manager at Wanbao[6] saw in partnership a way to assure sharing responsibilities and complementing their activities with those of other actors in the project, "... *farmers ... can plant in more area…, while we limit to buy rice... We make money from buying and selling*". Added to the sharing of responsibilities and complementarity, one local manager from a bank[7] that provided credit to the local farmers in the project saw the project as a way of assuring a range of support services for a farming system such as guaranteed technical assistance to farmers, guaranteed irrigation and logistics of inputs and market of farmers' rice. Because of this support the risk of credit misapplication by farmers in the project was low. This same participant further stated that there was a need for cooperating parties to be held accountable in case of failure in the services provided to the farmers. The mechanism was one of service providers sharing the risks of failure, in such a way that if an agreed level of crop yield was not achieved, a concerned service provider was penalised. This meant having an official commitment on risk sharing, a monitoring system to facilitate the process, a well-defined distribution of tasks between partners, and taking of responsibility by partners.

Participants from the public sector appeared to look at the project as a way to extend their services to the public. One officer from the Government authority of the District[8] where the project was implemented reported that he participated in the project as a means of reinforcing ongoing cooperation between Mozambique and China. He saw this project as the major avenue that Mozambique had with China in the area of Agriculture with  benefs accruing to local farmers. This project was a means to facilitate the operationalisation of an engagement that had been agreed at the political level.

One program coordinator from a local media[9] stated that her motivation to operate within the project was to help the project stakeholders lobby government hierarchy and translate the project results in political terms, and to improve communication problems between the project and surrounding community that happened in the beginning of the project. As she further noted of the communication problems before she decided to join the project,

> *"…there was lack of dissemination in the beginning of the project, having been done only at a higher level. The communication did not occur in the lower level. There was no building of mutual trust…the project needed to work to show that the change of the system would bring about advantages. A debate in which a discussion about the project is undertaken would have helped clarify about the essence of the project".*

She spoke of the role played by her broadcasting program in the project in terms of "…*provid[ing] voice to those who do not have it*…" According to this participant, providing voice to local farmers served

6 Local manager 8, Wanbao, interview 22.01.2015.

7 Local manager 13, GAPI, interview 30.01.2015.

8 Government leader 11, (Xai-Xai District), interview 26.01.2015.

9 Local coordinator 14, Radio Xai-Xai, interview 10.02.2015.

as vehicle to channel the farmers' concerns, and even to mobilise the farmers to cooperate with the project. She noted that the media facilitated communication of the farmers' problems up to the hierarchy within the project. In addition, the the Media helped disseminate the project benefits to community.

Associated with the media's motivation, one local manager[10] from the locally operating NGO for community mobilisation and advocacy in the project area reported the communication problems that the project faced in the beginning and how these problems were overcome,

> *"… In the beginning of the project, communication between the project and community was deficient, even though the language had been one of the main barriers. Nobody from the Chinese partners was informed to provide clarifications, within a context in which there were many questions and doubts to clarify. There was a lack of diffusion on the project at the beginning, having been done only at a higher level. There was no building of mutual trust. Currently, there have been positive signals in this regard with the help of diffusion through these entrepreneurs. Among the negative things, it should be highlighted that the project sometime was seen as attempting to appropriate without authority the land of the locals. It was not certain that people would have the farms. Still the project needs to work to show that the change of the system will bring about advantages".*

### *4.3.2 Partnership*

The participants' answers also related to mechanisms which they perceived as driving the process of stakeholders' collaboration. The participants surfaced the importance of several mechanisms of stakeholders' engagement: (i) meetings for planning, (ii) coordination of information flow, (iii) distribution of tasks among partners, (iv) securing input of diverse stakeholders, (v) building understanding of others' resistance to change, (vi) developing young farmers to participate in partnerships, and (vii) encouraging joint construction of meaning of change. The participants viewed these processes as important to aid the interactive process of the collaboration in the project. One young farmer[11] from Agro-Nhacutse association who was benefitting from training in the project explained how planning and coordination were undertaken in the project:

> *"...in the beginning of the season, a meeting is held between the farmers, RBL and Chinese partners, which aimed to introduce the package, the rights and obligations, and to introduce the partners to one another. After planting the rice, another meeting chaired by Wanbao technicians with attendance of the RBL technicians to define the process. There has been interaction characterised by planning meetings. During execution we are together."*

Adding further, the same farmer noted that

[10] Local manager 15, ITC, interview 10.02.2015.

[11] Young farmer 5, Agro-Nhancutse, interview 22.01.2015.

*"...with intermediation of RBL, the Chinese partners signs sell-and-buy contracts with the farmers. In the light of this contract, the Chinese partners do the pregermination of local farmers' seed; they demonstrate the application of chemicals in their own plots in the presence of the farmers; assure availability of the fertilizer, herbicides, combine harvester machines and track to transport the production, and transfer the farming profit to the farmer upon deduction of production costs in the end of production cycle".*

Another local farmer[12] from ARPONE raised a couple of relational criticisms on the way people interacted within the project. As examples: that farmers lacked opportunity to negotiate price with the buyer; stakeholders lacked continuous interactions characterised by meetings to discuss specific problems such as best varieties and seed experimentation. In addition there was lack of technical debates related to farming systems to achieve more productivity, and related to production costs, and sell-and-buy contracts. Along with this lack of farmers' involvement in the programme, the same farmer shared his perception of cooperation as follows,

*"…this cooperation is characterised by accidental meetings when farmers are in need of intervention or when they are in need of the transfer of technology, equipment, or when the Chinese partners desire. The meetings are organised when the Government think that there should be a meeting, in a place or at time they need. This does not assure an efficacy and efficiency since there is no such a program upon which an evaluation of effectiveness can be made".*

A manager from a local farm holding company[13] noted how the project needed to approach governance related problems. In this participant's view firstly, there should be a full and detailed description of all phases of farming technology, including all technical specifications. Secondly, the Government should meet with local farmers and Chinese technology providers, with all the terms well defined about what the transfer of technology will involve, and what financing at each stage will be needed. Thirdly, a dialogue needed to be undertaken between the Chinese technology diffusors, Mozambican technicians, and rice farmers to define the farming timescales. Finally, there should be detailed schedule that specifies project activities and their timing.

Building understanding of others' resistance to change appeared to be an important way of addressing emergent challenges in the project. As noticeable in the project documents accessed during this study, in the beginning of the project, some stakeholders (particularly the community surrounding project area), while they might see the project as good, they did not intend to support it because of the top-down way the project came to be known by the community. In some cases, people in the surrounding community seemed to criticise the project because they thought it was simply a way of confiscating the community's land. In other cases, the people believed about cooperation bringing improvements to all

12 Local farmer 3, ARPONE, interview 04.02.2015.

13 Local manager 16, Igo Sammaritines, interview 12.02.2015.

parties, and hence they demonstrated intentions to support the project. However, they feared to lose their grazing land on behalf of the project. Further, there were farmers who were mobilised by rebel people into not joining the project.

It appeared during interviews that there was to a certain extent a misalignment of participants in relation to the way they perceived the project. A couple of examples illustrate this aspect of misalignment. One Government officer[14] interviewed talked about the project in the following terms,

> *"We are individualist, we are not together in solving common problems, while being important for us to engage in dialogue to one another in first place and then direct to the Chinese partners what is our common concern".*

A local farmer from ARPONE[15] who benefited from project training since 2011 mentioned that the work relationship with Chinese partners, while good, was penalised by being transaction-based in the sense that farmers were required to pay at least fifty percent of the production costs to receive full package of services from Chinese partners. Based on this farmers' perception, what Chinese partners were doing was simply providing services to the farmers rather than transferring knowledge. The farmer's concern was about technical assistance received from Chinese partners, in the farmer's perception had changed from previous times to the extent that Chinese engineers were no longer available in full time basis to follow up with farmers' work.

Yet, this farmers' perception did not seem to be in alignment with the premises of the project's underlying Agreement. The project Agreement establishes that farmers who have completed training automatically transit into a new mode of work relationship with the project. Under the new relationship mode, farmers continue receiving technical assistance from Chinese partners but at a marginal basis; the farmers need to partner with a commercial bank to finance fifty percent of the production costs. Thereby they need to pay the other fifty percent of production costs to access Chinese full package of services that include soil preparation, inputs, and rice harvesting. Misalignment in partner perceptions was also explicit from the interviewed local manager[16] of NGO responsible over community mobilisation and advocacy. This participant observed that "*The success of the project does not depend only from capital component but also from behaviour of the people around the project area who must understand correctly the project*". Hence, partnerships allowed different perceptions of stakeholders to be accomodated; with each stakeholder paying attention to a different event, interpreting differently that event, and holding a different mix of thoughts, beliefs and emotions toward change.

14 Government officer 10, (Xai-Xai District), interview 21.01.2015.

15 Local farmer 1, ARPONE, interview 21.01.2015.

16 Local manager 15, ITC, interview 10.02.2015.

Adding to the misalignment of stakeholders' perceptions were the difficulties that arose because of different cultural orientations in the project. Different work cultures were evident during interviews as reflected in different ways of approaching farming. For example, while the Chinese partners preferred working with the owner of the farms, the farmers participating in the project were workers and not the owners of the fields which affected continuity of the farming knowledge. Associated with the different cultural orientations, a lack of trust was noticeable among some partners particularly between Chinese partners and local farmers. One local farmer from ARPONE[17] observed that the farming practices as they were being transferred to the local farmers by Chinese partners were not exactly the same as they were being undertaken by Chinese within their own farms. This difference started with a delay in the provision of soil preparation services to the local farmers. It then manifested through lack of commitment by Chinese partners, extending into delays in rice harvesting. The same farmer noted the Chinese partners in their own farms were using different dosage for fertilizer application and even different products for pest control. Furthermore these partners acted in some cases like competitors cutting the irrigation during peak water requirement stages, and that they lacked transparency in measuring grain moisture during harvesting and control of scale during the process of weighing the production. Based on this participant's view, Chinese partners and local farmers looked to one another as competitors rather than cooperation partners who must co-exist for mutual gains to be achieved.

However, some participants seemed to have developed a competence to deal with diversity. One local farmer from Chimbonhanine[18] when asked about whether he was adopting the Chinese ways of doing things, or if the Chinese partners were adopting the Mozambique's modes, responded that "*in principle both Mozambicans and Chinese have to adopt what the rice crop demands, regardless of our cultures. What drives people to go in-field in that day is the product itself*". Clearly this mode of response suggests a high level of intercultural competence. This participant realised to the need of respecting one another's culture as a way to avoid problems. Commenting in relation to the different cultures (Chinese and Mozambican), one technical staff member from Wanbao[19] noted "*We need to remove all barriers, overcome the divergences that separate us, and concentrate in farming*". Both the participants called to the need of managing cultural difference which, according to them, consisted of "*accepting what the other is but always to desire that there are mutual gains, sometimes abdicating from some gains*".

### *4.3.3 Adaptation of different aspects of the farming*

In this section, I present the participants' perceptions on how project stakeholders have struggled to adapt different aspects of the rice-farming to their specific context. The participants' observations at interview related to: trials and selection of rice varieties; gaining knowledge of highly-performing technology

[17] Local farmer 2, ARPONE, interview 21.01.2015.

[18] Local farmer 6, Chimbonhanine Association, interview 09.02.2015.

[19] Technical staff 9, Wanbao, interview 27.01.2015.

from an outside country; identification of best practices from other Mozambique regions; sale of produced rice outside the partnership; use of alternative service providers; encouragement of home production by farmers; and developing of RBL research capability.

Project documents accessed during this DBA study indicate that experimentation in the project started soon after it was established in 2007 and still continued during this DBA study. Initially, it involved rice trials – primarily consisting of "rice yield tests with support of Gates Foundation, under a framework of Green Super Rice Program" (Chichava et al, 2013, p. 107) – to select rice varieties with potential yield ranging from 8 to 10 ton/ha. Thirty Chinese rice varieties and one local variety, called 'Limpopo rice', were tested, a process that resulted in two varieties being officially released during 2015. One local farmer from Chimbonhanine[20] added that in 2013, a trial was undertaken on dry season planting but this trial failed as a result of low temperatures during the flowering stage. On-farm trials, as this same participant notes, continued with crop water management as an attempt to avoid rice plant falling down during maturity.

Adaptation also related to changes in the way farmers undertook rice-farming, and sold their produce. One local manager[21] from an NGO responsible over community mobilisation and advocacy in the project area reported seeing a conflict of interests when Chinese farmers disseminate farming knowledge to the local farmers while at the same time these same partners sell all the available in-house services to the farmers. This same participant proposed that the services provided by Chinese needed to be extended to also benefit those farmers outside or nearby the project area. This included operating small processing units to encourage home production by smallholder famers around the project area, given that these farmers in the course of time would also adopt the Chinese technologies. A local farmer from ARPONE[22] talked about the need to improve the selling rice production and the use of locally preferred but high-yield varieties for local consumption:

> *"…the project needs to change from the current scheme in which farmers are selling all their rice to Chinese; there also should be an extension from the use of Chinese varieties, given that other high-yield short cycle varieties as for example IRGA 317 (which are also attractive to the population) are locally available".*

A further optimisation of rice-farming was related to the use of locally available inputs such as herbicides and fertilisers. A second local farmer from ARPONE[23] talked about such an improvement in the following terms,

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20 Local farmer 6, Chimbonhanine Association, interview 09.02.2015.

21 Local manager 15, ITC, interview 10.02.2015.

22 Local farmer 1, ARPONE, interview 21.01.2015.

23 Local farmer 4, ARPONE, interview 29.01.2015.

*"Part of our technology can be used within the Chinese technology. The two technologies (the old and the new) are compatible of one another in some aspects For example, the herbicides and fertilizers used within the Chinese technology should be those that farmers are used to. This would reduce the farmers' dependence".*

A third local farmer from ARPONE[24] wanted to use a different service provider to undertake soil preparation, puddling and rice harvesting. This same participant proposed that after learning, farmers should be left free to look for purchase of services outside the project. Likewise, a young farmer from Agro-Nhacutse[25] suggested that RBL controlled, together with Chinese partners, the key components of production such as water distribution to local farmers. One local manager from a financing bank[26] commented about the need to promote the use of more simple, practical but less costly technologies (for example manual machines) that suited the size and needs of the smallholder farmer (i.e. those with a plot size less than 5 ha), which allow the farmer's management without external expertise:

*"The Chinese technology is very fine but the level of our farmer holding a plot with a size less than 5 ha does not allow that the farmer becomes independent from the Chinese. This is because the acquisition of machinery which the farmer uses cannot be done on individual basis. In this regard, there are other more simple technologies that suit the small farmer. This is the case of the use of manual machines which can be managed without waiting for someone else".*

Further, those participants sought farming experiences across other regions where puddling practices with low-powered and suitable machines to the local conditions were being implemented.

### 4.4 Desired Conditions

During interviews each participant was asked to comment on how the partnership was helping the attainment of the project's goals. The responses to these questions ranged from appreciation of changes that were being introduced by the project, to the need for introducing further changes in the farming operations. One local farmer from ARPONE[27] reported his attraction to the project as a way to gain knowledge on rice-farming, "... *this was a vehicle to increase my rice farming yield...from 2.5 ton/ha that I got in the past, now I can obtain 7 ton/ha*...". The young farmer from Agro-Nhacutse[28] saw the project as a way of taking advantage of the existing agreement with China to be allocated a piece of land for farming, to obtain credit for the farming, and also to receive support from Government.

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24 Local farmer 2, ARPONE, interview 21.01.2015.

