

**A CRITICAL ANALYSIS OF AGRICULTURAL
INNOVATION PLATFORMS AMONG SMALL-SCALE
FARMERS IN HWEDZA COMMUNAL AREA,
ZIMBABWE**

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ABSTRACT

Agricultural research has existed for many decades at national and global levels and research-based agricultural interventions, often driven by the state, have taken place across Africa over an extended period. But, overall, these interventions have not generated the high potential and kinds of outcomes expected of them in terms of enhancing agricultural productivity amongst small-scale farmers and improving the quality of their agrarian lives. In the context of neoliberal restructuring globally, new forms of agricultural interventions have arisen which highlight the significance of more participatory methodologies in which non-governmental organisations become central. One such methodology rests on the notion of an agricultural innovation platform which involves bringing on board a diverse range of actors (or stakeholders) which function together to generate agricultural knowledge and practices suitable to the needs of a particular small-scale farming community, with the small-scale farmers expected to be key actors in the platform. Such platforms are now being implemented in specific rural sites in Zimbabwe, including in communal areas in the district of Hwedza where farming activities have for many years now been in large survivalist in character.

The objective of this thesis is to critically analyse the agricultural innovation platforms in Hwedza, but not in the sense of assessing the impact of the platforms on agricultural productivity. Rather, the thesis examines the multi-faceted social interactions and relationships embodied in the innovation platform process. In pursuing this, I rely heavily – but in a critical manner – on interface analysis as set out by Norman Long. The fieldwork for the Hwedza involved an interpretative-qualitative methodology based on methods such as in-depth interviews, focus group discussions, questionnaires and observations. The major finding of the thesis is that the agricultural innovation platforms, at least as implemented in Hwedza, do challenge top-down approaches to agricultural interventions by unlocking the possibility of multiple pathways of inclusion and particularly for small-scale farmers but that, simultaneously, they also involve processes marked by divergences, exclusions, tensions and conflicts which may undermine the legitimacy and effectiveness of the platforms.

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ACRONYMS

Agritex	-	Agricultural Technical Extension
AIS	-	Agricultural Innovation Systems
AKIS	-	Agricultural Knowledge and Innovation Systems
ARDA	-	Agricultural Rural Development Authority
AREX	-	Agricultural Research and Extension Services
ASPEF	-	Agricultural Sector Enhancement Productivity Facility
BSAC	-	British South Africa Company
CA	-	Conservation Agriculture
CARE	-	Cooperative for Assistance and Relief Everywhere
CBZ	-	Commercial Bank of Zimbabwe
CFU	-	Commercial Farmers Union
CIAT	-	International Center for Tropical Agriculture
COMMUTEC	-	Community Technology Development Association
COTTCO	-	Cotton Company of Zimbabwe
CYMMIT	-	International Maize and Wheat Improvement Center
DFID	-	Department for International Development
EMA	-	Environmental Management Agency
EPZA	-	Export Processing Zone Authority
ESAP	-	Economic Structural Adjustment Programme
FAO	-	Food and Agriculture Organization
FARA	-	Forum for Agricultural Research in Africa
FTLRP	-	Fast Track Land Reform
GDP	-	Gross Domestic Product
GMB	-	Grain Marketing Board
GoZ	-	Government of Zimbabwe
GPA	-	Global Political Agreement
GST	-	General Systems Theory
HIV/AIDS	-	Human Immunity Virus/ Acquired Immune Deficiency Syndrome.

HYV	-	High-Yielding Varieties
ICT	-	Information Communication Technology
IMF	-	International Monetary Fund
IMF	-	International Monetary Fund
IP	-	Innovation Platform
IR4D	-	Integrated Agricultural Research for Development
ISA	-	Innovation Systems Approach
LRRP	-	Land Redistribution and Resettlement Programme
LTC	-	Land Tenure Commission
LTD	-	Livestock Development Trust
MDC	-	Movement for Democratic Change
NARS	-	National Agricultural Research Systems
NCA	-	National Constitutional Assembly
NGO	-	Non-Governmental Organizations
NRM	-	Natural Resource Management
ODA	-	Office of Development Assistance
OECD	-	Organization for Economic Cooperation and Development
SADC	-	Southern Africa Development Community
SAP	-	Structural Adjustment Programmes
SNA	-	Social Network Analysis
SSA-CP	-	Sub-Saharan Africa – Challenge Programme
SSACPPLS	-	Sub-Saharan Africa Challenge Programme with Pilot Learning Sites
TIMB	-	Tobacco Industry Marketing Board
UDI	-	Unilateral Declaration of Independence
UNDP	-	United Nations Development Programme
USA	-	United States of America
UZ	-	University of Zimbabwe
WB	-	World Bank
ZANU	-	Zimbabwe African National Union
ZAPU	-	Zimbabwe African People’s Union

ZCTU	-	Zimbabwe Congress of Trade Union
ZIMSTAT	-	Zimbabwe National Statistics Agency
ZJRI	-	Zimbabwe Joint Resettlement Scheme

CHAPTER ONE: INTRODUCTION

1.1 Introduction and Background to the Study

The thesis seeks to understand and analyse agricultural innovation platforms in the customary area of Hwedza in Zimbabwe, which involves relations within the small-scale farmer community and between small-scale farmers and other, including external, stakeholders. Hwedza District in large part falls in agro-ecological zone II which is suitable – under optimal conditions – for intensive crop farming and livestock breeding. These historically-disadvantaged communal (or customary) farmers in Hwedza have not benefited from the massive land redistribution under fast track land reform since the year 2000, and their farming activities continue to be in large part survivalist (involving for example horticulture, maize and groundnuts production). The Hwedza farmers have been unable to sustainably produce for markets due to such problems as the lack of irrigation facilities and access to credit facilities.

At the same time, new agricultural research paradigms and methodologies have arisen globally within the international development system in order to foster synergies between small-scale farmers, agricultural extension agencies and Non-Governmental Organisations (NGOs). These have emerged alongside renewed commitments to participatory change in agricultural interventions from national and international policy makers (Jones 2004, Hall 2007). Of significance to this thesis is the initiative focusing on agricultural innovation platforms which are currently being pursued by a number of donors and NGOs in Africa and elsewhere. This type of platform is a forum or network based on notions of partnership and empowerment through which farmers and various stakeholders come together to achieve the shared agricultural objective of maximising agricultural productivity. Agricultural innovation platforms are presently being implemented in parts of Hwedza by the Sub-Saharan Africa Challenge Programme as facilitated by an international NGO called the Forum for Agricultural Research in Africa (FARA). The focus of the thesis is not on establishing any causal relationships which may exist between introducing an agricultural innovation platform in Hwedza and enhanced agricultural productivity. Rather, the thesis aims to study the negotiations, alliances and contestations among communal farmers in Hwedza and the other stakeholders involved in seeking to develop more market-focused farming activities.

Sub-Saharan Africa has the tragic distinction of being the only region in the world where overall food security is deteriorating rather than improving (Alumira and Heinrich 2003, FAO 2012, World Bank 2011). In this regard, Moyo and Yeros (2007) point out that food security in southern Africa in particular has been elusive due to, amongst other factors, inconsistent rainfall and ineffective agricultural policies. In a region where 70% of the population lives in rural areas, a structural food deficit has persisted for decades, leading to the highest levels of per capita food aid in the world. Overall, some 400 million Africans are dependent on smallholder farming or pastoralism under conditions of natural resource degradation that threatens the medium and long term sustainability of agriculture (FAO 2005, FAO 2009, FAO 2012).

The dual agricultural system inherited from the colonial era divided Zimbabwe into two sectors: a large-scale commercial sector controlled by white settlers and a small-scale sector controlled by black (or African) people. Small-scale black farming was further subdivided into small-scale commercial areas and communal areas. Colonial policies in Southern Rhodesia and later Rhodesia severely limited land-holdings of black small-scale farmers in customary areas and inhibited their market access. This led to land degradation and declining per capita production (Ministry of Lands, Agriculture and Rural Development 2001). After independence in 1980, the Zimbabwean government began a land redistribution programme for resettling black farmers from customary areas onto former white commercial farms. Meanwhile, in communal areas, there was a focus on smallholder irrigation schemes to enhance crop production. Resettlement of any significance though only occurred from the year 2000 in the light of nation-wide land occupations and the implementation of the fast track land reform programme, with fast track expected to decongest customary areas but without significant success.

Like fast track farms (and the older resettlement areas from the 1980s), customary land is state land but with specific plots of land held by households often over many generations. There is a bundle of rights attached to customary land including right of control, access and usage which are often gender-based. Land allocation remains a source of contestation, with local district councils, political parties and tribal authorities all having varying kinds of control. Agricultural production

on fast track farms, including on the A1 farm model where small-scale farmers pursue their livelihoods, is higher than in today's communal areas (Moyo 2009).

Communal area production continues to involve mixed agriculture (crops and animal husbandry) and is pursued mainly for subsistence purposes. Crop production (maize in particular) provides most of the food for household consumption and cattle are very important particularly in the lower rainfall areas (Rukuni 1994, Thirtle 1993). Cattle provide animal draught power for tillage, transport, manure, milk and meat. During high-harvest years when rain is plentiful, farmers produce excess food crops and livestock products for local and national markets. Non-food crops, such as cotton, tobacco and paprika, are also grown specifically for the market (Moyo 2005). Other important crops, in certain areas, include sorghum, millets, groundnuts and sunflowers.

Agricultural research and development processes (both internationally and continent-wide) have generated numerous kinds of agricultural production methodologies in Africa but the impact of these methodologies on farmers' productivity and quality of life – whether implemented by states or NGOs – has not matched their potential. The gaps between knowledge, action and effect is glaring, in part because most initiatives are based on top-down linear models of inputs and outputs (Kirsten et al. 2009) in which small-scale farmers are treated as mere objects of the implementation of the models and designs of external agents. In many cases, notably in former settler societies like Zimbabwe, agricultural methodologies suitable for large-scale commercial farming have simply been imposed on small-scale farmers (such as in relation to the application of inorganic herbicides and fertilisers).

1.2 The Concept of Innovation Platforms and IAR4D

The concept of innovation platforms, which is consistent with a range of other supposedly participatory methodologies found within the donor-driven international development system (or industry), has emerged as an alternative framework to top-down approaches in guiding agricultural research and innovation work in Africa (OECD 2005, Akullo et al. 2009, Hawkins et al. 2009). The concept of an innovation platform is in large part underpinned by systems thinking and is not entirely new to agricultural research and development. A system is defined as a collection of

interrelated and mutually-dependent elements that must harmoniously function in order to achieve a commonly-desired outcome (Bean and Radford 2002).

Implied in this definition is that the sum of the system has synergies that constitute its integrity. In the context of the thesis, it is important to note that the interrelated parts of a system sustain the system such that an innovation platform (as a system) entails the incorporation of all stakeholders (small-scale farmers and other agents) – with diverse interests – under a set of operating principles and guidelines which seek to identify and analyse problems pertinent to agricultural production and to develop appropriate solutions. This approach, in seeking to generate new agricultural technologies and methodologies, is expected to embody a social arrangement which is relevant to local conditions and acceptable to local communities (World Bank 2009). Agricultural innovation platforms, which form part of a broader innovation platform initiative not restricted to agriculture alone, are therefore said to present an opportunity to address the challenges ingrained in bringing on board a whole range of stakeholders within an innovation system methodology, in order to catalyse the transformation of agricultural research and crop production amongst small-scale farmers in sub-Saharan Africa (Ejigu and Bayer 2004).

In an authentic agricultural or other kind of partnership, as Uphoff (2000:78) puts it, ‘the parties have a stake in each other’s well-being’. Multi-stakeholder partnerships, such as innovation platforms, involve several different groups of stakeholders such as government departments, NGOs, research institutes, business groups, consumer groups and farmer groups (Gijsbers 2009, Dormon 2006, Biggs 2007). Multi-stakeholder innovation platforms, at least formally, deviate from the traditional top-down linear configuration of agricultural research and development by encouraging the active engagement of multiple groups along a commodity value chain for the promotion of processes of innovation in the agricultural system. Innovation emerges apparently through the ongoing interaction among the parties (or stakeholders), utilising of feedback mechanisms, shared analyses and incorporation of lessons learnt from past and contemporaneous processes (Hall et al. 2010).

A number of initiatives, notably outside agriculture, have worked with the concept (and practice) of innovation platforms for a number of years now (Critchley et al. 2006). The innovation systems approach, as it is often called, was initiated as an alternative analytical and programmatic framework to mainstream development economics for assessing the performance of an economy in overcoming poverty and attaining sustainable development, doing this through the application of new ideas. The innovation systems approach focuses on institutional behaviour change and systemic innovation processes and how these contribute to economic growth and sustainable development (Edquist and Johnson 1997).

The actualisation of innovation systems approaches, or of functional multi-stakeholder linkages and collective action around a commonly-agreed challenge specifically in the field of agriculture, is through such initiatives as the Integrated Agricultural Research for Development (IAR4D). The IAR4D is being developed, promoted and pursued in southern Africa by the international NGO, Forum for Agricultural Research in Africa (FARA). FARA focuses on generating innovative activities of national and sub-regional research institutions to deliver more responsive and effective agricultural services to small-scale farmers. IAR4D has emerged over the past decade as one approach in the field of agriculture for integrating actors, technology, policy and institutions and thereby for providing social and institutional solutions designed to achieve multiple objectives, including poverty alleviation, environmental protection and gender equality. This approach, when first arising, was believed by Jones (2004) to be potentially a major innovation for African agriculture. According to Jones (2004) and Hall (2007), IAR4D is an action-research and programmatic approach for investigating and facilitating the organisation of multi-institutional and multi-disciplinary actors or stakeholders (including researchers) to innovate more effectively in response to changing (and complex) agricultural and natural resources management contexts and thereby achieve a shared vision of rural development.

With funding from the United Kingdom's Department for International Development (DFID), FARA has initiated the Sub-Saharan Africa Challenge Programme with Pilot Learning Sites (SSACPPLS) in Nigeria's Kano and Katsina states, Niger's Maradi Province, the Lake Kivu area in the Democratic Republic of Congo, and in specific sites in Kenya, Rwanda, Uganda, Zimbabwe,

Malawi and Mozambique (EPZA 2005, FARA 2009, GoK 2004, Dormon et al. 2007, Spielman 2006). In Zimbabwe, a NGO called International Centre for Tropical Agriculture (which has offices in Harare) has been mandated by FARA to implement the IAR4D broadly and SSACPPLS more specifically. It has selected innovation sites at district level, as well as counterfactual sites where there is no intervention. Hwedza and Murehwa districts were selected in 2008 as intervention districts in Zimbabwe, with Marondera and Chikomba districts as counterfactuals. With the approval of the implementing partners in Hwedza, this thesis analyses the activities, partnerships and contestations between and amongst actors to understand the social organisation embedded in agricultural innovation platforms.

This study of agricultural innovation platforms (as social systems) in Hwedza customary area is informed by interface analysis, with Norman Long's influential work as a starting point. Interfaces typically occur at points where different life worlds or social fields intersect or, more concretely, in social situations or arenas in which interactions become oriented around problems of bridging, accommodating, segregating or contesting social, evaluative and cognitive standpoints. Interface analysis aims to elucidate the types and sources of social linkages and discontinuities present in such situations and to identify and examine the organisational and cultural means which reproduce, alter or transform them (Long and Long 1992, Long and Villarreal 1993, Arce and Long 1992, Long 2001). Continued interaction encourages the development of flexible social boundaries and shared expectations of participants so that over time the interface itself becomes an organised entity of interlocking relationships (van der Ploeg 1987). In the case of agricultural innovation platforms, this means understanding the manner in which different (and perhaps competing) technical and cultural knowledge is utilised by each group of stakeholder involved in agricultural productivity initiatives. Importantly, Akullo et al. (2009) point out that, although interface interactions generally presuppose some degree of common interest, they also have a propensity to generate conflict due to contradictory interests and objectives as well as unequal power relations.

In fact, analysis of power is central to the version of interface analysis deployed in the thesis. In this respect, post-structuralism in particular demonstrates that power is not simply possessed, accumulated or un-problematically exercised as if it is embodied in specific sites only. Complex

struggles and negotiations over authority, status, reputation and resources among actors are embedded in everyday social relationships (Latour 1994, Callon and Law 1995), including within agricultural innovation platforms. This argument challenges the implied harmony seemingly inherent at times in Long's interface analysis, and provides a useful analytical counterweight to the more constructionist-style arguments contained in mainstream interface analysis. Power inevitably generates resistance, accommodation and strategic compliance as regular components of the politics of everyday life.

1.3 Goals of the Thesis

This thesis seeks to contribute to the body of existing knowledge on innovation platforms by first of all generating empirical evidence on the textured relationships within such platforms amongst small-scale farmers in Hwedza. Secondly, in using interface analysis in a critical way, the thesis hopes to contribute to sociological theory by offering a refined and nuanced account of agrarian interfaces sensitive to structure, power, agency and resistance.

In the light, the main goal of the thesis is *to identify, understand and analyse the complex social relations embodied in the agricultural innovation platform pursued and implemented amongst small-scale communal farmers in Hwedza, Zimbabwe*. Subsidiary goals include:

- Identifying and examining through thick descriptions the varied patterns of interactions among the small-scale farmers and stakeholders;
- Pinpointing and highlighting the social interactions which entail negotiation, cooperation, contestation and conflict;
- Analysing the agricultural innovation platform with respect to decision-making and thus engaging with the vexing question of an authentic partnership; and
- Examining the specific forms and organisation of production under the auspices of agricultural innovation platforms.

1.4 Overview of the Research Site

Hwedza is a rural district in Mashonaland East that is located about 50 kilometres south of the provincial capital of Marondera and 127 kilometres south of the national capital of Harare. Due to its mineral wealth, the district was dominated by the Mbire people (between the 9th and 12th

centuries) who were mining iron in the area. It was only in 1910 that the colonial administration established Hwedza as a rural district. The ZIMSTAT draft census report from 2013 (ZIMSTAT 2013) indicates that Hwedza has a total population of 70,473 inhabitants. Women constitute the majority of the population at 51.3 % and the average number of people in a household is 4.1. The district of Hwedza is connected by tarred roads to Harare and Marondera hence it has access to markets in these centres for its agricultural produce.