25 Young farmer 5, Agro-Nhancutse, interview 22.01.2015.

26 Local manager 13, GAPI, interview 30.01.2015.

27 Local farmer 1, ARPONE, interview 21.01.2015.

28 Young farmer 5, Agro-Nhancutse, interview 22.01.2015.

When asked about what indicators reflected (or should reflect) the way the partnership was helping the project, one Government officer from Xai-Xai District [29] pointed some indicators for successful cooperation:

> *"...trained farmers who can alone direct the farming process ...Even if the owner of the farm is not directly involved, he or she should know what is good from what is not, in order to be an employer while understanding about the field problems."*

Another Government officer from Xai-Xai District[30] appointed that

> *"...the farmer, once they have become commercial, should diversify and grow his or her farm, for example from 5ha to 10 ha. Having become an economic agent, the farmer should do other activities, example, being owner of public transport carrier. The farmer should own an improved house, with children that go to school, thus contributing to poverty eradication."*

The local manager from a financing bank[31] mentioned

> *"...gain from the two parties…The partnership should be measured from the result of the investment undertaken...i.e. what have I gained in terms of knowledge and results on the ground...this project adds value to the farmers' produce and change the quality of life of their family".*

One local farmer from ARPONE[32] appointed for "...a cooperation in which each party is accountable for its actions, with agreed terms well respected, and penalties for non-fulfilment".

The young farmer from Agro.Nhacutse[33] raised the importance of the local stakeholders (RBL and local farmers) to take ownership of the project, RBL taking control of water distribution, and farmers doing seeds pre-germination by their own.

### 4.5 Concluding Remarks

It becomes clear, based on the findings of this PAR phase, that while there was agreement of the participants on critical technical competencies provided by Chinese, there was disagreement on relative importance of different aspects of rice-farming technology. This relates to (i) the project operating conditions that did not meet with emergent demand; (ii) the farming practices that did not suit the local environment;

29 Government officer 10, (Xai-Xai District), interview 21.01.2015.

30 Government leader 11, (Xai-Xai District), interview 26.01.2015.

31 Local manager 13, GAPI, interview 30.01.2015.

32 Local farmer 1, ARPONE, interview 21.01.2015.

33 Young farmer 5, Agro-Nhancutse, interview 22.01.2015.

(iii) local farmers agitating to use service providers from outside of the project, and (iv) difficult communication among source (Chinese) and recipients (local farmers) of new farming knowledge.

The ongoing engagement mechanisms of project stakeholders were also a concern to the participants. Reported concerns by the local farmers related to the following: (i) poor planning and coordination; (ii) poor accountability and commitment in relation to risk sharing between partners; (iii) project activities that did not seem objective-directed; (iv) weak interaction which did not help join local stakeholders together and make a unique and strong voice to pressure and negotiate with the Chinese partners; (v) misalignment of stakeholders in relation to the way they perceived the project, while groups of stakeholder seemed to exhibit different identity in the way they perceived the project; (vi) allocation of plots to Chinese nationals as part deal for them to operate infrastructure that resulted in them becoming competitors to local farmers; (vii) lack of trust among partners particularly between Chinese partners and local farmers as a result of different cultural orientations; (viii) challenges related to different business logics among some stakeholders; and (ix) communication between the project and surrounding community that was deficient since the beginning of the project.

The thematic analysis reported in this chapter builds a rich picture of the underlying problems at the project, and will guide the participants' discussions and help discovery of follow-on actions at the planning workshop in the following PAR phase.

# Chapter 5
# Planning Action

## 5.1 Introduction

The planning workshop was convened with a primary purpose of collaboratively planning with participants the actions that were aimed at improving the management of the partnerships within the project. This related to agreeing upon actions that could help to address the managerial and organisational challenges in the project. In this chapter, I narrate the discussions and agreements that the workshop participants achieved during the "Planning phase". The chapter is structured as three sections. It begins by providing an account of the workshop in terms of what happened, and the major questions that guided the interaction with the participants (section 5.2). The chapter goes on describing what the participants agreed as major challenges and associated follow-on actions to address them (section 5.3).

## 5.2 Account of the Planning Workshop

This phase was initiated at the first PAR workshop on 20th of April 2015 and consisted of firstly feeding the results of the interviews back to participants. These results specified the current status of the project, the desired state for change, main problems that the project experienced and challenges to address to achieve such a state. This framing helped to collaboratively share and refine with the participants my understanding of the project. It aimed to identify actions that would aid an improvement in the partnership management in the project. This workshop constituted the next phase after interviews which were undertaken in January and February 2015 in which the same 16 participants of the interviews attended. The reader should refer to the Figure 3.1 for clarity regarding the timeframes. It should be noted, however, that at the date of the workshop three participants could not attend the workshop for various reasons. Two participants could not be invited as one had moved the workplace to the North of the country while the other had travelled to China on holidays. A third participant who had been invited could not participate for family reasons. In total 13 participants attended the workshop.

In order to facilitate the discussion during the workshop, I divided the presentation into three parts: the initial conditions to the project, its operating context, and the engagement mechanisms. The procedure of the workshop also included a presentation of one part and discussion with the participants before moving to the next part. The facilitated debate was an inquiry in which I questioned participants in order to understand their perceptions and views on the project's problems and challenges, and on the implications for action. The discussion of challenges and agreed priorities for action resulted in an Action Plan to identify ways to aid the improvement of the project management. During the discussion, I sought to manage the challenge of having to adopt multiple roles of capturing the participants' contributions. To capture the

discussion during the workshop, I combined different means: audio recording the session; taking notes of participants' ideas during the session; using ticks on flipcharts next to the "challenges", and "implications for action" and asking participants vote on the ideas.

Following organising, reading and memoing of the workshop's field notes within NVivo data analysis software, I identified several significant segments of text from the study. This list of text segments were merged into a total of 12 different first order themes. A process of grouping these first order themes into aggregate categories proceeded by referring back (to the literature) and forth to empirical evidence from the field notes. This process resulted in one new first level category: "reconciling tensions" (i.e. reconciling tensions for performing, belonging, learning, and organising). Figure 5.1 shows the data structure from the first order themes (first column) to first level categorisation (second and third columns).

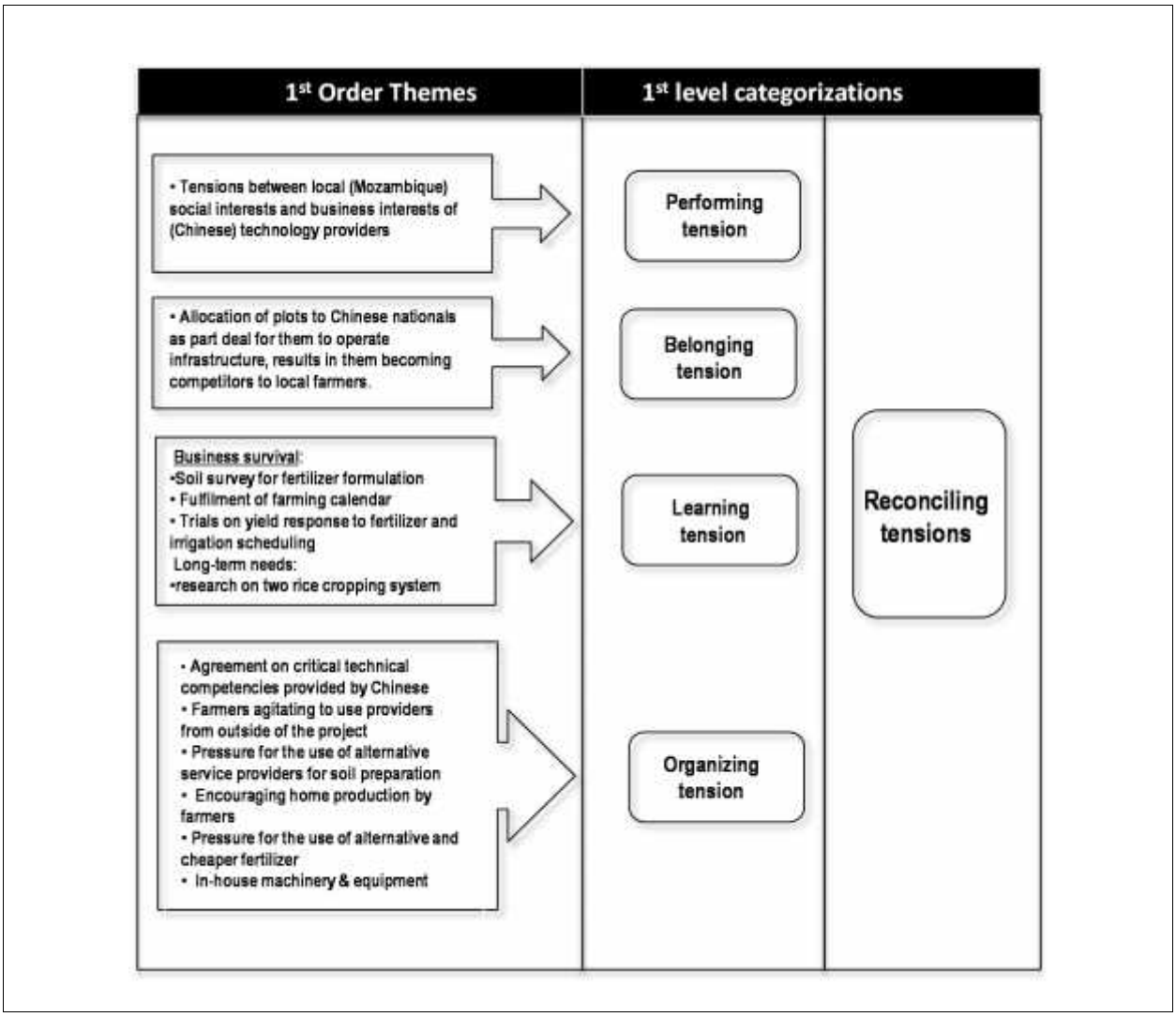


Figure 5.1. "Planning action" phase: Data structure of first level categorisations (cf Gioia, 2013)

It is worth reiterating that the primary purpose of this PAR phase was to collaboratively agree on actions that could help to address the managerial and organisational challenges in the project. Hence, the discussions in the workshop were mainly related to the “engagement mechanisms” of project stakeholders. To allow an ordering of the workshop results, the participants’ discussions and agreements are structured in terms of three categories (motivation, partnerships, and reconciling tensions). Table 5.1 shows the identified challenges (second column) and agreed actions (third column), structured in terms of the three categories (first column). These first level categories were derived as follows.

During the thematic analysis of the interview data (see tables 3.3 and 3.4 in chapter 3) seven categories were derived. From this PAR "constructing of problem" thematic analysis, three categories – “motivation”, “partnerships”, and “adaptation” - were relevant to the PAR "planning action" phase because they were concerned with engagement mechanisms. Discussion of the first two of these categories prompted the generation of a number of actions. The actions that suited the category “motivation” were: (i) establishment of a co-operation with a research institution to help operate a research agenda in the project, and (ii) research institute to assist on the empowerment of young farmers in improved agriculture technologies. For the category “partnership”, the agreed actions involved (i) development of a committees for planning, coordination, and to support consultation and reflection of project issues; (ii) reaching of agreement for joint management of pump stations, and (iii) rigorous follow-up and support to farmers during harvesting.

The third category of adaptation was developed in the action planning workshop into a new theme of “reconciling tensions”. Tensions were reflected by conflicting interests, particularly contradictions between local (Mozambique) social interests and business interests of (Chinese) technology providers (performing tensions), roles/identities of project stakeholders (belonging tensions), contradictions between long-term farming needs versus short-term business survival (learning tensions), as well as disagreements on relative importance of different aspects rice-farming technology (organising tensions). The agreed actions within this category were (i) sharing of cost between RBL and Chinese partner for training of local farmers; (ii) encouragement of segregation of roles among partners; (iii) search for suitable technologies in the global market and paying of experience exchange visits to identify best practices in the market; (iv) interaction with local farmers in relation to the risk management of their proposed options to improve their rice farming income, and (v) negotiations with Chinese partner to allow the local farmers access alternative and cheaper supply of fertilizer from the market.

Structured in terms of these three categories in Table 5.1, the following sub-sections will explain in detail what participants discussed during the workshop, including the full description of each challenge identified and implied agreed upon priority for action.

**TABLE 5.1 SUMMARY OF PAR "PLANNING ACTION" WORKSHOP**

| 1st level aggregation categories | Challenges to address | Agreed upon actions |
|---|---|---|
| Motivation | | 1. Establishment of a cooperation with a research institution to help operate a research agenda in the project.<br>2. Research institute to assist on the empowerment of young farmers in improved agriculture technologies. |
| Partnership | | 1. Development of a committees for planning, coordination, and to support consultation and reflection of project issues.<br>2. Rigorous follow-up and support to farmers during harvesting. |
| Reconciling tensions | | |
| 1. Performing tensions | 1. Tensions between local (Mozambique) social interests and business interests of (Chinese) technology providers. | 1. Sharing of cost between RBL and Chinese partner for training of local farmers. |
| 2. Belonging tensions | 2. Allocation of plots to Chinese nationals as part deal for them to operate infrastructure, results in them becoming competitors to local farmers. | 2. Encouragement of segregation of roles among partners: role of knowledge transfer separated from that of service provider (soil preparation, and management of pump stations). |
| 3. Learning tensions | 3. Contradictions between long-term farming needs and short term business survival. | 3.1 Search for suitable technologies in the global market and paying of experience exchange visits to identify best practices in the market.<br>3.2 Operate a unit to fulfil with research agenda. |
| 4. Organising tensions | 4.1 Farmers agitating to use providers from outside of the project.<br>4.2 Disagreements on relative importance of different aspects rice-farming technology. | 4.1 Interaction with local farmers in relation to the risk management of their proposed options to improve their rice farming income.<br>4.2 Negotiations with Chinese partner to allow the local farmers access alternative and cheaper supply of fertilizer from the market. |

### 5.2.1 Motivation

An agreed action was to establish partnership with a research institution to help operate a research agenda in the project. Among other responsibilities, this partner would help assist on the empowerment of young graduates in improved agriculture technologies. These young farmers would be trained in rice farming technologies and then used as future advocates for dissemination of technologies. A scheme would need to be set up to allow trained young farmers to train peer-farmers in rice farming technologies.

### *5.2.2 Partnerships*

One priority for action was developing collaboration committees for planning, coordination, and to support consultation and reflection of project issues. Another agreed priority for action was for RBL and Wanbao to reach agreement for joint management of pump stations. As reported by research participants, in blocks of North Chimbonhanine and North Ponela, where the local farmers were being trained and had definitive plots, they experienced irrigation deficiency as a result of non-compliance of irrigation schedules. Irrigation management in these blocks was being taken by Chinese engineers who apparently did not give appropriate attention to irrigation demand within local farmers' plots. To address this problem, the farmers needed one RBL technician to join the Chinese engineers in the irrigation management on their behalf. A further follow-on action was to support farmers during harvesting. RBL and local farmers participated in the process of weighing production and measuring grain moisture during rice harvesting. Along with this, RBL had to undertake a couple of actions. It made available equipment to help in the process, solicited a certified company to calibrate the weigh scales and grain moisture measuring equipment. Added to this, RBL staff followed-up the weighing process from then on in the farmers' fields in order to assure quality control when the weighing commenced in the plots of local farmers. Also, RBL had to review Government published regulation of norms for rice grain moisture and impurity during commercialisation.