The district has mountain ranges (notably Rusunzwe and Gandamasungu) which are of significance in that they affect the climatic patterns of the district. It is also situated between the Save River in the west and the Ruzave (Ruzawi) River in the east. Other main rivers following through the district include the Nyamidzi, Mhare, Nyamhembe and Chineyi. In terms of the climatic characteristics of the district, the northern part of Hwedza (that covers areas from St. Barnabas Chisasike to Hwedza centre) falls in climatic (or agro-ecological) region II and is relatively cooler and receives average to high rainfall per annum. The lower Hwedza covers areas from Mukamba through Goneso and Zviyambe East and West. Climatically, the lower Hwedza falls within region III and has relatively warmer to hot temperatures and receives lower rainfall than its upper counterpart.

Hwedza has a unique location in that it offers a vast array of agricultural opportunities. The northern part of Hwedza along Watershed Road leading into Hwedza from Harare is dominated by tobacco, maize and paprika production mainly during the warm wet season from approximately the months of October to March. These areas historically had a mixture of commercial farming areas and small-scale farming areas. The southern part of the district (covering areas of Makarara and Zviyambe and leading into Dorowa) is dominated by sorghum/millet as well as by cotton and cattle ranching. The southern central part of the district has a history of erratic rain hence farming prospects are heavily compromised.

The study focuses on communal areas in upper (northern) Hwedza, lower (southern) Hwedza and central Hwedza. Small-scale farmers in Hwedza have always practiced mixed farming involving the production of a variety of crops and the keeping of livestock, with some crops for domestic

consumption and others for selling in times of surplus. Crops such as *nyimo* (round nuts), *nyemba* (cowpeas), *zviyo* (sorghum) and *mbambaira* (sweet potatoes) have been primarily produced for domestic consumption. However, there are times when surplus even of these crops would be sold to those villages that had deficits and sometimes exchanged or bartered with other crops that small-scale farmers were lacking. Cash crops included tobacco, sugar beans and paprika and their production has intensified with the coming of innovation platforms to Hwedza.

All communal land (including in Hwedza) is state land so that small-scale communal farmers exercise usufruct rights with regard to both household-centred crop land and grazing land (with the latter being shared amongst communal households). The landholdings in Hwedza communal areas, for purposes of crop production, range in size from 2.5 to 3.2 hectares per each household. However, over time, the landholdings per household have been subdivided into smaller pieces of land to cater for young adults born into the households. This applies mainly in the case of young male adults who start their own families because, in terms of patriarchal arrangements in Hwedza (and other communal areas), they have right of direct access to their own plot of land. Males have primary land rights while females have secondary land rights, such that young female adults, once married, are expected to move to the household of their husband. Overall, this then leads to even smaller croplands in Hwedza, which are often as low as 0.4 hectares per family (of different generations) in each household. Land pressure particularly amongst those households with numerous younger males can only be relieved by decisions by some household members to move into resettlement areas and this is not always possible in terms of the state's resettlement policies.

Because crop production is rain-fed, small-scale farmers in the communal areas of Hwedza constantly face the threat of poor harvest and food shortages due to the unpredictability of rainfall. As such, the precarious nature of agriculture in the communal areas under investigation prompts questions about the need for analyses around initiatives (such as agricultural innovation platforms) which seek to improve the plight of small-scale farmers inhabiting communal spaces.

1.5 Research Methodology and Methods

In this section, I outline the research methodology underlying the thesis along with the specific research methods adopted.

1.5.1 Ontological and Epistemological Claims

The adoption of particular research approaches and methods is invariably informed by specific philosophical and methodological beliefs (Crotty 1998). It is therefore important to indicate the ontological and epistemological basis of the research methodology in order to understand more fully the research methods selected for the thesis. Any research process may be muddled with contradictions and ambiguities and, if these are not made explicit and clarified, they have the potential to compromise the whole research process (Gialdino 2009). At the same time, I acknowledge the existence of a plurality of alternative methodologies. I simply seek to set out the methodology which is most relevant given my thesis focus and goal in selecting appropriate research methods.

I privilege ontological commitments over epistemological commitments. In other words, ontological claims are foundational in that epistemological claims arise from them. Ontology concerns what can be said to exist in the world (Elliot et al. 1990) and, in this regard, I posit the critical significance of ‘meaning’ (including inter-subjective meaning) in constituting reality (or, more apt, realities). Social reality is meaning-laden and subject to contested everyday interpretations, as well as being contingent, agential, and fluid and constantly in-process. The social world or, more correctly, social worlds are constructed and constituted in and through ongoing tension-riddled processes. This though is not an idealist argument as I recognise that meaning and interpretation are rooted in conditions of existence which are irreducible to, and in part stand outside, any interpretative procedures.

On this basis, my epistemological axioms emerge (Guba and Lincoln 1998). In other words, for me, epistemology (or commitments about what it means to understand and explain the social world) must be in line with the ontology posited. And my epistemology then provides the underlying philosophical basis for the research strategy and methods used for the thesis (Lindlof 1995). The epistemology required is one which is able to identify, depict, describe, unpack and examine the multiplicity of social meanings embedded in the selected field of inquiry – in this case, agricultural innovation platforms in Zimbabwe. And this is an epistemology which first and foremost seeks to ‘understand’. At the same time, in going beyond merely understanding meanings, interpretations and social constructions of social realities, there is also an attempt to

explain. Explanation for this thesis does not entail any notion of causality but rather implies the importance of locating meaning, interpretation and contested realities ‘in context’ (i.e. the social conditions of existence, or structure broadly, in which agents are located).

In pursuing this line of argument, I again reiterate that I recognise the inherent diversity in epistemological assumptions on the constitution of knowledge and that this implies the existence of contested universal knowledge and the near impossibility of the establishment of ‘facts’. Of course, the interpretative paradigm I adopt in the thesis (involving mainly qualitative research) is likely more in line with this form of sociological reasoning (for example, of the denial for instance of universal truths and undisputable ‘facts’). The methodology I pursue also brings to the fore the importance of voices (and not one voice) as every voice arising within the social world matters as does every everyday interpretation. So, in this study, the multiplicity of agential voices and worldviews take centre stage. This does not amount to mere subjectivism though, despite possibly positivist criticisms to the contrary (Schell 1992). In the end, the relevance of interpretative methodology and qualitative methods is attributable to the existence of multiple and dynamic realities that are context-dependent or deeply embedded in rich contextual webs (Joniak 2007). This also means that, and I say this as a precautionary statement, this thesis makes no grand claims of offering truths that are generalised beyond the villages contained in the study.

1.5.2 Research Methods

In pursuing an interpretative-qualitative methodology, the thesis collected primarily qualitative evidence (such as knowledge of technologies, interpretative frameworks and social networks) which addressed the thesis goals. But quantitative evidence was also of some importance in speaking to conditions of existence, including agricultural inputs, crop output and land areas. Overall then, qualitative research methods were central to the thesis, and the qualitative research was multi-method in orientation (Denzin and Lincoln 2000). This entailed the ‘triangulation’ of difficult qualitative methods which facilitated the double-checking and verifying of everyday interpretations, as the strength of each method at least in part overcame the weaknesses of others – in what Yin (2003:98) would call the development of ‘converging lines of inquiry’ from several sources of evidence. Thus, I used multiple sources of information to seek convergence and

corroboration of fieldwork evidence and hence sought to eliminate potential biases through one-sided or partial evidence (Yin 1994).

An agricultural innovation platform is being implemented in Hwedza (and Murehwa) with other sites as counterfactual sites without any such platform. Because the focus of the thesis is on the social relationships and contestations embedded in the innovation platform in Hwedza as a case-study of agricultural innovation platforms, it was not necessary for my purposes to study any counterfactual site. Insofar as the thesis involves a comparative study, the comparison is not across space or synchronic (i.e. between Hwedza and a counterfactual site) but across time or diachronic – that is, an examination of the social relationships within Hwedza longitudinally in the light of the agricultural innovation platform pursued and implemented in Hwedza district. In this respect, the study of Hwedza involved a case-study approach to research.

The fieldwork for the study was conducted in three interlinked phases, from March 2013 to October 2014. However, I had conducted prior field visits during the year 2012 to familiarise myself with the research area. These familiarisation visits were done from August to December 2012 where I established linkages with the International Centre for Tropical Agriculture (CIAT) and the International Maize and Wheat Improvement Center (CIMMYT), which together played a key role in introducing agricultural innovation platforms targeting small-scale communal farmers in Hwedza. The key objective of CIAT in Zimbabwe is to spearhead the development of accessible technologies, methods and locally-relevant knowledge which capacitate smallholder farmers and enhance ecologically-efficient agriculture. Complementary to CIAT is CIMMYT, which is an NGO working to increase the productivity of maize and wheat farming with the major intention to reduce poverty and increase food security among the rural poor. CIMMYT undertakes research on biotechnology, traditional agronomy and breeding, socioeconomics, agricultural extension and capacity building to create sustainable solutions with lasting impact and with a strong focus on climate change, reducing hunger, rural community development and preserving the environment.

The first formal phase of the field work was started in March 2013 and this included visits during which I sought to gain access to the field site. During this phase, contacts with the Hwedza farmers

were strengthened and new ones were created in villages where innovation platforms (IPs) operated. At this stage I undertook sampling for survey questionnaires from the five villages in Hwedza that were involved in IPs. I also engaged in formal consultations with the local leadership in Hwedza as a way of opening doors to undertake research amongst the small-scale communal farmers; and, additionally, I engaged in initial contacts with other IP stakeholders in the five villages. This overall orientation process was facilitated by officers from CIAT and CYMMIT with whom I had already networked. At this stage, only minimal field data was collected.

After ensuring full access during the first phase, fieldwork proper was undertaken during the second phase, from February 2014. Questionnaire administration was done for a period of twenty days at this time, which was then followed by semi-structured interviews and focus group discussions with small-scale farmers. For purposes of the questionnaire-based survey, I first selected and trained five research assistants to undertake the actual survey. This second phase lasted until August 2014. I deliberately spread the field visits over the year in order to experience and study a complete cycle of the farming season (which lasts from October to May). So, transect walks and focus groups were done over a period of eight months from January 2014 to August 2014. This extended period was important to also engage with innovation platform meetings, which took place at least once every month. The third and last phase involved ‘gap-filling’, namely, re-entering the field (after the initial preliminary data transcription was completed in August 2014) to explore themes which required further evidence and honing. This phase took place between the months of September and December 2014. At this stage of fieldwork, I mainly used semi-structured interviews to extract specific information from the respondents. Even though these later visits were targeted and occasional, they managed to yield data that the researcher had not fully collected previously.

In terms of sampling for the Hwedza case study, it must be noted firstly that the innovation platform has been implemented in five villages in Hwedza. I studied all five villages, selecting a total of fifty households from the five villages using convenience sampling. The use of convenience sampling was adequate because I had purposively selected the five villages where innovation platforms were being implemented. To augment this sampling method, I also used

snowballing where I asked some small-scale farmers to refer me to other farmers who were involved in innovation platforms (because not all farmers in the five villages were involved in the IPs). As well, I used purposive sampling to recruit key informant interviewees such as agricultural extension officers and workers, representatives of NGOs and government representatives operating in the research site. Purposive sampling allowed me to identify and include information rich cases (Denzin 1994). Information-rich cases relate to those respondents (as key informants) who have a high potential to yield in-depth and relevant evidence on the phenomenon being investigated.

A questionnaire-based survey and semi-structured interviews (with the Hwedza farmers), use of documents, key informant interviews, observation (including transect walks) and focus groups formed the basis of the fieldwork research which allowed me to document, understand and analyse the social and agricultural lives of the villagers in Hwedza over time and in the context of the innovation platform (Denzin 1996). The major languages that were used for the fieldwork were English and the vernacular language of Shona. I am fluent in both languages. The small-scale farmers were comfortable in Shona and hence the bulk of the interviews were done in Shona. Some key informants such as NGO representatives as well as government representatives preferred English and hence these interviews were done in English. Extension workers chose differently between Shona and English hence the interviews involved a mixture of both English and Shona. In cases where Shona was used to ask questions, I made sure that direct translation of the questions was done since the questions were in English. I discuss the different research methods in turn.

Key informant interviews were important to the fieldwork. This involved face-to-face interviewing of individuals who were in a position to provide detailed information and relevant ideas, as well as specific insights on the particular subject under investigation (Casley et al. 1988). In this regard, a key informant is generally considered to be particularly knowledgeable about the topic of interest (Kumar and Krishna 1987) and, given my thesis topic, this involved respondents who had intimate knowledge about the participation of small-scale farmers in innovation platforms in Hwedza. Two characteristics of key informant interviews help to clarify this method of data collection. First of all, only a small number of informants are interviewed across a cross section of potential

interviewees and, secondly, these are selected on the basis that they possess particularly critical information that is invaluable and can be easily solicited by the researcher (Patton and Michael 1982, Miles et al. 1984). The number of key informants in a study is open to considerable variation, but it often ranges from 15 to 35 depending on the issue being investigated (Spradley and James 1979).

For this thesis, twenty-three (23) key informants were interviewed. These informants constituted people who represented ‘stakeholders’ involved in the agricultural lives of small-scale communal farmers, specifically: local traditional leaders such as village heads (5 in total), agricultural extension officers (4), veterinary officers (1), local business people (4), NGO practitioners (5), agricultural researchers (2) and government officials (2). These agents were strategic because they provided relevant information from the perspective of their constituency and based on their organisational imperatives. Engaging with these key informants involved qualitative interviews that were conducted using interview guides (see Appendix 1) with relevant questions and topics to be covered during a specific session (Jimenez 1985).

As the researcher (and interviewer), it was my responsibility to formulate the actual questions used during the interviews (Patton and Michael 1980) such that I had reasonable control over the sessions. But the atmosphere during the interviews was informal, resembling almost a conversation between acquaintances (Jimenez 1985), and this allowed for a conducive environment for the free flow of information from the interviewee to the interviewer. Thus respondents were free to share information voluntarily such that the guide used was flexible enough to allow for this (Miles et al. 1984). Also, I probed informants to elaborate on points of particular significance to the study. In conducting these interviews, I took notes which I wrote up fully soon after the interview was completed.

One of the key values in using key informant interviews in this study was that they helped in identifying and clarifying an understanding of the underlying motivations and attitudes of a multiplicity of actors involved in innovation platforms. They also helped to determine not only what stakeholders do in innovation platforms but why and how they do it (Mills 1982, Martinez

1981). Thus such interviews were excellent in documenting people's understandings (or at times misunderstandings) of issues and their reasons for their actions (Jimenez 1985). The flexibility to explore new ideas and issues during the interviews also ensured the capturing of key evidence that had not been fully anticipated in planning the study but which added nuance to the research findings (Patton and Michael 1980).

Besides key informant interviews, and with specific regard to the small-scale farmers, I engaged in a survey-questionnaire as well as semi-structured interviews deriving from transect walks. With the help of fieldwork assistants, I conducted a questionnaire-based survey (see Appendix 2) to record vital information from small-scale farmers in Hwedza about for example demographics, farming methods, livelihood activities, social networks, and their frequency and form of participation in the innovation platform initiative. These questionnaires generated both qualitative and quantitative evidence that is invaluable for the thesis. The questionnaire was constituted by many (close-ended) questions that had structured response categories; but there were also some open-ended questions. In the study, I piloted the questions to test their reliability before carrying out the main survey (Denzin and Lincoln 2011). In this respect, there was a need to examine the questions for bias, sequence, clarity, as well as validity. In the end, a total of fifty questionnaires were completed with ten each in the five villages.

Survey questionnaires are not meant to provide in-depth intensive evidence but they do allow for an extensive overview of the social phenomenon being studied. For this study, questionnaire surveys were appropriate and convenient because I wanted to collect information from a relatively large sample of farmers in the Hwedza villages. This position is supported by Yin (2012, 2014) who points out that the questionnaire survey is the preferred method if the researcher intends to obtain relatively 'thin' information from a large number of subjects. In this context, Bernard (2011) notes that questionnaire surveys are of limited value when it comes to documenting complex social relationships or intricate patterns of social interaction. And since these are the hallmark of my study, my questionnaire-based fieldwork was complemented by interviews designed to collect 'thick' evidence.

One of the key strengths of questionnaire surveys is said to be their generalisability (Denzin and Lincoln 2011, Berg and Lune 2012), or generalising from the sample to the universe (or population). This is based on the assumption that some kind of random sampling is adopted in selecting the sample, which was not the case with the survey in Hwedza. However, my focus is not on establishing causal relationships through multivariate analysis and generalising the fieldwork conclusions in a statistically-significant manner. Rather, I seek to identify and understand prevailing social relationships in agricultural innovation platforms and, insofar as broad contextual commonalities exist between the farmers studied and other farmers involved elsewhere in platforms, it can be argued that my conclusions are in some way representative of the social relationships of these other farmers.

From these questionnaires I later subjectively identified certain respondents to engage more fully with through transect walks as a way of getting further information. Thus the questionnaire survey was also used as a stepping-stone for focusing on specific small-scale farmers for gathering more in-depth and probing evidence. I devised qualifying criteria to enroll specific small-scale farmers in engaging with them through transect walks. I looked at those small-scale farmers who had participated in the innovation platforms from their inception as well as those who had joined at a later stage. I also variegated respondents based on their livelihoods profile, marital status and the size of the household. The inclusion of a varied sample gave me an opportunity to be as exhaustive as possible about farmers' experiences. Through the transect walks with small-scale communal farmers in Hwedza, I conducted a total of 21 semi-structured interviews (see Appendix 3) to collect 'thick descriptions' on for example household power dynamics (including in relation to primary land rights and control over the harvest), relationships between members of the innovation platform, household adaptation to innovation platforms, and knowledge-systems that are held by small-scale farmers. Farmers were visited in their homesteads for such interviews and I also accompanied them to their fields while engaging them informally as they went about their daily activities.