### *5.2.3 Reconciling performing tensions*

One type of conflict experienced related to social versus business concerns: (Mozambique) social interests versus those underlying the business interests of (Chinese) technology providers. As the technician from Wanbao[34] commented during the workshop "... *one underlying problem is seeing the Chinese as a public partner like RBL and not as private entity whose concern is running a profitable business*..." This comment raised awareness of why Chinese partners provided more priority to their own business before thinking of supporting the local farmers. However, this was in some way conflicting with some participants' perception about the cooperation project, who saw some sort of unfairness in Chinese cooperation. The local manager from the financing bank[35] commented in the following terms,

[34] Technical staff 9, Wanbao, interview 27.01.2015.

[35] Local manager 13, GAPI, interview 30.01.2015.

*"...cooperation processes should be objective oriented with stipulated targets in achieving … target of productivity… of which non-achievement could be subject to sharing of responsibility by the partner providing the technology... the impact of transfer …should be measured by the result achieved..."*

These findings surfaced a problem underlying the cooperation projects with China: the question of how to manage in these projects the combination of a profitable business by Chinese partners with the transfer of farming technology and skills which by nature are an aid-to-development motivated by Chinese solidarity to Africa. One related priority for action during the workshop was RBL to share with Wanbao costs for training of the local farmers in the project.

### *5.2.4 Reconciling belonging tensions*

The second type of conflict of interests observed during discussion with participants in the workshop was associated with roles and identities of project stakeholders. These tensions seemed to emerge because stakeholders needed to cooperate, alongside the inherent complexity of the project. As reviewed in chapter 2 (section 2.1), some of the sources of such complexity were related to the difficulties that arise because the project collaboration is taking place between different stakeholder organisations, and because of transnational character of the project context. The technician from Wanbao[36] explained that following construction of the irrigation system, Wanbao allocated developed farms to three teams of Chinese farmers who also were provided with responsibility to provide technical assistance and farming services to local farmers. These Chinese teams owned majority of the machinery for land preparation, puddling and rice harvesting, as well as having a full control of the pump stations. Wanbao remained with responsibility over buying the farmers' rice production and with control of the rice processing facilities. Reacting to this information, the manager from local farm holding company[37] said of the Chinese business model,

*"...the Chinese farmers who were allocated plots simply acted as competitors of local farmers... they could never transfer the technology successfully to the local farmers".*

This means that allocation of plots to Chinese nationals as part deal for them to operate infrastructure, resulted in them becoming competitors to local farmers. These participants' discussions shed light on one type of tension – belonging tension – that is typical in inter-organisational collaborations and cross-cultural contexts which contrasts diversity with cohesiveness. Diversity builds unique competencies and capabilities across-partners but at the same time it relies on alignment and trust building among partners to foster cohesiveness.

[36] Technical staff 9, Wanbao, interview 27.01.2015.

[37] Local manager 16, Igo Sammaritines, interview 12.02.2015.

Therefore, an agreed action was the encouragement of segregation of roles among partners. Proposed actions ranged from establishing a unit to provide services of soil preparation and puddling to rice farmers, to the joint management of the pump stations at the time under a full control by Chinese teams. There needed to be separation (into different partners) of the responsibility to transfer rice-farming knowledge from the responsibility of the service provider in order to avoid conflict of interests. For example, Chinese teams, being potential competitors of local farmers could not be expected at the same time to train the local farmers and provide services to them. As proposed in the workshop, RBL should own machinery for land preparation and rice harvesting, but yet RBL needed to contract with experts to manage the mechanisation unit. Added to this, RBL had to negotiate with Wanbao for the joint management of the pump stations within the blocks where farmers are being allocated definitive plots.

### *5.2.5 Reconciling learning tensions*

Participants during the workshop also revealed some degree of tension in the way they talked about learning within the project. One local farmer from ARPONE[38] commented upon a concern with analysing soil samples to inform the formulation of fertilizer and recommended fertilizer application rates. A second local farmer argued for the need for fulfilment of the farming calendar was as critical in the same degree as land levelling, puddling and pre-germination. It is worth noting that these concerns happened in the time the project was implementing trials on water scheduling, planting rate and date with the aim of maximising farmers' productivity.

The learning tensions arose in response to the project long-term farming needs against short-term business survival. An agreed action was searching for suitable technologies in the global market and paying for exchange visits to identify best practices in the market (rather than simply engaging in trials on yield response to fertiliser, water scheduling, planting rate etc.). Further actions established a unit in the project for research on rice yield response to fertiliser, on irrigation scheduling and on sawing rate and planting date.

### *5.2.6 Reconciling organising tensions*

There was discussion in the workshop about pressure applied by local farmers within the project to allow them use alternative service providers for soil preparation, and to purchase cheaper fertiliser available in the local market; to allow them use seeds of alternative rice varieties, as well as to allow them sell part of their produce in alternative markets outside the project. These possibilities, however, seemed to raise concerns because of risk-taking associated with the uncertain market for rice outside the project, and unknown outcomes from proposed rice varieties.

[38] Local farmer 3, ARPONE, interview 04.02.2015.

As a matter of principle, whenever we came across possibilities that might improve income, we agreed to evaluate the constraints that are associated with the risks of undertaking such actions. One agreed action was for RBL to negotiate with Wanbao the sell-and-buy contracts to allow local farmers' access to alternative and cheaper suppliers of fertiliser from the market. Further, RBL should interact with local farmers in relation to the risk management of their proposed options to improve their rice farming income.

### 5.3 Concluding Remarks

This chapter relates to the workshop at which actions were identified. The workshop accomplished two types of outcomes: validating with the participants the list of challenges to address, and agreeing the priorities for action. This resulted in the Action Plan to be taken to the next PAR phase. At this point in the PAR process, it was important that the participants' agreed priorities for action was taken back to a wider group of project stakeholders (who would be the implementers) to obtain their feedback – a validation procedure to be described in chapter 6 on "implementing action" phase.

# Chapter 6
# Implementing Action

## 6.1 Introduction

This chapter concentrates on the PAR phase at which actions agreed in the planning workshop were implemented. During this PAR "Implementing action" phase, which started on 3rd of July 2015, I fostered collaborative interventions in conjunction with wider project stakeholders to implement the plans and cause changes in the project. The chapter begins with a description of how I engaged participants and gathered data, and then ends with a description of the result from of the implementing phase.

## 6.2 Action Taking

This is the phase in the PAR cycle where arenas of stakeholders' engagement were formed or enacted, and the project tried to address challenges which were articulated during the PAR "planning action" phase. This "implementing action" phase began with meetings with the local farmers to validate a list of issues for negotiation with Chinese partners from Wanbao. During the meeting I chaired the discussions in my capacity as Chairman of RBL. Collaborative interventions were characterised by three sense-making meetings with the local farmers. In addition, this PAR phase entailed four rounds of negotiation meetings between RBL and Wanbao, in which I headed the RBL team in my capacity as Chairman.

Data collection consisted of taking notes of the project stakeholders' ideas during the sessions. Data analysis involved organising the field notes into "word document" computer files, relating these data to the themes (categories) that had emerged in early stages of the PAR cycle, and building critical reflections of what I experienced during the implementation phase. In Table 6.1, I provide a summary description of actual actions taken during the PAR "implementation" phase. The information in the table is structured in terms of the three aggregate categories (motivation, partnership, and reconciling tensions); a full description of these category was provided already in chapter 5 (see section 5.2). In terms of the category "motivation", one intervention taken during the "implementation" phase consisted of establishing new partnerships for research and young farmer development. In terms of the category "partnership", committees were developed and then operationalised to support the local farmers during rice-harvesting and management of pump stations. In terms of the category "reconciling tensions", the local farmers were engaged in sense-making meetings with an aim of surfacing their perceptions and then validating a list of issues, before I took these issues to negotiations with the Chinese partners from Wanbao. In addition, rounds of negotiation meetings with Wanbao were undertaken, and RBL took two key decisions: one for establishing a unit for soil preparation; and another for allocating funds to co-finance farmers training.

A full description of the progress of these actions follows. I provide an explanation on the new partnership motivation (section 6.2.1); thereafter I report on how collaboration among stakeholders was structured and then operationalised (section 6.2.2). Collaboration committees are structures that were key areas for action within the project, and particularly within this DBA study. Finally in section 6.2.3, I provide details on how the project managed to reconcile the existing tensions.

TABLE 6.1 SUMMARY OF PAR "IMPLEMENTING ACTION" PHASE

| 1st level aggregation categories | Planned Action | | Progress through Action |
|---|---|---|---|
| | Desired Change | Agreed Upon Action | |
| Motivation<br>(attracting new partners) | Strengthened research capabilities of RBL | Partnership with a research institution to help operate a research agenda including the empowerment of young farmers. | RBL signed a formal partnership agreement with Eduardo Mondlane University for joint implementation of a research agenda, including empowerment of young farmers. |
| Partnerships<br>(development and operationalisation of collaborations) | Interactive environment | • Developing committees for planning, coordination, and to support consultation and reflection of project issues.<br>• A scheme to be set up for the joint management of pump stations.<br>• Rigorous follow-up and support to farmers during harvesting. | • Committees for planning and coordination created, and meetings of the committees undertaken;<br>• Committee for consultation and reflection fully operational.<br>• RBL involved in joint management of the pump station in Chimbonhanine block.<br>• Joint follow-up activities of harvesting undertaken. |
| Performing tensions<br>(related to institutional logic of doing business) | Win-win partnership | Sharing of cost between RBL and Chinese partner for training of local farmers. | Discussion and decision taking in the board for RBL to share with Wanbao the costs for training of the local farmers. |
| Belonging tensions<br>(related to networking) | Win-win collaboration | Encouragement of segregation of roles among partners. | Discussed with Wanbao to (i) gradually allocate developed land to the local farmers while concentrating on buying; including (ii) release retailing to local distributors. |
| Learning tensions<br>(related to knowledge adaptation) | Optimised rice-farming | Search for suitable technologies in the global market and paying of experience exchange visits to identify best practices in the market. | Green-house rice nursery technology identified by Wanbao in China, and an implementation project in design.<br>Exchange visit for best practice undertaken in China. |
| Organising tensions<br>(related to knowledge adaptation) | • Joint management of irrigation infrastructure;<br>• More independence for land preparation;<br>• Free market for products and inputs | • Interaction with local farmers in relation to the risk management of their proposed options to improve their rice farming income;<br>• Negotiations with Wanbao to allow local farmers access alternative and cheaper supply of fertilizer from the market. | • Farmers' validation of issues, and expectations alignment;<br>• Negotiation undertaken with Wanbao for joint management of Chimbonhanine and Ponela Pump stations, allowing farmers to use alternative service providers for soils preparation and alternative and cheaper fertilizer;<br>• Communication to Wanbao about RBL decision to share the costs for knowledge transfer. |

### *6.2.1 Motivation*

A new stakeholder partner (Eduardo Mondlane University) was persuaded to join the project. The partnership agreement was formally signed on 11st of August of 2015 between RBL and the University aiming to undertake joint research (including research on rice-farming). Eduardo Mondlane University (UEM) is State-owned and the largest university in Mozambique. One aim of the RBL-UEM partnership is to undertake a joint agenda on research and dissemination of high-yield technologies to the local farmers including those involved in the project and others in surrounding communities in the Baixo Limpopo irrigation scheme. Another purpose is the joint piloting of new business initiatives to help establish small scale agricultural enterprises within the project. Further, the partnership entailed running a joint program on incubation of young graduates from agricultural business school of UEM.

### *6.2.2 Partnership*

Collaboration committees were developed and then operationalised in the course of this study. These committees covered two different domains, one being for planning, coordination and negotiation, while the other was to help reflection and consultation. Figure 6.1 below illustrates the composition of both the collaboration committees. The committee for planning, coordination and negotiation was comprised of farmers associations' members (54 commercial farmers and 60 emergent farmers), Chinese partner and RBL which played as chairperson in capacity as public organisation responsible for management of Baixo Limpopo irrigation scheme of which the project area was part. This committee was established to deal with matters relating with planning and coordination activities, as well as with negotiation and revision of sell-and-buy contracts with farmers. It was formed as a result of undertaking this DBA study. During the PAR "implementation action" phase, this committee held its first meeting as part of the process of validating the DBA study Action Plan. In two other meetings the discussions with farmers concentrated upon "organising tensions" as a response to the pressures the local farmers made to the project. These meetings constituted interaction meetings for alignment of perceptions, and also focused on matters related to the involvement of local farmers in the project. These meetings also served as an arena for stakeholders' planning and for the exchange of information between RBL, Chinese partners and local farmers.

Further, during negotiation meetings with Wanbao, RBL reached an agreement and set up the joint (Wanbao and RBL) management of pump stations in North Chimbonhanine and North Ponela blocks where local farmers had training and definitive rice plots. One of the outcomes of establishing the committee for planning, coordination and negotiation was a joint (RBL and local farmers) follow-up of rice-harvesting, particularly the process of weighing production and measuring grain moisture.

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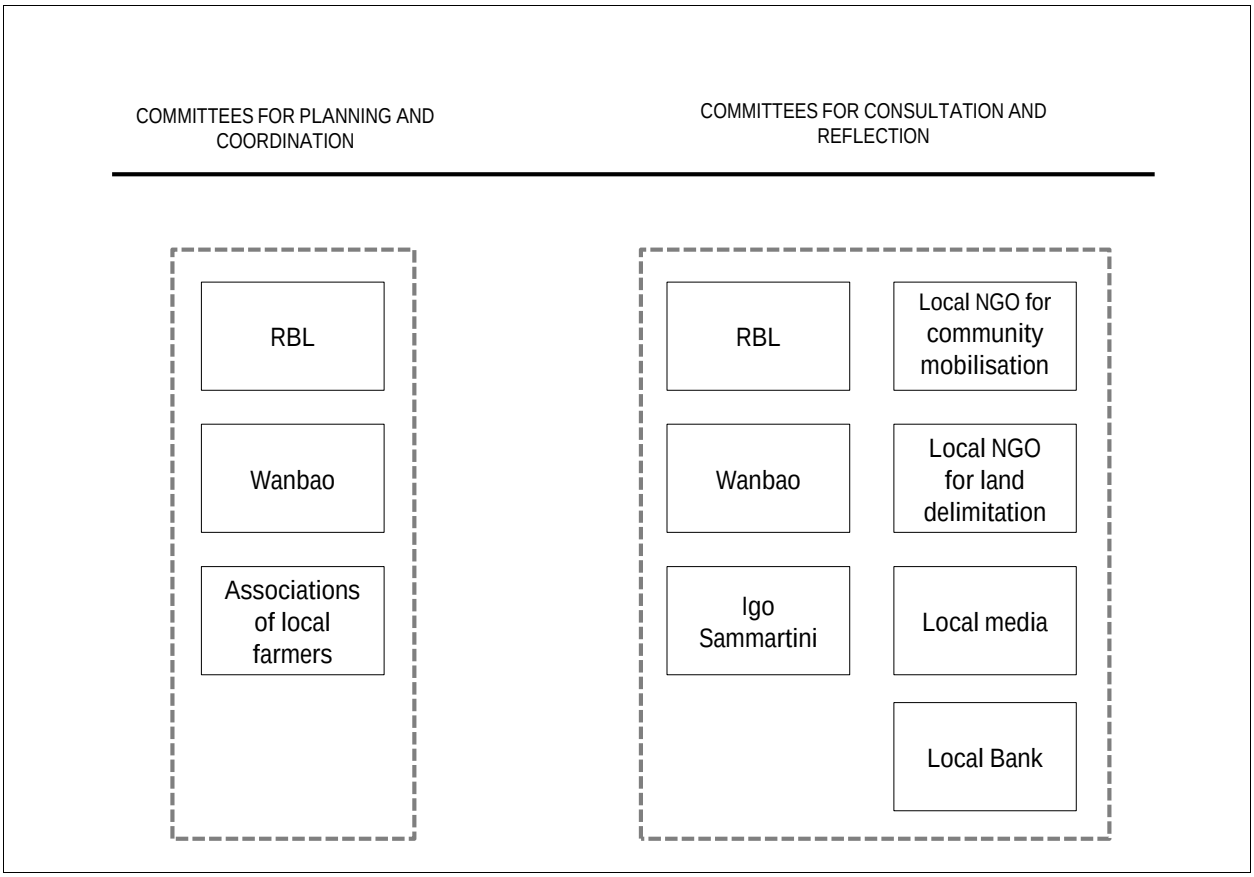


Figure 6.1. Composition of collaboration committees

The committee for reflection and consultation was established as part of this study and served as arena for diagnosing problems, planning actions, implementing them and evaluation the actions. The work of this committee will continue progressing such action research cycles beyond this DBA thesis. The composition of this committee was the most representative in terms of key actors engaged in the project. The committee was comprised of 15 members representative of stakeholders, namely farmers' associations (commercial and emergent), association of young agronomist farmers, NGO operating in the area of community mobilisation, NGO operating in the area of land delimitation for community, a commercial Bank operating in the area, a local Media, a local commercial enterprise, Chinese partner (Wanbao) and RBL. I chaired this committee in my role as action researcher but also in combination of my capacity as Chairman of the Baixo Limpopo irrigation scheme.