The semi-structured interviews conducted with the 21 farmers bordered on life histories in terms of depth of evidence gathered. Such interviews are used to gather, analyse and interpret the stories

people tell about their experiences in relation to the phenomenon being investigated (Berg and Lune 2012). The central assumption, as Yin (2014) puts it, is that respondents relive their lives by sharing their stories and this helps the researcher to understand reality from the point of view of the story teller. The telling of the story is crucial but so is how the story is told (Hatch and Wisniewski 1995). In the context of this study, I created an environment which was relaxed for respondents to share their experiences through ongoing informal conversations based on transect walks. Not only did this method provide me with an insider's view of respondents' experiences but also an understanding of the prevailing social relationships relevant to innovation platforms in Hwedza (Edgerton and Langness 1974, Emerson et al. 2011).

Thus the suitability of such detailed stories is summed up by Jones who points out that they provide insights into the 'subjective experience of individuals and their constructions of the social world' (Jones 1983: 147). This was critical to my thesis as I sought to capture the life-worlds of different actors involved in the IPs. It opened up many opportunities because I managed to find out how actors (and specifically small-scale farmers) were initiated into the culture of IPs and how they have made sense of and adapted to (or even contested) this new culture (which in a sense entailed the normative expectations of a 'new society'). In this way, the emphasis was on the ways in which communal farmers coped with the innovation platforms (and not vice versa) (Glaser and Strauss 1999).

Focus group discussions were also conducted in Hwedza. According to Krueger (1988), a focus group discussion is a group interview which is designed to elicit group perceptions on a specific area under investigation. It is in large part an unstructured group interview that is led by the researcher playing the role of the moderator and often encouraging active participation of group members (Morgan 1997). The researcher carefully plans the questions (see Appendix 3) to be raised and discussed but only plays a facilitating role rather than leading the respondents in a particular direction (Bloor, Thomas and Robson 2001, Fontana and Frey 1994). However, at times and particularly amongst ethnographers, focus group discussions are used as preliminary data sources and not as a prime data collection tool (Frey and Fontana 1991). I have used it though as

a key research technique because it allowed for insights beyond what was gathered during one-on-one interviews (Fothergill 2002, Peek and Fothergill 2006).

In this regard, ten focus groups in the five selected villages in Hwedza were carried out with small-scale farmers. In forming the groups, three methods of recruitment were used in selecting the group members in order to maximise on the diversity of the groups. These methods were researcher-driven recruitment, key informant recruitment and spontaneous recruitment (Peek and Fothergill 2003). In the first instance, I initiated the process of communicating directly with the small-scale farmers using my prior relationships with them. In doing so, I utilised telephone contacts of the farmers to organise the focus group discussions. To augment this, I relied on key informants who were, in this case, IP stakeholders with a vested interest in the success of my research. Key informants are often important in the recruitment of focus group participants because they normally have established networks with the local population (small-scale farmers in my study), and therefore they catalyse the recruitment of respondents (Morgan 1997). In some cases, though, the recruitment of respondents happened spontaneously without any prior planning. Several small scale-farmers, with whom I established close fieldwork relationships, offered to be interviewed in focus group discussions. On average, each focus group discussion had seven participants. The focus groups in Hwedza involved discussions around local understandings of farming activities, the broader setting in which these take place, questions around food security, and the potential to pursue diverse cropping activities. Other issues covered included the organising of production, the source and forms of agricultural inputs for farmers, agro-technologies for production purposes, technical expertise received from agricultural extension services, and land tenure systems.

Additionally, I used participant observation during my fieldwork in Hwedza. Denzin (1996) defines participant observation as a qualitative method which is ingrained in ethnographic research and which is driven by the need to gain insights into reality as understood by the study respondents. My attendance at IP meetings and IP demonstration plot gatherings as well as my interactions with small-scale farmers through transect walks involved participant observation, and during the observation processes I became involved in very informal conversations with the Hwedza farmers. The importance of the latter was based on the early phase of my fieldwork which indicted that

there are multiple perspectives held by the farmers and that informality may facilitate the capturing of such perspectives. Further, the observing of the lives of the farmers and their farming activities provided a basis for confirming the claims made by farmers while pursuing the other research methods. All this was recorded at the time in my field notes.

Finally, I also made use of primary documentation. Using such documentation involves systematically reviewing and evaluating evidence contained within, whether electronic or printed material (Glenn 2009, Corbin and Strauss 2008). Atkinson and Coffey (1997) refer to documents as ‘social facts’ that are produced and shared in socially organised ways. It is important to highlight though that public documents are produced with a particular audience in mind and interpreting the information found therein needs to be done with this in mind. For the purposes of this study, the following documents were used: attendance registers of farmers at IP meetings, background papers produced by FARA (Forum for Agricultural Research in Africa) about the concept of an innovation platform, Acts of Parliament of Zimbabwe on land and related issues, maps and charts of Mashonaland East, newspapers, as well as organisational and institutional reports from non-state actors involved in IPs such as CIAT and CYMMIT and survey data including government statistical surveys. These documents were used to complement other research methods. In this respect, Denzin (1991) argues that document analysis is often a means of triangulation in the study of social phenomena and, as indicated earlier, I used multiple sources of information to seek corroboration thereby eliminating or at least reducing biases in interpretation (Yin 1994).

1.5.3 Data Analysis

I pursued an approach to data (evidence) analysis in which I worked through the fieldwork evidence on a systematic basis in relation to the main thesis goal and sub-goals, and in a way consistent with my methodological claims about the importance of inter-subjective meanings and interpretations (Bamberg 2003, 2010). The research for this thesis generated both qualitative and quantitative evidence and these sets of evidence were analysed differently.

For evidence obtained through the qualitative methods (including focus group discussions, informal interviews and documents), content and thematic analysis was adopted. Corbin (1998) defines content-cum-thematic analysis as the process of recognising patterns within the evidence

and organising evidence into emerging categories (themes) relevant to the key goals of the study (Fereday and Muir-Cochrane 2006). In pursuing the most relevant categorisation of the evidence, it was necessary for me to identify – in relation to agricultural innovation platforms in Hwedza – which evidence collected was directly relevant, indirectly relevant and at times of little relevance (Corbin and Strauss 2008). The themes eventually formulated and confirmed incorporated – in the main – the most directly relevant evidence pertinent to the thesis, and this ongoing process simultaneously entailed interpreting the evidence in terms of the theoretical framing (interface analysis) of the thesis (Miles et al. 2014).

Thematic analysis moves beyond simply counting re-occurring words or phrases and focuses rather on identifying and describing both implicit and explicit ideas within the evidence, that is, themes (Lofland et al. 2006). To achieve this, I developed codes which represented the emerging and re-worked themes and sub-themes as summary markers for later analysis. In pursuing my analysis, this included the following: comparing code frequencies, identifying code co-occurrence and capturing emerging relationships between codes within the evidence-set in order to build up broader themes (Miles et al. 2014). This helped me to establish the patterns of interaction and the complexity of relationships between IP stakeholders as depicted by the codes established (Yin 2012), which was a point critical to my thesis. Reliability was a great concern of mine in pursuing all this, because of the significance of interpretation in identifying and defining themes and the reasoned application of these coded themes to the evidence generated from the field. In the end, the thematic arrangement provided the basis for the three empirical chapters of the thesis and how they are structured.

The quantitative data that was generated from the survey questionnaires was analysed through the Statistical Package for the Social Sciences (SPSS) software. After collecting data through the questionnaires, I fed and processed the data into a computer onto the SPSS software. The data was coded and categorised in terms of key variables relevant to the thesis goals, and the data was analysed by way of mainly descriptive statistics that included averages, frequencies and percentages. The quantitative evidence was particularly crucial for providing a broad and overall profile of the study respondents (specifically, the small-scale farmers in Hwedza).

1.5.4 Fieldwork Challenges and Research Ethics

Every research has its own obstacles and challenges. In this study, I experienced a number of challenges throughout the research process. Firstly, the study was carried out on an ongoing development project (an agricultural innovation platform) which was being spearheaded by NGOs. Negotiating entry to formally study the project was not an easy task. The NGOs leading the project needed to be part of the study so that the thesis would in some way become part of their project outcome. They also wanted some kind of contractual agreement with the university with which I am registered, to make sure that they would be acknowledged and recognised. The major problem was when they wanted as well to supervise my academic work along with my university supervisor. This would have made it very difficult to follow my thesis goals and it may have compromised the intellectual integrity of the thesis. However, after a number of discussions with them, we eventually agreed that even though they were welcome to assist the thesis process, my university supervisor would have the only and final say on the content of the thesis and the arguments contained therein.

After this hurdle was cleared, I faced a second challenge of controlling expectations about the research from small-scale farmers in Hwedza. There is an endemic problem in Zimbabwe of aid expectation from NGOs by the rural population. In this respect, I encountered problems in Hwedza during my second phase of the fieldwork. The small-scale communal farmers struggled to realise that I was interviewing them as an independent doctoral student because they associated me with the NGOs with which they had initially seen me. This produced a tendency by farmers to sometimes under-represent their assets hoping that it would create a picture of vulnerability which would bring aid. However, I explained that my field visits had nothing to do with NGOs and that I was involved in independent research for academic purposes only. I also was helped by extension workers who likewise explained this to the farmers. To circumvent this potential problem of bias, I adopted triangulation of research methods by physically (through observation) verifying some facts given by the farmers.

The third problem was the political context prevailing in Zimbabwe at the time of research. It was sometimes difficult for farmers and other stakeholders to discuss openly the role of government departments for fear of victimisation. Hwedza, like many parts of rural Zimbabwe, had suffered

from political polarisation in recent years and this meant that people were not comfortable to discuss any topic verging on what they considered as political. This was solved through identifying key informants who could provide a detailed account of the political reality on the ground. To augment this, farmers were assured that their responses would be given in strict confidence and most of them became relaxed when they became accustomed to my presence.

In terms of research ethics, McLeod (2000) posits out that an axiological basis of social research is to understand the values and ethical issues that need to be observed by researchers when gathering information about people and their world. This thesis is based on evidence gathered from and about human subjects whose rights (such as confidentiality and no emotional or physical harm) should not be violated. Some of the evidence collected for this thesis borders on very sensitive issues (such as rural politics) and hence the identity of the respondents was safeguarded. The main goal of the thesis, as an academic piece of work, was pursued in this spirit. Any academic knowledge that is produced outside an ethics of research ought to be seen as problematic because it infringes on the basic principles of research. However, it should be noted that there are ethical dilemmas that every researcher has to manage (Denzin and Lincoln 2000).

The study ensured that research ethics were observed at all times. Informed consent was sought from the participants of the study, including the small-scale farmers in Hwedza and various stakeholders involved in the innovation platforms. Small-scale farmers were told explicitly that any interviews to be held were exclusively for the purpose of an academic study on innovation platforms in their local areas, and hence I did not seek to deceive them about the goal of my research. No respondent was exposed to any kind of harm by participating in this study. With reference to this, I exercised extreme caution in the study especially in recognition of the fact that land and agricultural issues in Zimbabwe are highly politicised issues and that rural areas are very volatile spaces politically. Where requested, pseudo names were used to protect the confidentiality of the respondents. I was also fully aware that the project to run agricultural innovation platforms in Hwedza was being pursued and implemented primarily by CIAT. I therefore received written consent from the management of the organisation to serve as clearance to study their projects.

Also, in the thesis itself, full acknowledgement is given to those who are making efforts to implement innovation platforms in Hwedza.

1.6 Thesis Outline

The thesis consists of seven chapters, including this one. The second chapter provides the theoretical framework of the thesis, namely, interface analysis and goes on to examine agricultural innovations platforms in the context of other forms of agricultural intervention. Following this, the third chapter considers land and agriculture in Zimbabwe, tracing these central themes to the thesis historically back to the colonial period and up to the current period, and with particular reference to small-scale communal farmers. The following three chapters discuss agricultural innovation platforms in Hwedza, Zimbabwe. Chapter four examines the operationalisation and implementation of the agricultural platforms in Hwedza; chapter five analyses crucial issues and relationships intrinsic to the platforms in Hwedza, notably around knowledge generation, agricultural extension activities and farmer-to-farmer relationships; and chapter six discusses the agricultural production systems amongst the small-scale farmers in Hwedza in the context of the innovation platform. The last chapter, chapter seven, highlights the ways in which the Hwedza case study addresses the objectives of the thesis as well as showing the linkages between the case study and interface analysis.

CHAPTER TWO: THEORETICAL FRAMING – INTERFACE ANALYSIS AND INNOVATION PLATFORMS

There is so much focus by the NGO sector in Zimbabwe to shift towards an approach that involves the local people. What troubled me however was whether such involvement of locals is authentic and meaningful or it is just another way of dancing to the tune of the donors. As I reflect on my fieldwork experiences in light of this, I kept on looking back at Norman Long's interface analysis to draw some convergences and divergences between theory and practice (Personal reflections, 2015).

2.1 Introduction

This chapter provides the theoretical framing for the thesis by discussing the interface perspective but it then goes to show the relevance of the framework for making sense of development interventions broadly speaking and agricultural interventions more specifically. Generally, interface analysis falls within a constructionist approach within sociology and I seek to bolster the analysis by bringing to the fore questions around power differentials in social interfaces. Historically, development interventions within the global development system have been marked by significant top-down linear processes which fail to engage with recipients of such interventions in any meaningful manner. Agricultural interventions, particularly those driven by the state, have tended to replicate these processes. In the context of neoliberal restructuring, agricultural innovations platforms have emerged as a supposedly participatory alternative which incorporate recipients (in my case, small-scale farmers) in a more meaningful manner. I thus unpack the basic tenets of these platforms without though simply reproducing the rhetoric around them as propagated by the drivers of the platforms.

2.2 Cornerstone of the Interface Perspective

Interface analysis focuses on the social linkages existing between individuals or groups and the networks in which these linkages are located, such that any activities and strategies of individuals or groups must be understood first and foremost in this context (Hale 2008). Because of this, interface analysis can be said to have a relational understanding of the social world whereby the practices of groups and individuals exist not in-and-of-themselves but in and through meaning-laden social relationships. This is quite consistent with constructionist thinking within sociology and runs counter to the more atomistic portrayal of social reality put forward by positivism. Actors

– at individual and group level – in the social world recognise in some way the presence of such multiple interlocking linkages or relationships among and between themselves and, whether explicitly or implicitly, commit themselves to sustaining these relationships though not without challenges (Joseph 1996).

Through these continued interactions in networks over time, Norman Long (1992) speaks of the emergence of organised social interfaces. To illustrate this, Long (2002) talks about the interface between management and workers in a factory or between landlords and tenants, and how these interfaces persist in an organised way over long periods with rules, sanctions, procedures and practices for handling conflicting interpretations and interests. With time, interlocking relationships develop among such actors and eventually become binding. Once these relationships are internalised by actors, they become common sense relationships and each actor assumes the role of sustaining the now organised relationship. Even the most informal of networks between individuals and groups will tend to evolve into standardised modes of relating (Hale 2008). Long (1990) likewise argues that interfaces are created when different groups of actors holding different ideas interact together and in the process create boundaries that can only be merged and solidified if some common grounds are reached between actors.

Interfaces occur at points where different life-worlds (or ways of being in the world) intersect or in social situations in which interactions are focused around problems of bridging, accommodating, segregating or contesting social and cognitive standpoints. In this context, interface analysis aims to elucidate the types and sources of social continuities and discontinuities present in such situations and to identify the organisational and cultural means which reproduce or transform them (Long 1992, Long and Villarreal 1993). Continued interaction encourages the development of recognisable boundaries and shared expectations which shape the interaction of the participants so that over time the interface itself becomes an organised entity of interlocking relationships (van der Ploeg 1987). In the case of agricultural innovation platforms, for example, this means understanding the manner in which different (and perhaps competing) technical and cultural knowledge and practices are utilised by each individual stakeholder involved in such agricultural productivity interventions. Akullo et al. (2009) point out that, although interface

interactions presuppose some degree of common interest, they also have a propensity to generate conflict due to contradictory interests and objectives or to unequal power relations.

Analysis of power is central to the version of interface analysis to be deployed in the thesis; in this regard, post-structuralism in particular demonstrates that power is not simply possessed, accumulated or un-problematically exercised. Complex struggles and negotiations over authority, status, reputation and resources among actors (or stakeholders) are embedded in interactions (Latour 1994, Callon and Law 1995), including within innovation platforms. This argument challenges the implied harmony seemingly inherent at times in Long's interface analysis, and provides a useful analytical counterweight to the more constructionist-style arguments contained in mainstream interface analysis. Power both constrains and enables all actors involved in an interface, and it also inevitably generates resistance, accommodation and strategic compliance as regular components of the politics of everyday life. Even in a well-established interface it may be that a particular grouping of actors seeks to protect its life-world at all costs, or at least to distance itself from the interface or adopt an ambiguous stance (Crespi 1989, Arce 1999).

Interface analysis is rooted more broadly in actor-oriented theory. In his analysis of actor-oriented theory, Long (2002) argues that social life is heterogeneous which implies that it is constituted by a diversity of social interfaces. Long was convinced that, because of such differences between social interfaces, it becomes imperative to investigate the specificities of a particular interface and how this interface is produced, reproduced and consolidated within a specific social context through the agency and capacity of actors. Agency is described by Long (2002) as the knowledge of – and the capability to command – context-specific skills to access various resources. The deployment of agency is contextually-generated and takes place within intricate networks of relations which involve both human and non-human components. This by necessity means a focus on 'the local', not as reducible or determined by 'the global', but as a complex set of interlocking relationships and social practices that interpenetrate various social and geographical spaces. In this way, and for purposes of my thesis, the actor-oriented approach is able to see and go beyond the myths and rhetoric surrounding development models and interventions to unlock a nuanced understanding of the lived realities of actors as they navigate through different circumstances of life.