### *6.2.3 Reconciling tensions*

As agreed upon in the planning workshop with participants, action was required from RBL to undertake negotiation of the sell-and-buy contracts between the project farmers and Wanbao, allowing: (i) local farmers to use alternative service providers and inputs available in the local market, as well as access

other markets outside the project; (ii) establishment of a unit to provide services for soil preparation and puddling to the local farmers; and (iii) use of trained farmers to train peer-farmers in rice farming technologies.

One step towards addressing this Action Plan was the decision by the RBL board of directors to share with Wanbao costs for training of the local farmers as a way to reconcile tensions that emerge between local (Mozambique) social interests and business interests of (Chinese) technology providers. An allocation of USD 88,000 was approved by the board of RBL to co-finance training of local farmers in rice-farming Chinese technology and skills. Another important decision was RBL establishing a unit for soil preparation, and then contracting with a manager of the unit. RBL started preparation for establishing the unit for soil preparation in mid-August of 2015, and assigned an experienced engineer to take over management of the unit. Two specialised tractors fully equipped with farm implements for soil puddling were purchased, adding to existing machinery for soil levelling. Added to this, five new tractors for soil preparation were granted by Government to assist to the project while another three specialised tractors were still in procurement to enforce the project.

An agreed action was for RBL to interact with the local farmers in relation to the risk management of their proposed options to improve their rice farming income. The first meeting was held in two separate sessions with three groups of local farmers in early-July of 2015 with a main purpose of obtaining their feedback on the list of priorities for action which were identified by participants during the planning workshop. Fifty (50) farmers from two groups from Chimbonhanine North participated together in one of the sessions. The farmers from one of the groups comprised of 22 members who joined the Baixo Limpopo Cooperation project in the growing season 2013/2014 to benefit from training in Chinese rice-farming technology and skills. After a successful training in 1 hectare each in 2013 these farmers had been allocated definitive plots of 4 hectares each in 2014. The second group was comprised of 38 farmers who joined the project in 2014/2015. At the time of action undertaking, this group was still in training in plots of 1 hectare for each farmer. The third group of local farmers – ARPONE association – comprised of 54 members who had benefited from the project training from 2008 to 2012. These are commercial farmers holding plots with size ranging from 5 to 10 hectares each at South Ponela Block in the Baixo Limpopo irrigation scheme. At the time of this DBA study, these farmers continued to be linked to the project; they had a sell-and-buy contract with Wanbao to use seeds and soil preparation services from Wanbao, and to sell the produce to Wanbao.

The second and third meetings were organised with these same farmers to aid reflection upon the proposed options to improve their rice farming income. The farmers pressured the project to allow them access alternative and cheaper supply of fertiliser from the market, use alternative service providers for soil preparation, use rice seeds from alternative varieties, as well as allow them sell part of their production in alternative markets outside the project. The meeting helped them evaluate the risks of selling their produce

outside the project as well as the risks of using alternative rice varieties. For example, it was not certain how alternative seeds would perform with the Chinese rice-farming technology. At least, on-farm tests of technological possibilities were required to be researched before demonstration in large scale to the local farmers. Likewise, selling rice outside the project not only ran counter to win-win cooperation with Chinese farmers, but also the rice market outside the project was not certain and discouraged collaboration with financing banks. However, in relation to farmers' access to the alternative and cheaper supply of fertiliser and to the alternative service providers for soil preparation, it was agreed with the farmers that RBL could proceed with negotiation with Chinese partners.

Farmers also reported that during rice commercialisation they had the right, as established in the sell-and-buy contracts, to receive a portion of rice for their family consumption. However, farmers concerned that the rice they received from Chinese partners was processed and was not from their own farm. They wished to take the portion of rice in paddy directly from the farm during harvesting.

During the meeting with local farmers, I took the opportunity to introduce and discuss with them possible engagement of some successfully-trained farmers as trainers within the project. This involved allocating 10 hectares of developed land to a farmer selected to be a trainer of new farmers in the project. Apart from holding responsibility over farming in the allocated land, each trainer-farmer would be charged to provide support to a group of 10 new farmers whose plots of 1 hectare each would be surrounding her (or his) farm. The allocation of the plots for these new farmers would be temporary and for one growing season for training. The support of the trainer-farmer would be limited to one of transferring the skills of seed pre-germination, planting and crop management, while the project provided demonstration of rice-farming technology: providing high-yield seeds, specialised services of field levelling and puddling. Additionally, the project would take responsibility over the whole logistic of inputs and the sell-and-buy contracting with the new farmers. During the discussion, it appeared that five farmers were willing to serve as trainers in the project, provided that they received an additional incentive beyond the allocation of 10 hectares for farming. While the design of this initiative was still in early stage, it was one way for the project to quickly enact knowledge transfer in the Baixo Limpopo irrigation scheme.

The negotiation meetings with Wanbao managers started on 23rd of July of 2015 at RBL Office and continued for three weeks. A total of four rounds of negotiations were undertaken before a final agreement was achieved between parties. The four rounds of negotiation were an iterative step dictated by operational requirements within the project. Three representatives from Wanbao (including its local manager) participated. From RBL side, representatives included myself in the capacity as Chairman and CEO of RBL. The negotiation concentrated on the following agenda: (i) Wanbao to allow the local farmers to access alternative and cheaper supply of fertiliser from the market, and to use alternative service providers for soil preparation, and (ii) to negotiate with Wanbao the need for segregation of roles in the sense that the project gradually allocated developed land to local farmers who had completed training. In this context, Wanbao

was to limit their role to provision of seed to local farmers and buying of their rice. In addition, Wanbao needed to release retailing to local distribution channels. Further I took the opportunity to inform Wanbao on the decision that RBL had taken of sharing the costs for training of local farmers. Such a decision from RBL was one way to realize mutually beneficial gains to all stakeholders involved: to reconcile tensions between local (Mozambique) social interests and business interests of (Chinese) technology providers.

As noted during the study, the research agenda to determine conditions for growing rice twice a year in the project had become complex and required searching for adaptable new seed varieties. This was becoming costly to a project that was struggling to survive. Was it worth the project limiting its focus to short-term avenues – such as management of soil fertility, crop water management and sawing rate – to optimise business? One way found to address this limitation was by seeking matured technologies available in the market and adapt them to the local context. During the negotiation meeting, the Wanbao manager took the opportunity to communicate that Wanbao had identified the green-house rice nursery technology in China that allowed growing rice twice a year; and Wanbao had made the decision to bring such a technology to the project. The rice nursery was to be planted in green-house during July when temperatures are still low for open planting of rice. Rice plants were to be transplanted out of the green-house from August and harvested in October which allowed growing a second rice crop from November to March using soil puddling and seed pre-germination. A pilot project on green-house rice nursery was in preparation stage and was to be implemented after design and securement of funds.

### 6.3 Concluding Remarks

In this chapter, I have provided a detailed description of the actual action undertaken in the project. These results were presented in terms of the three first order categories (“motivation”, “partnership”, and “reconciling tensions”). The next chapter will provide feedback on the action taking with the participants. I captured the feedback by checking if implementing action proved effective in realising the organisational goals set during the PAR process.

# Chapter 7
# Evaluation of Action

## 7.1 Introduction

This chapter is concerned with the PAR phase where actions taken in the project as a result of this DBA study were evaluated. In section 7.2, I report how the evaluation workshop unfolded in terms of engagement of the participants and of what results were realised. In the concluding remarks (section 7.3) to the chapter, I summarise the evaluation phase.

## 7.2 The Evaluation Workshop

This "evaluation" phase was undertaken at the second PAR workshop on 21st of August 2015, in which the primary purpose was to collaboratively engage participants into evaluation of the actions taken to improve the organisation of partnerships within the project. These were the same participants engaged in interviews and planning workshop. The workshop design also employed Torbert and Associates' four parts of speech action inquiry described in section 3.3 (chapter 3 on research design). This was an inquiry in which I asked questions of the participants in order to understand their perceptions and views on information provided in the workshop. I sought evidence on participants' experiences and feelings, by bringing for discussion the following issues: (i) how participants could describe what happened in the course of research's implementation; (ii) what main problems they were expecting to be addressed; (iii) which main actions identified in the planning workshop were undertaken in addressing the problems; (iv) which kind of outcomes such actions were supposed to achieve; (v) how they knew, observed, measured, and came to such a conclusion; (vi) if the outcomes of these actions had solved the problems; (vii) which kind of change resulting from the actions was bringing improvements; and (viii) which kind of change resulting from the actions had not brought improvements.

The way in which the evaluation process was undertaken consisted of checking if implementing action proved effective based on the outcomes experienced by project partners. This involved determining whether the effects of the actions were realised and if these addressed the identified problem. Where change brought gains to the stakeholders, we evaluated whether the action taken was the causal factor. Where the change did not bring improvements, corrections must be made for the next cycle of action research (Baskerville and Pries-Heje, 1999, p. 12).

Data were collected during the workshop by a number of means: audio recording the session; taking notes of participants' ideas along the session; using ticks on flipcharts next to the "reconciling action undertaking" and ask participants vote on the ideas. By these means I sought to manage the challenge of

having to adopt multiple roles of capturing participants' contributions. Data analysis involved organising the field notes transcripts into "word document" computer files, making sense out of these files of data by relating them to other thematic categories generated in earlier PAR stages, writing notes and building detailed descriptions of participants' ideas within the context of the setting of the participants, the workshop, or the project. Table 7.1 presents a matrix that compares the "planned action" (second column) and "achieved outcome" (third column) aggregated in terms of the three categories (motivation, partnership, and reconciling tensions) (first column).

It seemed, based on comparison of "planned action" versus "achieved outcome", that the achieved outcome was a mixed success. The actions taken were called a success because they brought concrete changes to improve the project. Participants during the evaluation workshop were positively impressed by the actions undertaken and they reported how improvements to the project practices were realised as a result of undertaking this study. The young farmer from Angro-Nhacutse [39] said how he evaluated effectiveness of the action undertaking based on the achieved outcomes,

> *"The evaluation is very positive for me considering what happened from first workshop up to now. For example, it was agreed with Chinese's partners and implemented the joint management of Chimbonhanine pump station as planned during first workshop. As far I know, there was an agreement with the partner to allow that farmers buy fertiliser from other suppliers".*

The technician from Wanbao[40] commented of a further project achievement, "... *The identified action of controlling the weighing of production was realised and well done as planned*". One local farmer from ARPONE noted of the project area that "*It is necessary soil analysis to know which quantity of fertilizer is required. In this regard the agreement with Eduardo Mondlane University will help to address the problem*". Related to this, another local farmer from ARPONE[41] appointed that "*it was success to have cooperation with Eduardo Mondlane University for research. That is a great achievement by RBL as it will attract many young people to come to research*". This same participant commented that "*It is good that it was agreed the joint management of pump stations as this will help control water quality during irrigation".*

There were statements captured in the workshop which related to project engagement, such as: (i) "...*because they learned...to adapt the technology*..." (ii) *"...practical experimentation*"; and (iii) farmers' "...*being independent in having service providers to allow an early starting of the soil preparation*", which participants thought of as being the causal factors for realised improvements. The first and second statements reflect actions of test and adjustment in rice-farming practices that happened in one of the training sites considered successful in the project.

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39 Young farmer 5, Agro-Nhancutse, interview 22.01.2015.

40 Technical staff 9, Wanbao, interview 27.01.2015.

41 Local farmer 2, ARPONE, interview 21.01.2015.

TABLE 7.1 – MATRIX OF "PLANNED ACTION" VERSUS "ACHIEVED OUTCOME"

| 1st level aggregation categories | Planned action | Achieved outcome | |
|---|---|---|---|
| | | Expected | Unintended |
| Motivation | Partnership with a research institution to help operate a research agenda including the empowerment of young farmers. | 1. Established partnership with UEM.<br>2. Incubation program agreed to implement with UEM. | |
| Partnerships | 1. Developing committees for planning, coordination, and to support consultation and reflection of project issues.<br>2. A scheme to be set up for the joint management of pump stations.<br>3. Rigorous follow-up and support to farmers during harvesting. | 1. Committees developed, one for planning and coordination, and another for consultation and reflection.<br>2. Agreement reached for joint (RBL &Wanbao) management of pump stations.<br>3. Follow-up undertaken during rice-harvesting. | |
| Reconciling tensions | | | |
| (1) Performing tensions | 1. Sharing of cost between RBL and Chinese partner for training of local farmers. | 1. Cost shared between RBL and Wanbao for training of the local farmers. | Relationship problems between Wanbao and contracted Chinese nationals results in these ones conditioning training and provision of services to the local farmers. |
| (2) Belonging tensions | 2. Encouragement of segregation of roles among partners. | 2. Discussed with Wanbao for gradual allocation of developed land to local farmers while focusing on buying; and for release of retailing to local distributors. | |
| (3) Learning tensions | 3. Search for suitable technologies in the global market and paying of experience exchange visits to identify best practices in the market. | 3. Technology of Green-house rice nursery identified by Wanbao in China, and the design for its implementation ongoing; and exchange visit for best practice undertaken in China. | |
| (4) Organising tensions | 4.1 Interaction with local farmers in relation to the risk management of their proposed options to improve their rice farming income.<br>4.2 Negotiations with Chinese partner to allow the local farmers access alternative and cheaper supply of fertilizer from the market. | 4.1 Undertaken the farmers' validation meeting for alignment of perceptions.<br>4.2 Agreement with Wanbao for joint management of Chimbonhanine and Ponela Pump stations achieved; establishment of a service unit for soils preparation approved by RBL; supply of alternative and cheaper fertilizer done. | |

However, in relation to the action about encouraging a segregation of roles among partners and about building a trust-based work relation environment, it seemed that an unintended negative outcome was being realised. To assure a feasible use of developed land in the project, the Chinese investor had leased part of the developed land to three teams of large Chinese farmers who had undertaken some further investments in acquisition of irrigation pumps, and soil preparation and harvesting machines. In addition to serving as rice producers, the Chinese farmers also were responsible to provide technical assistance and on-the-job training to local farmers, while the Chinese investor was responsible to supply inputs and buy the rice from the farmers (both Chinese and local). At the time of writing this Thesis, there were some relationship problems happening in between Chinese investor and Chinese commercial farmers, related to lack of payment of rice. Indeed these Chinese farmers were linking provision of services and training to the local farmers to the payment of receivables by the Chinese investor. The role segregation among partners could not be continued in its initial form. Some further adjustments were necessary in relation to the ownership of the pump stations or to the responsibility for training of local farmers. This provided foundations for further iteration of action research cycles.