Interfaces are not entirely constituted by consensus among actors as there is inherent contestation and conflict, with different actors with different sets of resources seeking to shape and control the rules of engagement (Long 1992). Thus interfaces may be pulled in different directions and may tear asunder, as contrary ideologies and practices move between bridging life-worlds and distancing them. Although interface interactions thus presuppose some degree of common interest (and indeed become an interlocking project), they also have the prospect of generating conflict due to contradictory strategies and objectives and owing to inevitable unequal power relations between actors. In this respect, all actors constituting a binding interface have the obligation (so to speak) to honour their own specific interests but also the interests and expectations of others. Hence, interfaces are subject to constant negotiation and renegotiation with specific interests and orientations being contingently-formed and asserted in the course of fluid interface-based relationships. This point is of particular relevance in the case of agricultural innovation platforms given the sheer multiplicity and heterogeneity of actors involved, and the differing rationales for involvement in the platforms.

2.2.1 Configuring Life-Worlds, Knowledge and Power into Interface Analysis

Central to Long's understanding of interfaces is the notion of life-worlds. In this respect, Long (2001) uses the definition of life-worlds as formulated by Schutz and Luckmann (1973), as follows:

[L]ifeworlds are constituted of various forms of social knowledge, evaluative models, types of discourse and social action through which actors attempt to order their worlds. Such lifeworlds are products of past experiences and personal and shared understandings that are shaped continuously by new encounters with other people and things (Schutz and Luckmann 1973:67, quoted in Long 2001:47).

Life-worlds are fluid and dynamic and emerge and develop in and through relationships with other life-worlds, as members of life-worlds constantly assemble and evaluate their experiences and relationships when interacting with other people. Actions, interactions and meaning-infused interpretations are the ingredients of life-worlds and these all play a key role in defining the integrity of a particular life-world, with each and every life-world being specific to a particular time and place. For this thesis, small-scale farmers like all other groups (or stakeholders) in innovation platforms have a life-world which delimits how they normally engage in agricultural

activities as well as their rationale for participating in these platforms and the ways in which they participate in them. All stakeholders in innovation platforms bring to bear upon the emerging interface a range of discursive narratives, cultural repertoires and strategic actions which contribute to the form a particular innovation platform interface takes. And, of course, their life-worlds may be altered during the course of engaging in a platform. Though the interface between life-worlds are in specific ways marked by power differentials, this does not imply that absolute and total dominance marks any particular interface. As Long (2001) argues, all life-worlds embody actors with agency and with the capacity, not matter how confined, to negotiate their way in and through an interlocking interface.

Intrinsic to life-worlds is knowledge, as the above quotation highlights. Knowledge, not simply as ideas but as discursive realities with practical effects, is deployed – as cognitive and social constructions – by actors in the negotiation and consolidation of interfaces. As Michel Foucault claims, knowledge is ‘[a]n asset or a capability of the human mind that exist[s] in its practical manifestations on how to do things’ (Foucault 1977:33). In a similar way, Long considers knowledge as ‘a cognitive and social construction that results from and is constantly shaped by the experiences, encounters and discontinuities that emerge at the points of intersection between different actors’ live worlds’ (Long 2001:70). Long (2001) points out further that knowledge is always fragmentary and provisional in character and that people often work with a multiplicity of understandings. In this way, specific modes of knowledge, and of thinking generally about the world, are generated by the everyday contingencies of social life and are embedded in particular life-worlds; and they are also altered by the interactions and negotiations taking place along interfaces (Long 2001). Simultaneously, and in quite fundamental ways, knowledge-discourse structures action during the compromises and contestations between life-worlds.

Not just consensus and compromise mark an interface but tension and conflict do as well, with different sides to an interface negotiating and navigating their way through life-world interaction by means of, amongst other resources, their specific knowledge-sets. Long (2001:175) thus interprets an interface as involving the building of new sets of knowledge which arise from an encounter of communicative processes as the horizons of different life-worlds meet and interact.

Any new knowledge presents itself then as a result of dialogue and reflexivity (Long 2001:68-69) without such knowledge ever becoming totally authoritative, solidified and uncontested. A multiplicity of knowledge-systems will likely remain in such knowledge encounters, so that knowledge continues to be fragmented and diffuse rather than unitary and systematised. Even a well-established and organised interface (such as one, hypothetically, involving small-scale farmers and other stakeholders in an innovation platform) will never be marked by a complete sharing of the same priorities and parameters of knowledge, with different 'epistemic' communities continuing to exist. Different sets of rationalities and even multiple realities will be present despite, if not because, of the presence of organised interfaces.

As well, knowledge is never innocent and it may in fact regulate the actions of others. In this light, and in terms of his notion of discourse, Foucault (1977) highlights the intimate relationship between knowledge and power, such that there is no power relation without the correlative constitution of a field of knowledge, and nor is there any knowledge that does not presuppose, and constitute at the same time, power relations. Claims about knowledge, and particular kinds of knowledge, are used and in fact wielded to legitimise ways of being in the world and to deny at the same time the relevance of other life-worlds, and this becomes a source of constructing hegemony but also of fomenting contestation. In the case of agricultural interventions (and this is regularly the situation with regard to state interventions), the positing of the existence of 'expert' knowledge becomes a kind of power-over small-scale farmers in which a knowledge-system is presented as completed and closed. Knowledge-as-power then can even ensure that a particular interface becomes consolidated in its image, or at least tries to do so. However, the seemingly powerless, such as small-scale farmers, seek to manage knowledge interfaces in a manner to their advantage (Arce and Long 1987). They may voluntarily internalise the knowledge of experts, or aspects of it, in recognition of its legitimate value in enhancing agricultural productivity while still maintaining certain age-old agricultural practices; in this way, they act quite strategically.

Foucault's conception of power is related to the deployment of knowledge in the formation and development of interfaces. Normally, power is seen as radiating from a specific site or definite source and moves in a single direction. For Foucault, though, power is never centralised and

monopolised as such, as it permeates all levels and forms of social existence and is exercised through a multitude of diverse and localised practices. It also is not invariably constraining or disabling as it also empowers and enables (or is productive). Just as Long has a relational understanding of the social world, Foucault has a relational conception of power, or what he calls the ‘multiplicity of force relations’ (Foucault 1980:92). Interfaces are infused with power relations and all actors in interfaces act out power, with this point not denying the existence of power differentials. It is therefore simplistic for example to conceptualise actor interaction in agricultural interventions as a process in which experts ‘have’ (knowledge-derived or institutional) power and small-scale farmers do not, even though that is how such interventions may be framed. Invariably, such interventions are marked by negotiation and struggles, including between so-called experts and small-scale farmers with lay knowledge, around the communication and legitimation of knowledge (Haynes 2008). It may be difficult though for local groups such as farmers to protect their life-world, social spaces and cultural boundaries given the wider power-fields existing beyond the local (Long 2001:71).

Six further points are relevant pertaining to knowledge, power, life-worlds and interfaces more broadly. First of all, power relations exist at different scalar levels and between scalar levels, with complex interactions existing across levels. Power relations at lower levels affect power at higher levels and vice versa, which implies that studies conducted at local levels (such as agricultural innovation platforms in Hwedza) require a higher scalar analysis as micro-power relations are nested in macro-power relations (and resources) which in fact may be beyond the control and reach of a locality. Any localised agricultural intervention then is not simply a local event but is grounded in a broader agrarian, national and global political economy. Undoubtedly, though, the strength of interface analysis lies at the micro-level. Secondly, actors are involved in a myriad of other networks and interfaces besides any particular interface under study (such as an agricultural innovation platform) and it may be necessary to analyse the ways in which interfaces intermingle with, or cascade into, each other. Thirdly, any particular life-world is not homogenous but is marked by internal difference and this invariably complicates the process of interface construction and consolidation. In the case of the Hwedza villages, small-scale farmers – though existing seemingly as a community of farmers – are differentiated along a range of dimensions, including

socio-economic status. Fourthly, interfaces do not appear out of nowhere, as their emergence rests on local histories, cultures and practices. New interfaces therefore build upon and are shaped by existing social and cultural arrangements and also by pre-existing visions of the future. Fifthly, all actors enter into and form interfaces with pre-formed understandings and anticipated views of other actors and this likely shapes their expectations of the character of the ensuing interaction and of the outcomes of such interaction. Whether these understandings and views are reinforced as the interface consolidates, or become subject to alteration and revision, is context-specific and impacts on the character of the developing interface (Long 1992). Lastly, only in-depth qualitative research, almost of an ethnographic kind, allows for the kind of study which interface analysis demands, as such research ensures ‘thick descriptions’ of the intricate and complex social encounters which constitute interfaces, and of the diverse assignment of meanings animating these encounters (Handelman and Leyton 1987, Batley 1983).