### 7.3 Concluding Remarks

In this sequence of four chapters comprising the research findings – constructing the problem, planning action, implementing action, and evaluation – I have developed a narrative out of the implementation of the PAR cycle. In the "constructing the problem" phase the narrative was structured in terms of the three aggregate dimensions (initial conditions, engagement mechanisms, and desired conditions); for the other three PAR phases, three constituent themes of the “engagement mechanisms” (2nd level aggregate dimension from the thematic analysis) were used: motivation, partnership, and reconciling tensions. In the next part of this thesis, I will provide interpretations made on the narrative and an overview of my own sense-making, and link it back to the purpose of the research, the context, and the contribution to actionable knowledge.

# PART IV

**Reflections and Conclusions**

# Chapter 8
# Discussion of Findings

## 8.1 Introduction

One of the overarching aims of this DBA research (cf Chapter 1) was to improve the management and organisation of the partnership in circumstances where multiple identities, interests, perceptions and expectations of stakeholders were at play. Framed in terms of engagement mechanisms and cross-cultural interactions, three questions that the study aimed to address, were presented in Chapter 2: (i) in what ways might the project be managed in order to support knowledge transfer between the partners? (ii) in what ways might the project be managed in order to support knowledge transfer between the partners? and (iii) what actions are required in order to realise mutually beneficial outcomes for the project's partners?

Chapter four reported on how the problem was constructed by working with the participants. The thematic evaluation of the project showed that while there was agreement of participants on the critical technical competencies provided by Chinese, there was disagreement on relative importance of different aspects of rice-farming technology. Furthermore the engagement mechanisms between project actors suffered from a misalignment of expectations in a number of areas. In Chapter five, I narrated the discussions and agreements that were achieved in a workshop that was convened with a primary purpose of collaboratively planning with participants the actions that were aimed to improve the project. The action implementation was described in Chapter six, while Chapter seven reported the evaluation by the participants of the practical effectiveness of such action.

Following the thematic analysis of data derived from the PAR cycle, three dimensions (initial conditions, engagement mechanisms, and desired conditions) emerged out of aggregation of seven categories (distributed established knowledge, change in operational context, motivation, partnership, reconciling tensions, adapted knowledge, and win-win results). In this chapter, a discussion on how the project benefited from insights as a result of undertaking this study will ensue. In this, I will discuss these insights in relation to prior research in which each question will be addressed separately in order to provide a comprehensive answer to the overarching research objective.

### 8.2 In what ways can relevant stakeholders be motivated to join the project?

The literature of inter-organisational collaboration suggested a number of reasons for which stakeholders are motivated into joining collaborations (Kaats and Opheij, 2014, p. 10; Butterfield et al., 2004, p. 188). The reasons for collaborating identified during this DBA study are discussed here and their implications summarised in a concluding paragraph. One contribution identified by this study was that energising stakeholders – namely stimulating, championing the cause for their involvement, and employing collaboration as vehicle for stakeholders pursuing of group interest – makes it possible to create their motivation to join the project. This finding is in line with Butterfield et al. (2004, p. 188), who studied collaboration among stakeholder organisations at the US nuclear weapons complex sites. Consistent with this study, they concluded that a primary role of the leader at the motivation phase of inter-organisational collaboration was that of energiser, inspiring potential partners, championing the cause, and getting them on board.

There are reasons for this motivation to happen, the first being that stakeholders may instrumentally use collaborations consistent with a private business logic of service to client. The service providers including Chinese investor, when inquired about their motivation, reported that they were looking for resource complementarities, and sharing of risk and responsibility with other stakeholders in the project. Private actors had gained a perception of high stakes and interdependence with other stakeholders. For example, a manager of a Commercial Bank felt more comfortable in financing farmers in the project as their membership in the project meant a reduced risk for farmers' miss-application of credit. The Bank allocated credit to farmers through payment of inputs supplied by a service provider – Chinese partner – who was at the same time the buyer of farmers' rice. This scheme assured that farmers' reimbursement of credit was deducted back to the Bank as the rice was sold. These findings are in line with Kaats and Opheij (2014, p. 10), who argued that one reason for collaborating with other organisations is realising cost advantage.

A second aspect of motivation is aligned with community interests for active participation in the project. Communities surrounding the project area, particularly local farmers, reported that they joined the project as a way to get access to resources, market and knowledge. For example, they needed access to the area developed by the project, access to agriculture credits and also to market. More importantly, they felt impressed by the idea of being empowered with Chinese rice farming technology to increase productivity. These findings are consistent with Kaats and Opheij's (2014, p. 10) substantive motive of knowledge development.

Another reason that may drive stakeholder organisations to initiate collaboration involves stakeholders organising joint innovation (Kaats and Opheij, 2014, p. 10). This is consistent with the idea that established knowledge is built across different actors. As noted earlier (cf Sub-section 4.3.1), rice-farming knowledge in the project comprised of many interactive parts, namely the use of high-yield seeds and chemicals; use of improved technology (specialised tractors and implements for field levelling and

puddling, facility for seed pre-germination, and equipment for rice drying and storage) and required skills to operate the technologies; the know-how for sawing paddy seeds in flooded field, and for a good crop management. These technologies and skills (contracted by Wanbao) came to the project from different Chinese suppliers. It was fundamental for the project having expertise on how to perform a test of many different high-yield rice to select the most adapted one. Also important was know-how on approaches and criteria to select project farmers, on how to integrate credit financing in a well-coordinated supply chain by RBL. While each part of the rice-farming knowledge was provided by a different actor, all parts worked together to convey the required functionality that provide a high-yield production. The presence of diverse actors (each bringing a unique part of the knowledge) with different levels of involvement can be understood as the basis of a key project resource. In the terms of knowledge categorisation suggested by Bhagat et al (2002, p. 206), this description of project knowledge is aligned with the complex and systemic dimensions of knowledge. Similarly, the description is consistent with Garud and Karnøe's (2003) notion of distributed agency, which suggests that a developed (established) knowledge is a result of "the efforts of a multiplicity of actors", including "not just those who create and discover new ideas, but also those who develop complementary assets, and customers who offer critical inputs that shape emerging paths" (p. 279).

A further reason was both instrumental and also moral. It aligned with a logic of service to public. As noted earlier (cf sub-section 4.4.1), Government officials reported that joining the project enabled them to reinforce the existing Government cooperation agreements with Hubei Province of China. This cooperation sought, amongst other objectives, at increasing the farmers' productivity in Gaza Province (Mozambique), and helped Government in addressing pressing concern of low rice productivity. Their position converges with Kaats and Opheij's (2014, p. 10) notion of stakeholders' need to manage political pressure to which they are subject, and to comply with the legal obligation and moral appeals from society or politics.

Being aware of motives that induce different groups of people is an important element as it improves responsiveness of organisational leaders towards collaboration. This has an implication for the leaders of organisations in general who may not be aware of the impact of their actions or inactions, and may lose opportunities to collaborate or motivate collaborations. It may also have implications for policy to the degree that an enabling policy framework can stimulate organisations into joining and operating successfully partnerships. I do not intend to develop an account about the implications here, as this will be undertaken in Chapter 10 below.

### 8.3 In what ways might the project be managed in order to support knowledge transfer between the partners?

In this section, I will approach the discussion in two parts, first on how partnerships could be developed and operationalised. In part two, the discussion will be on how the knowledge adaptation could be driven.

#### *8.3.1 Developing and operationalising partnerships*

In order for established knowledge to acquire its full functionality under a new context, a new collaborative arrangement need to be organised. This involves engaging stakeholders by developing and operationalizing partnerships. As a result of this PAR study, one new mechanism to engage stakeholders in the project was through instituting two new collaborative committees: one for coordinating activities, and the other for promoting cooperation between partners by allowing reflection and consultation. These developments enabled stakeholders to interact with each other in the project, potentially leading to cooperation in a diverse environment. The committee for coordination was established to deal with matters relating with planning and coordination of activities, as well as with negotiation and revision of buy-and-sell contracts with farmers. Using this committee, farmers, RBL and the Chinese partners interacted with each other through regular meetings for planning, negotiation of buy-and-sell contracts with farmers, coordination and exchange of information. Outcomes from operationalising this committee included sensemaking and validation with wider group of stakeholders of PAR work plan, joint (RBL and local farmers) follow-up of rice-harvesting, agreement and set up the joint (Wanbao and RBL) management of pump stations in North Chimbonhanine and North Ponela blocks. The committee for reflection and consultation was established to serve as arena for progressing further action research cycles (i.e. diagnosing problems, planning action, implementing action and evaluation of the actions). The purpose and functioning of this committee is in line with peer-to-peer learning networks studied by Bessant et al. (2012).

These findings are consistent with the literature reviewed in Chapter 2. In the terms used by Pasquero (1991), then developing these new committees was a form of institutionalising collaborative arrangement and share the responsibility among the stakeholders. Similarly, Thomson and Perry's (2006) work on the interactive process of collaboration identified five collaboration dimensions, out of which two – governance and administration – fit with the functioning features of these committees. In addition, some of the features of these committees – namely, the purpose, voluntary membership, organising of tasks, and interactive process – elucidate the process elements identified by Roberts and Bradley (1991), which are necessary for a collaboration to take place.

#### *8.3.2 Driving the knowledge adaptation*

As noted earlier (cf. chapters 4), tensions emerged as being amongst the most salient aspects in participants' discussions at the planning workshop. Tensions related to knowledge adaptation were

manifest as conflicting interests, particularly contradictions between long-term farming needs versus short-term business survival (learning tensions), and disagreements on relative importance of different aspects of rice-farming technology (organising tensions). The concept of tensions has been explored in variety of literatures. Of these March (1991) firstly introduced tensions during innovation work associated with a notion of *exploration* and *exploitation* as follows: 'exploration includes things captured by terms such as search, variation, risk taking, experimentation, flexibility, discovery, and innovation. Exploitation includes such things as refinement, choice, production, efficiency, selection, implementation, and execution' (p. 71). Along with this, looking for new possibilities can be understood as a feature that is associated with search, variation, risk taking, experimentation. Likewise, long-term adaptability can be understood as feature that is linked to activities of searching, experimentation and discovery. On the other side, short-term survival of project stakeholders may be related to March's refinement and efficiency orientation. This means that both the organising and learning tensions are related to the contradictions between exploration and exploitation.

Such contradictions emerge with the start of a change process as a result of an alteration in operating context of the knowledge. When knowledge crosses boundaries (institutional, socio-cultural and economic), it loses the original alignment as it needs to be reconfigured for new relational patterns between people, tools, and natural resources. This should require among others managing emerging challenges. In this project, knowledge was built across a complex network linking suppliers of technologies and know-how; and suitable natural resources (soil, water and climate) for comparative advantage in rice farming. The transfer of knowledge from China to Mozambique brought the rice farming technology and skills into a new institutional context comprised of new public institutions (RBL, Government authority), communities and farmers in the project area, all of which brought their own institutional logics (Jay, 2013, p. 137), and different expectations and interests. This can be understood as involving a break of technological arrangements that were established in a Chinese context. These dynamics are in line with Sharfman et al. (1991), who tracked changes in the adjustments that happened over time in a process of collaboration. They found that as the collaboration or its external environment were both subject to changes, this led to misalignment between the two, putting the survival of the collaboration at risk unless it adjusted to realign with its environment.

One contribution of this study was showing that it is possible to drive project adaptation by reconciling the emergent (organising and learning) tensions. A mechanism employed by the project to reconcile the organising tensions was to engage (negotiate with) stakeholders on risk assessment of their proposed options to improve income. Farmers in this DBA study made representations to become independent in regard to the supply of fertiliser, seed variety, and the market to sell their produce. In the farmers' perspective, this flexibility was likely to increase their income. Yet, it was noted that this independence raised constraints because of implied risk and uncertainty. Except for fertiliser which could be purchased cheaper outside project, seeking alternative seed varieties and markets exposed the farmers to adverse risks (including production, commercial and financing risks). It was not certain if the alternative

seed varieties that farmers proposed would lead to high productivity within soil paddling and seed pre-germination rice-farming technology. Likewise, the market of rice outside project was not certain. These technology and market risks also risked limiting farmers' access credit from financing banks. These findings are in line with Andriopoulos and Lewis (2010, p. 110), who described organising tensions may surface contradictions between possibilities and constrains. Consistent with Smith and Lewis (2011, p. 384) the findings surface contradictions between change and routine. Images of possibilities/change and constraints/routine were present in the analytical category "reconciling tensions" (organising tensions) in Figure 5.1.

Within this action research project reconciliation of tensions was achieved following joint reflection meetings with farmers and with Chinese partners. During the meetings with farmers, I challenged their proposed alternatives showing clearly the risks that farmers were being exposed to in adopting particularly alternative seed varieties and alternative market outside project. However, it was agreed that the project needed first to do pilot testing of alternative seed varieties before their transfer to farmers. In meeting with Chinese partners, after four rounds of negotiations it was agreed that farmers in the project could supply fertiliser outside project. These findings clearly suggest that pressures for optimisation of the project can be managed by adopting cultures of dialogue and of experimentation.

Regarding the learning tensions, a way found to manage them consisted of searching for best practices in the market rather than trying to 'reinvent a wheel'. This led to identification of technology which enables rice growing twice a year. It was noted during this research that the project was making a significant effort of searching for new knowledge of rice farming. This was reflected with in-field experiments which were carried out in the project aiming to optimise planting density, planting date, and irrigation management. While adaptation experiments of rice varieties started early in the beginning of the project (before this DBA study), they continued along the course of this DBA study. Refinement activities also took place, involving maximisation of resources use including taking soil sample for recommendation of fertiliser application. This enabled the project to quickly 'make money' for business survival. The findings provided here were present in category "reconciling tensions" (learning tensions) in Figure 5.1. They are in line with Smith and Lewis (2011, p. 383), who have compared learning tensions with contradictions between radical and incremental innovation or between episodic and continuous change. Consistent with Andriopoulos and Lewis (2010, p. 110), this study's findings surface contradictions between long-term adaptability and short-term survival. These findings clearly show that reconciling learning tensions can be achieved when adapting mature technologies that are available in the market as long as they are better than what exists locally and address the local needs.

## 8.4 What actions are required in order to realise mutually beneficial outcomes for the project's partners?

With inter-organisational collaboration stakeholders are motivated to join, develop and engage in relationships through cooperative work. Each party retains an autonomy in relation to the other party. Their relationships are based on trust (rather than on legal enforcements) and are driven toward realising mutually beneficial gains. The normative basis for such relationships are the complementary strengths of the collaborating various parties, in which parties rely on reciprocity and reputation concerns to resolve emerging conflicts (Powell, 1990, p.300). The complexity of challenge encountered during collaboration in such contexts is high given stakeholders' different frames of reference and different (corporate) agendas, as well as the different national cultures (Mozambique and China) of the stakeholders. Hence, the partnership helps set up a collaboration with a target of mutual benefits, and then, helps to manage the direction of change towards such a target. The discussion in this section is divided into two parts. In the first part, I will discuss how "performing tensions" (cf. Figure 5.1) can be managed. This is a common situation in hybrid organisational contexts where different institutional logics are evident. In the second part, I will discuss how "belonging tensions" (cf. Figure 5.1) can be managed. Such tensions are emergent in contexts of conflicting identities, roles and expectations of stakeholders.

### *8.4.1 Reconciling different institutional logics: the performing tensions*

The context of this study is one of knowledge transfer that is taking place among multiple collaborative stakeholders. Each of these actors holds a different institutional logic: Government agencies operating under a logic of "service to public", and the private investor and service providers holding a logic of "service to client". This results in ambiguity about what can be seen as success or a failure (Jay, 2013, p. 137). Consistent with the logic of "service to public", Government tends to overemphasise social development at the expense of business returns (Jay, 2013). In line with the logic of "service to client", private stakeholders are efficiency-oriented with an objective of maximising returns of the business over investment (Jay, 2013).

An insightful contribution of this DBA study was showing that seeking mutually beneficial projects – by combining a profitable business of private investor with knowledge dissemination to farmers (an aid-to-development activity that is social in nature) – makes it possible to achieve reconciliation between interests of Government, private investor and project community. Such reconciliation leads potentially to a collaboration that yields win-win results. One way found by the project to seek balance across performing tensions was the sharing of risk among Government (RBL) and private investor (Wanbao) in two areas of cooperation: i) co-financing costs for training of local farmers; and ii) assuring that large farming plots in developed area were gradually allocated to local farmers after they were rigorously selected and had successfully completed training in a small size of plot. As argued by Jay (2013), hybrid organisational

contexts face the challenge of reconciling different institutional logics in "their efforts to generate innovative solutions to complex problems" (p. 137).

In this DBA study, reconciling performing tensions emerged as a form of response to land use conflict within project area. It was part of the process of addressing community demand for access to the project's developed land. This involved Government concern for mass production by aiming to expand the project's developed area allocated to local farmers in training. This was risk-taking for the investor's business, on the one side, because of the high training cost implication, and on the other side, because farmers under training were vulnerable to losses of production. Hence the project was vulnerable to low returns over investment in developed areas. This was noted in the investor's insistence to keep within the project a small number of farmers in training, to keep operating costs low and to minimise the risk of production failure by farmers during training. One local manager from Wanbao[442] during interviews said repeatedly of the project's approach to farmers' involvement in the project,

> *"We need not to go fast. Instead of 23 farmers in training, we can take small number as 5 or 7. The Government should pay some money for Wanbao to train more farmers…..Wanbao give small scale example…..farmers must know that they are not working for Wanbao but for themselves…the relation is business".*

These findings are in line with Smith and Lewis' (2011, p. 384), who observed performing tensions as resulting in competing strategies and goals. These findings may reveal that a step-up approach – in which the project starts by creating small quick wins which become big in time – can be a valuable mechanism to manage land use tensions involving Government, private investors and the local community.

### *8.4.2 Managing conflicting identities, roles and values in diverse stakeholders: the belonging tensions*

"Belonging tensions" entail demands that contrast diversity against cohesiveness (Andriopoulos and Lewis, 2010, p. 112). Diversity in this DBA study, on the one hand, meant sitting together stakeholders that hold distinct national cultures, different corporate cultures, or even different institutional logics, hence carrying a feature of variation. During the research, diversity manifested in different forms: as Chinese technology diffusors who trained Mozambican farmers, as well as different organisations (Government offices including RBL, NGOs, and farmers' leadership) who held different pool of resources, corporate cultures, interests and expectations. On the other hand, cohesiveness implied an act of cooperation which involved a feature of efficiency.

These empirical findings offer insights for developing a team behaviour in collaborating stakeholders – wherein each member plays different role in a complementary way across the value chain – making it possible to manage conflicting identities, roles and expectations of diverse stakeholders. Such

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[442] Local manager 8, Wanbao, interview 22.01.2015.

a behaviour was likely to lead to mutually beneficial gains for all stakeholders involved. The conflicts evident during the beginning of the project tended to hinder progress of project implementation by creating an environment of conflict, poor communication and mistrust between actors. Hence, cooperation became a pressing imperative for success. One way found by the project to enable cooperation within stakeholders' diversity consisted of engaging stakeholders building gradually their intercultural competence.

For example, it was explained to farmers that they needed Chinese partners to have access to high-yield technology that would improve their farming productivity and access to market. Likewise, Chinese partners received explanations that they needed to train local farmers so that gradually they could take over production task and concentrate in providing services and buying the produce from local farmers. These awareness-raising campaigns and farmers' mobilisation gradually led to a shift in behaviour and improved stakeholders' mutual trust and relationships. This helped them see that each partner gained when they accepted their differences as the basis of a key project resource rather than simply a barrier. These findings are consistent with the framework of intercultural sensitivity proposed by Hammer, Bennett, and Wiseman (2003, p. 424). This framework (cf. Figure 2.3) posits six cultural orientations along which people progress through in their journey of intercultural competence.

These research findings imply the importance of relying on specialisation of partners to provide response to different demands that arise along the value chain. In this vein, the organising principle becomes one of pursing complementarities between diverse capabilities in order to achieve mutually beneficial gains to all stakeholders in the value chain.

### 8.5' Concluding Remarks

In this chapter, I have articulated the lessons learnt from the DBA study about the management and organisation of the project. Such a learning was expressed in terms of contribution to actionable knowledge and linked back to the purpose of the research, the context, and theory.

In the next chapter, I will concentrate on my own reflections as an insider action researcher (Coghlan and Brannick, 2010, p. 148). In doing so I will reflect on how I have managed to reconcile my dual role of both being CEO and researcher during the PAR process. Additionally, I will reflect on how my professional identity as a scholarly practitioner has been developing, and on how my engagement in this DBA thesis has challenged my assumptions and attitudes, skills and organisational relationships.

# Chapter 9
# Reflexivity Analysis

## 9.1 Introduction

In this chapter, I begin by providing a reflection on insider research, and then I present how I built my identity as doctoral scholarly practitioner, particularly in relation to my journey towards taking a role at the interface between practitioner and academic communities, towards refining my understanding of the project and testing the validity of emergent ideas the management of partnerships with both communities. Finally, I reflect on the implications of the study for my management practice as a leader of cooperation projects.

## 9.2 Reflections on Insider Research

This DBA research is a PAR study that used the Baixo Limpopo Cooperation project as its research setting for addressing problems about partnership in a knowledge transfer project involving actors from different national cultures. It appeared that stakeholders' navigation throughout the process of managing partnerships required them to make sense of a number of emergent tensions. The facilitation of such sense-making by stakeholders happened as a consequence of my own engagement with then as an insider researcher (cf Coghlan and Brannick, 2010). My role here was crucial in helping the stakeholders interpret what they were experiencing and move with them along the sense-making to achieve workable solutions.

In addition, my substantive knowledge of the research setting (pre-understanding), my own position as Chairman and CEO of RBL, and my leading role in the partnership (dual role), may have influenced the course of this DBA research. As Chairman and CEO of RBL I was involved in number of partnership activities and worked with local farmers and technology diffusors (Chinese managers and technicians) for project adaptation. I worked with Government for promotion of high-yield practices of farming and support of farmers, and also I was involved with the mass media for diffusion of the project activities. From April 2011 to present, I served as a Chairman and CEO in RBL, a Government agency responsible over linking farmers to supply chains including the technology diffusors. The project is among initiatives in which RBL has played role as partner. RBL in 2012 became formally the partner representing Government within a Public-Private-Community partnership. This partnership aims to benefit more than 1000 local farmers through on-the-job training in rice farming under high productive Chinese technology.

Mindful of the potential challenges of insider research (Coghlan and Brannick, 2010, p. 1001), I sought to engage with participants in a process of co-production of knowledge (cf. PAR methodology). My pre-understanding of the research setting might have brought some biases to this research; shaping the

way I viewed and understood the data I collected and the way I interpreted my experiences. The wider research process involve regular reflexive analysis (critiqued by my thesis supervisor) of my contribution to the action research project.

Potential role duality limitations included relationship risks associated with my professional connection between participants. Some of these participants were representatives of rice farmers associations in the Baixo Limpopo irrigation scheme where my organisation holds responsibility over managing the scheme irrigation infrastructure and linking the farmers to supply chain service providers. Other participants were partners whom my organisation has been engaging with throughout project adaptation (Chinese managers and technicians), promotion of high-yield farming practices and support to farmers (Governments), and diffusion of innovation (mass media). These relationships might lead to participants feeling coerced into being part of the DBA research by fearing a change in the existing dynamics between them and me in case they were not willing to consent participation in the study. As a way to minimise perception of coerced research participation and permit potential participants to opt out with minimal fear of retaliation or other negative consequences, the participants were firstly approached through invitation letters with information sheet which made transparent my dual role (practitioner and DBA's researcher), and was explicit that this study was separate from the professional role that I have been playing in the Baixo Limpopo Irrigation Scheme. Also participants received assurances establishing that declining and discontinuing participation would not negatively impact participant's relationship with me.

Further, my previous experience seemed to help me proactively manage any potential conflicts of interest between CEO and DBA researcher that arose during research. As a CEO I learnt to be on the top of my job since it is difficult to switch psychologically from the CEO responsibility to DBA researcher role. Associated to this is the demand that one comes across in trying to 'translate ideas into the appropriate language from one role to another'. However, I believe that having enrolled in this DBA project at a right point in my career helped me minimise this risk, and allowed me to select a research topic that is of a higher priority in my organisation. From my experience, to balance the two roles requires a rigorous discipline: being well organised with good time management, and a clear separation between work and study, such that when I needed to engage in uninterrupted study (for example, in data collection) I would usually request to leave the organisation on vacation; being well organised also implies being able to balance the manager's achievement of working through others against the solitary work of a researcher. In addition, I came to learn how important was having supportive superiors who were informed about my research commitments, as well as a strong management team. This has led me to adopt a leadership style that relies on staff empowerment and delegation of more authority to my immediate subordinates in order to release me from the burdens of organisation's daily life operation.

As noted earlier (cf. Chapters 5, and 7), the two PAR workshops provided the collaborative engagement of participants in the PAR process. During the first workshop, participants agreed on an action

plan to help bring improvements to the prevailing situation in the management of the partnership, while the second workshop's primary purpose was to allow an evaluation of the practical effectiveness of the action plan by means of participants' debate and sharing of evidence of improvements. In facilitating this PAR process I learnt how people are engaged collaboratively, when one takes a dual role as practitioner and researcher. The use of Torbert and Associates four parts of speech action inquiry (Coghlan and Brannick, 2010, p. 30) in the PAR workshops helped to realise the aims of giving voice to different perspectives. This workshop structure consisted of combining inquiry with advocacy, and involved bringing out my own research analysis, inferences and assumptions in public for critique and testing (Coghlan and Brannick, 2010, p. 30). I started the process by explicitly framing the purpose and underlying assumptions of the workshop. A critical aspect here was presenting emerging thematic analysis as part of my own sense-making of what participants had said in interviews, and what was happening in the project. These meanings were presented explicitly to the workshop participants for open critique. In my last part of "speech" in the workshop, I questioned participants to understand their perceptions and views on challenging facing the project, as well as what they thought were the actions to address them. The resulting workshop discussions led to proposals of follow-on actions for undertaking within the project.

Another learning curve was realising how challenging it was to play a dual role by virtue of being a CEO of RBL while taking at the same time the role as an insider researcher. While acting as a facilitator and technical resource within PAR design, the most significant struggle was to maintain a collaborative environment with the participants at the workshops. I had to negotiate between my roles and identities. I felt also that as a facilitator my role was one of helping connect the participants with resources (e.g. the thematic analysis), guiding discussions and helping to clarify meaning of aspects of my presentation when this appeared to be unclear to the participants.

A further insight was noting the recursive nature of data collection and analysis throughout different phases of the PAR process,. As Coghlan and Brannick (2010) note, in action research we are fuzzy about our methodology in the early stages; as the research develops, our "methods become less fuzzy" (p. 144). During each PAR phase I was engaged in a process of reflection (Coghlan and Brannick, 2010, p. 24), which allowed me to pragmatically adjust different design aspects as the research developed. For example, prior to implementing the PAR "planning action" phase, I could not anticipate how I would approach the planning workshop. It was only after thematic analysis of participants interviews that I found how I needed to arrange the workshop presentation in a way to stimulate increasingly the engagement of participants. Worth noting was the workshop arrangement adopted of dividing up the presentation and discussions in different parts.

### 9.3 Building Researcher's Professional Identity as Scholarly Practitioner

In this section, I reflect on my experiences about how I built my professional identity in the course of this DBA study. I position these experiences as ones of testing ideas, and developing a professional identity, amongst my peer group outside the partnership. Following the presentation in the first workshop with research participants, I also had a unique chance to be invited as guest speaker among Master students to present my emerging actionable knowledge in a workshop at São Tomás University in Mozambique. Another presentation was at a national workshop of rice farming, a committee that joins knowledgeable practitioners and researchers in the country. The two presentations were undertaken during PAR "implementing action" phase. Participants' comments during the national conference served to stimulate my reflection over the implementation phase and the preparation for the PAR "evaluation" phase. For example, one participant of the national workshop commented interestingly on how the project's lessons learned could be extrapolated to a broader national context, and what significant factors are critical for such knowledge transfer. Another participant of the workshop noted that an existence of political commitment to the cooperation project, a focus on full value chain, and an existence of public partner was a strength for the success of the project. A further participant suggested an inclusion in the presentation of some quantification on the performing of the technology, by providing such performance ratios as productivity, profitability, efficiency and sustainability of the technology.

Another conference presentation was at Coordination Body of Ministry of Agriculture (chaired by the Minister of Agriculture) where I was invited to share my organisation's experience; particularly the lessons learned with partnerships. At this event I used my preliminary research findings to capture ongoing collaborative cross-cultural knowledge transfer in Baixo Limpopo. This presentation was done during the time following the PAR "evaluation" phase. A further opportunity was in a seminar China/Africa cooperation in China where I gave a well-received speech on Mozambique's experience of partnerships for cross-cultural knowledge transfer, building on insights from the research findings.

When I reflect back on these presentations to my peer group outside of the partnership, I can see them as having helped me refine my ideas by providing additional insights from academic and practice points of view. These interactions also played a role of validation of new ideas among knowledgeable professionals, academics and researchers, as well as policy makers. It should be pointed that my ideas were received favourably, particularly in regard to the features related to the fact that the project covered all aspects of logistics of inputs, production and commercialisation; and the project leveraged the capacity of private sector into supporting the local farmers. Because of these features, the project was found as being the kind of projects that promised to bring mutually beneficial gains to stakeholders. Another favourable feature of the presentations were the specific actions shared that the project found to manage a couple of challenges which arouse along time. Of particular attention here was the challenge of managing conflicts around an investor's developed land, a challenging problem that is common in most cross-cultural investment projects in agricultural sector in Mozambique. The fact that these projects are associated with

technology demonstrations and skills transfer, added value in the sense of assuring participation of the local farmers in those projects.

More importantly, I was developing my identity as scholarly practitioner. A scholarly practitioner plays as “boundary-spanner” between academics and practitioners with knowledge and skills to allow filling the gap between theory and practice (Aram and Salipante, 2003; Tenkasi and Hay, 2004). This role was evident during my engagement as insider researcher in this DBA study. My scholarship had helped me undertake analysis of the research context that my organisation was experiencing. Along with this I had been able to facilitate the PAR process, by identifying and implementing in conjunction with the project stakeholders the specific actions that improved the management of partnership in the project.

### 9.4 Implications for Management Practice

Engaging in this DBA study has given me a greater understanding of the organisational dynamics within the Baixo Limpopo Cooperation project.. In addition and most importantly this study changed the existing organisational relationships in the project, and my own assumptions, attitudes and skills as a leader of innovation project.

**Change in my assumptions and attitudes**. The DBA project challenged my preconceptions in relation to some aspects of process of social research that I bring from my research background in the natural sciences. As noted earlier (cf. Chapter 1), I come from a ‘hard thinking’ background as an agricultural engineer and later along my career as agricultural research officer during the 1990s at the National Institute of Agricultural research in Mozambique. Using scholarly knowledge and methods aimed at advancing scientific knowledge, I sought to target an audience that were my research peers in conference meetings and agricultural organisations. The primary goal of such research was the publication of new findings in trade magazines, or conference papers whose evaluation would normally be done by a peer review body. My positioning during such research was that of an outsider of the scene seeking data from farmers following which I would withdraw from scene upon the research project completion. This was my research experience prior to entering my DBA programme.

Over the course of the DBA programme I have been stuck and forced to a radical change in my philosophical assumptions about research. While I still employ scholarly knowledge and methods to frame and conduct my research, the end that I attempt to achieve is rather different. The action research is aimed to identify improved practices to the project. Along with this, my primary and first audience are actors of the cooperation projects at my workplace. Yet, the actionable knowledge generated through the action research study could be extended to benefit other audiences, namely other practitioners undergoing similar types of change processes, to policy makers who may use lessons drawn from the study to inform policy design, and the academic researchers.

**Change in organisational relationship.** Engaging in this study has helped me contribute more effectively to the project since I now understand better my partners in the project, I understand what are their assumptions, interests, expectations and aims. This has improved my communication with them, and allowed me evaluate more accurately how my own behaviour is affecting cross-cultural collaboration; it has helped me to react in a more realistic and less judgmental way to the different behaviours expressed by my partners during our interaction. In addition, undertaking this study challenged my preconceptions about partnerships. I used to see partnerships from very transactional perspective in which having signed a partnership agreement, what remained was fulfilling the agreement premises and terms. From this perspective I could not see that managing partnerships for cross-cultural knowledge transfer is very dynamic in nature with many challenges emerging from time to time. Additionally I had not seen the significance of building trust among partners; guiding relationships by principles of win-win results.

**Change in my skills.** This DBA study enhanced my competence across three research fields: knowledge transfer, inter-organisational collaboration, and cross-cultural relations. In addition, the study has helped me to develop a couple of leadership values that are critical in managing partnerships. These values are: (i) energising and motivating potential partners thereby inspiring them into joining the partnerships, (ii) facilitating the processes of coordination, planning, and interactive communication among partners, (iii) assisting collaborators own sensemaking and aligning their expectations, (iv) being a change agent, and (v) engaging partners through dialogue in attempts to reconcile conflicting tensions which emerge throughout the change process.

Furthermore, I feel that my ability to understand my own thinking and how it affects what I do has developed substantially as a result of undertaking this DBA study. This has helped me critically reflect and better act upon problems that I have come across in my workplace day-to-day, and to develop as a scholarly practitioner who acts in-between relevance and rigor. In the course of this study, I was impressed how such tools as journaling helped the process of reflection, and how Torbert's four parts of speech (Coghlan and Brannick, 2010) informed the collaborative engagement of participants. Among implications of my assumptions on my attitude is that I have been very open to critique by my workplace peers based upon an assumption that reality is accessed through social construction.

# Chapter 10
# Conclusion and Research Implications

## 10.1 introduction

The two overarching aims of this DBA research were (cf Chapter 1): (i) to improve the management and organisation of the partnership in circumstances where multiple identities, interests, perceptions and expectations of stakeholders were at play; and (ii) to empower stakeholders to own these improvements and actively participate in their realisation. This thesis has introduced the context of the project and reviewed existing literature as a means of explaining the ways in which the management task faced by stakeholders in this context is complex. The research questions (cf. Chapter 2) as well as the choice of a PAR methodology (cf. Chapter 3) were consistent with the two aims of this DBA study.

Having developed a narrative out of the implementation of the PAR cycle, and having provided my sense making of the whole narrative in light of the purpose of the research, of what is known from the literature, and of its contribution to actionable knowledge, it is appropriate to summarise the findings in light of the research questions (which are specific to the project context) and to discuss their value to a wider context of practice, policy and research. In this chapter, I begin by addressing the three research questions (see section 10.2), and then I discuss the research findings in terms of their implications for professional practice (section 10.3), China-Africa cooperation in agriculture (section 10.4), Mozambique policy (section 10.5), and academic research (section 10.6).

## 10.2 Conclusion

While empowerment of stakeholders was undertaken – by means of engaging them in a PAR process that gave voice to different perspectives and helped to realise both scientific and practitioner goals – achieving an improvement in partnership management was sought by addressing the following research questions (RQ):

*RQ1: In what ways can relevant stakeholders be motivated to join the project?*

One contribution of this DBA study was that energising stakeholders – i.e. stimulating, championing the cause for their involvement, and employing collaboration as vehicle for stakeholders pursuing of group interest – is a key feature of their motivation to join the project. For this project, one group of stakeholders, particularly private actors, joined the project in search of cost advantages. They instrumentally used collaborations as a way to accomplish their business goal of providing services to clients. A second group

of stakeholders, particularly farmers, were attracted by the project in order to develop their knowledge of rice-growing technologies. Consistent with a logic of community interest for active participation, the farmers sought an access to knowledge on high-yield production and others resources made available by the project; namely a plot of developed land, credit for farming, farming services, and market access. A further group of stakeholders, including Government agencies and NGOs, were induced into the project by instrumental and moral reasons aligned with a logic of service to public. Their participation in the project was attracted by a substantive motive of external pressure related with a need to manage political pressure to which they are subject to, and to comply with the legal obligation and moral appeals from Mozambique society or politics.

*RQ2: In what ways might the project be managed in order to support knowledge transfer between the partners?*

This DBA study showed that partnerships could be managed in order to support knowledge transfer in the project by first developing and operationalising collaborations between stakeholders, and then driving knowledge adaptation. As a result of this action research, one mechanism of engaging stakeholders in the project was through instituting two new collaborative committees: one for coordinating activities, and the other for supporting consultation and reflection. By these means, the development of collaborative arrangements and sharing of responsibility amongst stakeholders was institutionalised. Each committee had its own membership, purpose, organisation, and way of interaction of its stakeholders.

Driving knowledge adaptation was possible by reconciling contradictions between emergent possibilities to optimise farmers' income and contextual constraints (organising tensions). Farmers sought to introduce new changes to their farming routines in the project. A mechanism employed by the project to reconcile the organising tensions involved the following actions aimed to align stakeholders' expectations: (i) engagement of farmers in joint reflection meetings on risk assessment of their proposed options; and (ii) negotiation with Chinese partners. Additionally, driving project adaptation was achieved by reconciling contradictions between long-term adaptability and short-term survival (learning tensions), by seeking balance between radical and incremental innovation or between episodic and continuous change. This showed that reconciling learning tensions can be achieved when adapting established knowledge that is available in the market as long as it is demonstrated to be better than what exists locally. Reconciling learning tensions involved searching for best practices in the market that enables rice growing twice a year, rather than trying to 'reinvent a wheel'. This was reflected with in-field experiments which were carried out in the project aiming to optimise planting density, planting date, and irrigation management. It also took place involving maximisation of resources use including taking soil sample for recommendation of fertiliser application. This enabled the project to quickly 'make money' for business survival.

*RQ3: What actions are required in order to realise mutually beneficial outcomes for the project's partners?*

Two courses of action related to reconfiguration of organisational collaboration ensured that mutual gains were realised by project partners: one of reconciling different institutional logics, and the other, of managing conflicting identities, roles and expectations of diverse stakeholders.

**Reconciling different institutional logics**. This DBA study suggested that seeking mutually beneficial projects – by combining a profitable business of private investor with knowledge dissemination to farmers (an aid-to-development activity that is social in nature) – makes it possible to achieve reconciliation of competing strategies and goals between public, private, and community stakeholders (performing tensions). Each actor holds a different institutional logic. For example, on the one side, Government agencies operate under a logic of "service to public", and overemphasise social development at the expense of business returns. On the other side, the private investor and service providers hold a logic of "service to client"; they are efficiency-oriented with an objective of maximising returns of the business over investment. Reconciling here leads potentially to a collaboration that yields win-win results. One way found by the project to seek balance across performing tensions was share of risk among Government (RBL) and the private investor (Wanbao) along two areas of cooperation: co-financing costs for training of local farmers; and assuring that large farming plots in developed area were gradually allocated to local farmers after they were rigorously selected and had successfully completed training in a small size of plot. The latter constituted a form of response to prevailing land use conflict as part of the process of addressing community demand for access to the project's developed land.

**Managing conflicting identities, roles and expectations of diverse stakeholders –** *the belonging tensions*. This study showed that developing team behaviour amongst collaborating stakeholders – wherein each member plays different role in a complementary way across the value chain – makes it possible managing conflicting identities, roles and expectations of diverse stakeholders. Such behaviour was likely to lead to mutually beneficial gains to all stakeholders in the value chain. Sitting together stakeholders that hold distinct national cultures, different corporate goals and expectations brings challenges for an effective cooperation. Managing cooperation of such diverse actors may require reconciling tensions of belonging. In this project, tensions of belonging were manifest as conflicts, poor communication and mistrust between actors in the beginning of the project which tended to hinder progress of project implementation. Hence, cooperation became a pressing imperative for success. One way found by the project to enable cooperation of diverse stakeholders consisted of engaging stakeholders building gradually their intercultural competence. These research findings imply relying on specialisation of partners to provide response to different demands that arise along the value chain.

### 10.3 Implications for Professional Practice

In this section, I will focus discussion on implications of learning drawn from this study for professional practice in comparable contexts. As evidenced by the response to my conference presentations, the research findings proved of interest to innovation professionals working in partnerships for cross-cultural knowledge transfer. Lessons learned from this study may provide those innovation professionals with opportunities for change in their assumptions and attitudes, organisational relationships, and skills. Additionally, the research raises awareness of a wider range of engagement mechanisms for managing partnerships than those professionals may have ever gained through their own experiences. This may lead to improvement of their own practices and therefore improve their collaborative work. The actionable knowledge emerged through this study suggests that innovation leaders should collaboratively interact with one another, engage in mutual sense-making, energise potential stakeholders to join partnerships, foster development of committees for work coordination and for supporting consultation and reflection. These findings imply the need for these professionals to develop a range of skills, leadership behaviours and ways of thinking given that their role demands a dynamic leadership style. Based on Ritter and Gemunden's (2003) work, stakeholders when involved in inter-organisational collaborations should develop a range of network competence skills to "handle, use and exploit inter-organisational relationships", by executing effectively network management tasks.

An important skill that is required in inter-organisational collaboration relates to stakeholders' ability to make sense of emerging tensions and to find creative navigation through them. As discussed earlier (cf. Chapter 8), there are relationship tensions such as those emergent as a consequence of stakeholders' diversity which may weaken stakeholders' cooperation. This leads to an important question of how do stakeholders make sense of those tensions without engagement with an outside perspective such as I provided during action research engagement? This case might be unusual by having benefited from insights of a scholar-practitioner and insider researcher doing research for DBA degree. One important lesson to the innovation professionals is the need of one being open to outside perspectives such as those of scholars, and community to "unlocking the innovative potential" of partnerships (Jay, 2013, p. 157).

This study has an important implication to the leaders of organisations in general who may not be aware of the impact of their actions or inactions and may miss partnerships opportunities. It also has an important contribution in terms of helping identify and implement a couple of specific actions that improve the management of partnerships for cross-cultural knowledge transfer, in the way as described below. Firstly, innovation leaders are advised to seek the best practices or technologies available in the market that easily can be adapted to local conditions. Secondly, they should be aware of the nature of motivations in their own context that are more likely to induce stakeholders joining partnerships. In this project, for example, different types of motivation were evident, some of an economic nature and some related to service to public, others related to sharing of risks and responsibilities and complementarity of efforts, and still others regarding the necessity to access land, resources and market.

Finally, innovation leaders need to be aware of behaviours that they are expected to develop along their journeys of innovation. Such behaviour could be guided by a couple of principles and values including the following: (i) assuming an integrative perspective when managing emergent tensions, and taking a win-win orientation in cooperative work with partners; (ii) seeking mutually beneficial gains when attempting to reconcile diverse interests of stakeholders; (iii) being open in communication and interactive with other stakeholders in way to achieve perceptions alignments; (iv) base the management of relationships on mutual trust with partners; (5) adopting a culture of negotiation and of experimentation.

### 10.4 Implications for Africa-China Cooperation in Agriculture

Lessons drawn from this study suggest implications for wider cooperation between China and African countries in agriculture.

Of particular interest is the possibility that the Baixo Limpopo cooperation project is a model for a successful Africa-China cooperation. The findings suggest that African countries, in seeking to become self-sufficient in food production might benefit from seeking a step-change (innovation) development approach rather than following a traditional (slow) development trajectory of many post-colonial countries (Berkhout, Angel, and Wieczorek, 2009). In such circumstances African countries need to make use of 'backwardness advantage' in identifying those established technologies in the market that suit their own needs and pragmatically adapt them to their own contexts. This particular project is a good example of adopting such an approach. China is among countries that are leading the global market in rice-farming technology using soil paddling and seed pre-germination. As part of its strategic plan for food security, the Mozambique government has established partnership agreements with Chinese government agencies for the transfer of Chinese knowledge related to the production of high-yield rice crops. However, as this project has shown, such initiatives involve a complex array of challenges. That Chinese knowledge has been applied among local farmers and adapted by project stakeholders in the Baixo Limpopo irrigation scheme suggest is may be a practical exemplar for similar Sino-African initiatives.

The second lesson concerns the knowledge-sharing approach that Africa-China cooperation projects in agriculture rely upon. Rather than following a Donor-to-Recipient model in which knowledge and expertise flow from China into Africa, this study showed the value of adopting a learning network model in which there is knowledge-sharing between network members (Bessant et al, 2012). In this particular project, two new collaboration committees were established and enacted along phases of project life cycle to address emerging challenges that the project experienced. Of particular interest was the committee to support consultation and reflection of project issues, and was constituted of all relevant project stakeholders.

A third lesson relates to seeking Sino-African cooperation projects which are mutually beneficial. This is because China has changed its cooperation model with Africa to one which combines aid-to-development with profitable business of Chinese enterprises. In this study, one of the actions taken to achieve such a combination was assuring that the project involved local communities on a gradual basis as local farmers were being empowered in rice-farming technology and skills. Initially, the project relied on Chinese nationals who were allocated plots of developed land as part deal for them to operate infrastructure. Gradually, as local farmers completed training they were allocated farms within project developed area. This ensured that the Chinese investors achieved high return over investment as farmers using developed areas were obtaining high yield and production to sell to the investors. This provided small but quick wins which, with time were up-scaled and replicated into big wins.

A further lesson relates to inclusiveness in cooperation projects. While vertical integration business model in projects may have some merit in assuring cost reduction, quality control and timely delivery (Heizer and Render, 2004, p. 419), this might have limited success in the Africa-China cooperation projects in the agriculture sector. Rather, specialisation across value chains more likely leads to inclusiveness and the empowerment of more African poor people. In this particular project, production was made by the local farmers and some Chinese nationals who also provided some services to local farmers. There was also a bank to finance the operations to local farmers. The Chinese partners (Wanbao) were the buyers of farmers' produce. This division of roles across the rice value chain stimulated development of team behaviour among stakeholders in the project and allowed resource complementarity, win-win cooperation that resulted in rice-farming that brings mutually beneficial gains to all stakeholders in the value chain.

### 10.5 Implications for Mozambique Policy

Lessons drawn from this DBA study suggest recommendations for Mozambique partnerships' policy agenda that is suitable to the challenges of its agriculture sector. One important recommendation is that partnerships should not only be approached from the perspective of national investment attraction. Such investments should address the needs of local farmers from the project's surrounding communities who might otherwise not be part of those projects and not directly benefit from them. In fact, a couple of policy instruments for public private partnerships have been designed. However, these instruments are very broad and do not address some of the identified challenges in agriculture sector, while undermining the role of communities and farmers in the areas surrounding investment projects. Even more, these policy frameworks do not address closely the relational patterns across value chains – a fundamental issue in agriculture sector. According to Mozambique's legal framework – Law n.º 15/2011 of 10th of August of 2011 – a Public Private Partnership is an enterprise under public domain or in services to public domain, within which a private organisation commits to undertake necessary investments and to implement activities for providing services or goods that are Government responsibility. As assumed under this definition, this form of partnership (Public Private Partnership) is oriented towards reconciling the "value for money" interest of

the public sector with profitability of the private sector. However, this Law does not look specifically after core interests of the communities surrounding project investment sites, hence a need for a policy instrument that will help address such challenges.

In addition a significant contribution of this study was providing insights to inform current policy development process of partnerships for irrigation sub-sector in agriculture, by showing the contingencies under which relational patterns between people (stakeholders), technologies, and context are reconfigured into new arrangements that suit the local context. By revealing typical demands and tensions that emerge amongst partnerships for cross-cultural knowledge transfer, this study helps develop enabling frameworks for motivating potential stakeholders to joint partnerships. For example, a practical step in creating such a framework would be reduction of administrative burdens in authorisation of investments. This could be achieved by offering incentives for private investors who invest in public domain infrastructure, as well as through creation of economic special zones for agribusiness.

This study also contributes to policy through a better understanding of the networking support needs, as illustrated by the issues that arose within this study. Of particular interest is the design of evaluation criteria to use for assessing impact and cost efficiency of existing partnerships as a way to help Government monitor the partnerships.

The second issue concerns the measures that can support development and operation of interaction forums that allow discussion of issues such as stake of involvement, risk and responsibility sharing between parties. Such forums should seek to foster win-win results in collaboration and help protect the less privileged partners from being subject to injustice. One way, for example, could be an establishment of minimum portion of investors' developed land that is allocated to the local communities under an assumption that this portion of land will raise gradually as local farmers get trained in improved farming technologies. As demonstrated in this study agreements can be reach that allow economically acceptable returns on the investments undertaken. This would promote development of investment schemes of farming in which a private investor transfers improved farming technology to the local farmers under an assumption that these farmers gradually will become the main producers of crops while the investor specialises as buyer of farmers' produce. Another way could be for Government to set a framework that will control risk sharing in buy-and-sell contracts involving private investors and the farmers. Farmers during this study reported concerns with their buy-and-sell contracts based upon the fact that they did not share production risk with their service providers' partners.

A third issue relates to support measures to the partnerships in form of provision of funds and technical assistance to facilitate stakeholders' interactions particularly to enable processes of reflection. These funds could also be used to finance training in facilitation and in action research collaborative and interdisciplinary approaches to enable stakeholders' cooperative work and sense-making. The ongoing

project could be enhanced to embed facilitation skills into knowledge transfer agendas by inclusion of partnership topics in teaching at agricultural colleges.

An understanding of how stakeholders are attracted into joining partnerships, and how they engage together in cooperative work becomes crucial. This is particularly important at the time during which Mozambique is undertaking a process of policy framework development on partnerships for irrigation sub-sector. A key aspect in such a policy development is in understanding the difficulties of promoting win-win relational patterns between Government, private investors and the local communities. The discussion carried out here suggests that we need policy devices (incentives) able to foster stakeholders' motivations, and suitable structures to guide people interaction and allow protection particularly of the most vulnerable actors.

### 10.6 Implications for Academic Research

The findings on the process of collaboration support and extend the academic research of Gray and Wood (1991) and Butterfield et al. (2004) by identifying more categories of motivations (public, private and community interest). The data shed light on what happens once stakeholders have joined partnerships, by addressing such questions as how should partnerships be structured, organised and operated, and how internal networking matters of "belonging" and "performing" should be managed. Along with this, future research might examine such process in detail and uncover moderator factors which are more likely to develop an enabling environment for motivation of potential partners.

The discussion of research questions through the sections 8.2 – 8.3 generally fits with the hybrid networks view of innovation (Knickel et al., 2009, p. 889), which sees innovation as a change in the pattern of relations between people, tools and natural resources in ways that result in improvement of a specific state of the matters. Notions such as reconfiguring patterns of relations, learning, organising, cooperative work of stakeholders, joining partnerships, proved to be particularly important in this study. These findings support the theory and research that view innovation as social learning (Knickel et al., 2009; Moschitz and Home, 2014; Sol, Beers, Wals, 2012) involving reconfiguring of relational patterns from source context (Knickel et al., 2009) into new arrangements within a new context (Rivera and Sulaiman, 2009, p, 268). Future research might examine more closely the configuration of relational patterns both in the source and target contexts of innovation. Such research might further explicate the importance of path dependence (Martin and Simmie, 2008) for the unfolding process of knowledge transfer.

There was also a general fit between the findings and current theory regarding the role played by partnerships in innovation, particularly on notion of stakeholders balancing exploration-exploitation tensions that emerge during innovation (March, 1991; Andriopoulos and Lewis, 2010; Gupta, Smith, and Shalley, 2006; Li, Vanhaverbeke, and Schoenmakers, 2008). In attempting to understand how cooperative work is achieved under a diversity of stakeholders, this study uncovered two types of tension – performing and

belonging tensions – which arise internally during partnerships operation. In this vein, future research might examine more closely other types of tensions, including moderators that are important during cross-cultural partnership for knowledge transfer. For instance, during PAR engagement with stakeholders, my role as insider researcher was important in helping stakeholders make sense of the ongoing process. It would be important in future studies that researchers identify which role organisation leadership could play during technology adaptation and partnerships reconfiguration.

This study was carried out in cross-cultural environment of knowledge transfer for rice farming in the Baixo Limpopo irrigation scheme. This is a type of context in which farmers (mainly smallholders and emergent farmers), private firms and private investors engage in partnerships with a public organisation. Further work could include the development and testing of a process model of knowledge transfer in such complex contexts. More studies might be undertaken with comparable methods yet in other technological contexts. For example, it would be important to find how adaptation of technology and reconfiguration of partnerships unfolds in contexts where collaboration is developed between farmers and private investors without strong role of Government. This is because this type of hybridity may raise different partnership tensions or would demand a different management approach.

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# APPENDIX A

## Three Hour Agenda for the Planning Workshop

*Date/Time*

April 7, 2015/ 8:00 a.m. - 11:30 a.m.

*Location*

Capulana Hotel Room (Xai-Xai City)

*Attendees*

All the participants who were involved in the interviews phase. Sixteen participants are expected to attend the workshop.

*Workshop Objectives*

To collaboratively plan with participants the actions that were aimed to improve the project; this related to agreeing upon actions that could help to address the managerial and organisational challenges in the project.

*Workshop Outputs*

Participants' Action Plan.

*Schedule*

**8:00 a.m. to 8:10 a.m**. – Welcome and presentation of the workshop Agenda – *Master of Ceremonies*

**8:10 a.m. to 8:40 a.m**. – Presentation of the results of the interviews to the participants, including a Proposal for Action taking – *Armando M. Ussivane*

This 30-minute presentation starts with a framing of the workshop in terms of its objectives and underlying assumptions. The presentation goes on feeding back to the participants the interviews results. These interviews were undertaken to capture participants' perceptions and experiences about the project. The presentation will end up proposing interventive actions towards an improved management of the partnerships.

Please find below the plan for the first Workshop session with the participants. Included is indication of how I will use the time, the process, the objectives and expected output.

**8:40 a.m. to 9:40 a.m**. – Begin discussion of the presentation and proposed Action taking

In this 1-hour facilitated debate, the participants will share their perceptions and views on the presentation and proposed interventive follow-on actions.

**9:40 a.m. to 9:55 a.m**. – Coffee Break

**9:55 a.m. to 10:10 a.m**. – Presentation of the summary of participants' agreements – *Armando M. Ussivane*

This 15-minute presentation will tentatively summarise the participants' agreements achieved during discussions.

**10:10 a.m. to 10:40 a.m**. – Discussion of the Proposed Plan

This 30-minute refining of the action taking will result in an agreed Action Plan for implementation.

**10:40 a.m. to 10:45 a.m**. – Closing of the workshop

**10:45 a.m. to 11:30 a.m**. – Lunch

*Roles/Responsibilities*

Master of Ceremonies: *Amélia Ruco*

Note-taking: Armando Ussivane

Facilitator: Armando Ussivane

# APPENDIX B

## Three Hour Agenda for the Evaluation Workshop

*Date/Time*

August 15, 2015/ 10:00 a.m. - 12:15 a.m.

*Location*

Capulana Hotel Room (Xai-Xai City)

*Attendees*

Attendees are all the participants who were involved in the interviews and the 1st workshop phase. Twelve participants are expected to attend the workshop.

*Workshop Objectives*

To collaboratively engage participants into evaluation of the practical effectiveness of the action plan.

*Workshop Outputs*

Evaluation of effectiveness for the undertaken actions.

Agreed follow-on actions that will feed into next cycle of constructing, planning and action.

*Schedule*

**10:00 a.m. to 10:10 a.m. –** Welcome and presentation of the workshop Agenda – *Master of Ceremonies*

**10:10 a.m. to 10:40 a.m. –** Presentation of the "implementing action" phase – *Armando M. Ussivane*

This 30-minute presentation starts with a framing of the workshop in terms of its objectives, underlying assumptions, and expected outputs. The presentation goes on feeding back to the participants the emerging ideas.

**10:40 a.m. to 11:00 a.m**. – Coffee break

**11:00 a.m. to 12:00 a.m. –** Begin discussion on effectiveness of the action taking, and on the validity of the emerging ideas

In this 1-hour facilitated debate, the participants will share their perceptions and views on the presentation, by bringing for discussion the following issues:

- How participants could describe what happened in the course of research's implementation;
- What main problems they were expecting to be addressed;
- Which main actions identified in the planning workshop were to be undertaken in addressing the problems;
- Which kind of outcomes such actions were supposed to achieve;
- How they knew, observed, measured, and came to such a conclusion;
- If the outcomes of these actions had relieved the problems;
- Which kind of change – that the participants think was the result of this research's action undertaking – was bringing improvements; and
- Which kind of change – that they think was the result of this research's action undertaking – had not brought improvements.

**12:00 a.m. to 12:15 a.m**. – Closing of the workshop

12:15 a.m. to 13:15 a.m. – Lunch

*Roles/Responsibilities*

- Master of Ceremonies: *Amélia Ruco*
- Audio recording*: Amélia Ruco*
- Facilitator: *Armando M. Ussivane*
- Note-taking: *Armando M. Ussivane*

# APPENDIX C

**Ethical Issues**

Appendix C provides a description of ethical issues that arose and the manner in which they were addressed in attempt to improve transparency and accountability of research. Research ethical issues associated with conducting participatory action research within the researcher's own organisation have been well-documented (Coghlan and Brannick, 2010, chapter 10). One issue reviewed in the work of Mctaggart (1997) concerns status and power differentials among participants, including the potential power differentials between researchers and participants. Previous studies in an agricultural context have seen researchers dominate in their relationships with participants, particularly the farmers, in part because of their command of 'specialised discourses', and to the uncertainty of some participants 'who may have been forced to adjust to being told what to do' (Mctaggart, 1997, p. 33). It is important to address such issues as they damage collective work in the PAR process.

One potential research ethics is raised by virtue of me being a CEO of RBL while taking at the same time the role as an insider researcher. The ethical challenge here was whether my seniority in the project influenced the research process. This is related to the difficult to switch psychologically from the CEO responsibility to DBA researcher role, and associated demand that one encounters in trying to 'translate ideas into the appropriate language from one role to another'. Further, the senior position I hold in RBL risks coercing potential participants into being part of the research. It could influence their engagement in interviews and workshop discussions. Some of these participants were representatives of rice farmers associations in the Baixo Limpopo irrigation scheme, where my organisation holds responsibility over managing the irrigation infrastructure and linking the farmers to supply chains service providers. Other participants were partners with whom my organisation was collaborating in transfer of rice-farming technology and skills (Chinese managers and technicians), support to the farmers (Government authority), and diffusion of innovation (mass media). This relationship might lead to participants feeling unable to discuss problems frankly and freely with a fear of retaliation or a change in the existing dynamics between them and me in case they were not willing to consent participation in the study or if they would not please me.

A related research ethics issue was that different participants in the group that had different status and power. To counter the resulting asymmetry in participants' power relations, during workshop sessions, it had to be assured that everyone participated in discussions as a way to balance the tendency of few people monopolising the discussion, sometimes misdirecting the group's discussions and distorting participants' understanding. One way found to encourage people to participation in workshop discussions

was employing Torbert and Associates' four parts of speech action inquiry (Coghlan and Brannick, 2010, p. 30) mentioned earlier in this chapter (section 3.3). Not only was using this approach important to empower people to participate, but it exposed my preunderstanding for critique and testing (Coghlan and Brannick, 2010, p. 30).

It is important to emphasise that the strategy in the ethics approach was one of transparency and accountability of research (Pant, 2014, p. 587). The full methodology used to engage participants went through an Ethical review process by the DBA Research Ethics Committee at University of Liverpool to assure that measures were put in place to deal with such a challenge. From the beginning, my dual role (CEO and DBA's researcher) was disclosed in all interactions I had with the participants from recruitments onwards. I clarified that this study is separate from the professional role that I played in the project. I provided to the participants written assurances that declining and discontinuing participation would not negatively impact their relationship with me. Potential participants were debriefed about the study and informed about a number of measures put in place to ensure anonymity of participant's identity and confidentiality in the information they provided during interview and workshop discussions.

The participants were firstly approached for interviews through invitation letters. The letters were sent to their organisations, requesting permission to access secondary data and potential participants. Enclosed to the invitation, they received study information (participant information sheet) debriefing about the scope of research and their role within the study. Interested participants were requested to contact me (or manifest an interest in the study upon my telephone call reminder). When a potential participant did so, the study information was reviewed and clarified, questions answered about participants' role within the study, and an appointment made for the interview. The consent form was discussed in detail at the beginning of the interview, with emphasis on confidentiality. After a participant signed the consent form, the first phase of study commenced with individual interviews. Each participant chose a pseudonym for research and was promised the opportunity to review transcripts, and other information about her or him before publication. Added to this, they would have in the end of research the right to receive a compact copy of the results of study. In Appendix 1 are included participant's invitation, a consent form and information sheet.