2.2.2 Interface Analysis and Agriculture

As Long argues, ‘interfaces typically occur at points where different and often conflicting lifeworlds or social fields intersect’ (Long 2001:177). An interface is constituted by a multiplicity of actors who merge, accommodate and contest each other’s worldviews and life-worlds through interaction. Thus, values, interests and knowledge may interlink across the interface (with the interface in itself being a linkage mechanism) but there may also be discontinuities and breaks along these same dimensions of an interface, understood as a kind of force field (Rolling 1988) in this respect. Hawkins (1991) gives an example of an interface network in the agricultural field as follows: ‘The interface networks are sites for the dynamics of agri-business, extending markets and technical control to farmers and farmers reacting by adapting the offered technologies to suit themselves, shaping the networks and relating their actions perhaps to a slightly different logic to those of agri-business’ (Hawkins 1991:279). This would be an example of an agricultural interface supposedly marked by negotiation and compromise, as the proponents of agricultural innovation platforms claim also mark their agricultural initiatives. But agricultural interventions often are considerably different than this, as the work of van der Ploeg (1989) shows.

Van der Ploeg (1989), in his studies on agriculture, highlights the ways in which externally-generated ‘foreign’ knowledge is simply imposed upon small-scale farmers (for instance, in the

Andes) with their own local repertoire and history of knowledge-systems. In other words, external knowledge-cum-technological systems are introduced to (and imposed on) such farmers despite the fact that farmers themselves have their own solutions and strategies that they employ to improve their productive capacities. Local farmers in fact end up resenting and resisting these agricultural interventions as forms of spatial invasion which simply serve to make their own points of view redundant, a process which Long (1999) refers to as 'battle fields of knowledge' at interfaces as farmers protect their territory, landscape and ways of existing. Van der Ploeg (1989) goes on to emphasise (programmatically) that, rather than farmers' knowledge being marginalised by 'expert' knowledge, a negotiated balance must be reached between deeply-rooted local knowledge and (so-called) modernist external knowledge if the agricultural productivity of small-scale farmers is going to be enhanced. In this light, local farmers who participate in agricultural innovation platforms are active agents and possibly protagonists during the course of the construction and development of agricultural interfaces. Failure to appreciate small-scale farmers as capable of rational and innovative thinking, and of applying this in the realm of their own agricultural practices, almost by necessity undermines any agricultural development interventions and certainly denies the latter any broad-based legitimacy.

Long (1999) operationalises his interface analysis in, for example, a discussion of the Autlán-El Grullo irrigation scheme in Mexico. The scheme brought together different actors, with varying interests, which included farmers, engineers, irrigation maintenance personnel and water guards. The scheme was in the hands of the Ministry of Agriculture at its inception before it was handed over to the local water users' association. Central to this irrigation scheme though was the water guards who dealt with the technical infrastructure of the scheme and were involved in the day-to-day running of the scheme. Engineers, farmers and others expressed clearly the view that the water guards, despite being the most lowly-ranked officials in the scheme, were the only constant factor in the scheme. But a privileged relationship existed between some farmers and the guards with the latter yielding to the demands of the former and alienating other farmers in the meantime. As well, some farmers bypassed the water guards and communicated directly with the engineer in accessing water. In this way, besides expressing difference amongst the small-scale farmers, these points demonstrate that farmers were enacting their agency in this agricultural interface.

Each agricultural interface arising through development interventions has its own characteristics and specificities, and may range from top-down interventions to more participatory modes of engagement. Even in the case specifically of agricultural innovation platforms as studied in this thesis, both similarity and difference no doubt exist between them. Hence, this thesis aims to identify, discuss and understand the specificities of the agricultural innovation platforms in Hwedza by way of interface analysis. In this regard, it is important to highlight that interface analysis is suitable for understanding all different kinds of agricultural interventions.

2.3 Interfaces and Development Interventions – From Top-Down to Participatory

Interfaces of all kinds exist and, according to Long (2001), constitute social reality. Thus they are not necessarily deliberately constructed and recognised as such. However, at times, interfaces (or at least what would be considered as interfaces by Long) arise intentionally, and this is particularly noticeable in the case of development interventions (under which an agricultural innovation platform would fall).

Again, to emphasise, knowledge is crucial in interface analysis and this is also specifically the case when examining interfaces arising through development interventions. In fact, knowledge as embodied in technological transfers has been central to the worldwide development system over a number of decades, particularly when it comes to development animated by modernisation theory. Under this grand developmental theory, such transfers are conceptualised as necessary for the development of recipient nations, with any obstacles to successful transfers being located in the institutional and cultural arrangements of the recipient nations. The knowledge-based technology is understood as value-neutral because it is rooted in scientific reasoning and hence any problems in bringing about development are not rooted in the technology itself. The problem is often said to emanate from the ‘target’ of the developmental intervention, for example small-scale farmers and their incapacity or unwillingness to adopt modern science and technology because of their static, un-modern traditional practices.

However, development agents over time revised this notion of unmediated transfers and began to realise that externally generated and imported knowledge needed some form of translation and adjustment to bear the expected results in the developing countries in which they are being

implemented. The term ‘translation’ is used here in the broad sense and refers to the clarification and adaptation of knowledge for purposes of absorption into (and adoption by) the ‘targeted’ communities (Thomas 1991:9). If this does not take place, then the intervention may be misplaced and therefore not successful. Though this may be a more sophisticated and nuanced project of development (and of the kind defined by Hawkins earlier), it still implies that knowledge exists in a centralised form elsewhere and that power is transmitted along a vertical axis so that those in developing countries are eventually empowered.

Modernisation theory, along with the development interventions consistent with it, is rooted in the philosophy, rationalism and modernism of the European enlightenment period, with the post-Second World War period being marked by a series of massive social engineering programmes and projects (Frederick 1997, Coetzee et al. 2007). In this respect, Long’s interface analysis acts as an antithetical force in seeking to undermine modernisation theory (Thomas 1992). He saw modernisation theory as, programmatically, seeking to bring about macro-change but in a manner which simultaneously subordinated the histories, traditions, institutions and cultures at local, micro-levels (Long 1989). The modernist development processes criticised by Long were based on the asserted superiority of Western economic and political principles and institutions (Haq 1976) as well as the colonial ethic of the White Man’s burden in developing the world.

Technology, skills and knowledge all had to be transferred (as if along a transmission belt) from the world of modernity and enlightenment to undeveloped nations (including in Africa), to ensure economic growth and the alleviation of poverty (Rostow 1960). Because these development initiatives were not being particularly successful on a global scale, institutions were added to the list of items which needed to be transferred. Particularly under structural adjustment programmes implemented from the late 1970s, the transfer of knowledge-based technology would be accelerated – it was claimed – by forms of institutional and structural change such as state-building and the introduction of parliamentary and democratic institutions in developing nations (Appadurai 2004, Sayigh 1991). This meant that the blockages or problems in terms of development remained located within the developing nations (for example, corrupt and authoritarian states) and that developed nations and their experts remained their one and only saviour. Thus, based on

modernisation theory and more recent and revised versions of it, the development interface becomes in large part a one-way street involving the injection and imposition of knowledge as supported by global (and national) power differentials. This is the kind of agricultural interface, through an agricultural intervention, that van der Ploeg highlighted with reference to the Andes. In fact, Long (1984:179), when first introducing the concept of an interface, spoke about ‘the often large gap between the rhetoric of national planning and policy and what happens on the ground’ with reference to development programmes.

Escobar (1991), as with other post-development theorists, questions the long-held modernisation view that development has some universalistic logic based on Western modernism. This logic assumes that the impetus for development invariably comes from powerful nations, corporations and NGOs, when in fact this form of development simply further under-develops nations which are recipients of Western knowledge and technology. According to Escobar, ‘development has functioned as a mechanism of power for the production and management of the Third World ... through the systematic elaboration of forms of knowledge concerning all aspects of importance in the life of Third World societies, and through the creation of corresponding fields of intervention’ (Escobar 1991:676). For Escobar, development researchers should take a critical stance against this established Western scientific discourse by recognising its ingrained ethnocentrism and the way in which its representations of itself are misleading.

These arguments by Escobar resonate with scholars such as Moore (2000), Arce and Long (2000) and Crew and Harrison (1998) who claim that the discourse about development via modernisation simply hides and masks the relationships of domination built into the worldwide development system. The life-worlds of development recipients and their canons of knowledge are not recognised as legitimate and are overshadowed by external life-worlds and knowledge (Richards 1985). Rhetoric about the participatory mode of current modernisation-influenced development initiatives, and the different levels at which participation exists (broadly from conceptualisation to implementation) are considerably less condescending in relation to the cultures and institutions of recipient nations; but they often only add to the profound mystification (Easterley 2005, Wendt 2001). In this sense, post-developmental theory deconstructs the discourse underlying such

development interventions and then lays bare the actual developmental practices and processes. Hence, even though top-heavy in its many guises, an interface analysis of modernisation-based development would be sensitive to heterogeneity, diversity and complexity within such a development intervention as well as the ways in which it is contested and often subverted, with any outcomes being negotiated. Interface analysis is deeply suitable to facilitating a critical understanding of top-down development interventions, but it is also important for more participatory-based interventions (such as innovation platforms).

In this regard, prescriptively, Long (1991) opts for an all-stakeholder centred approach based on inclusive and deep forms of participation which give voice to and possibly endorse local knowledge-systems, and which provide space for local interests and capacities to flourish. In the end, under such an approach, local marginalised groups are said to be empowered in some kind of authentic manner (Korten 1987). The notion of empowering, as with the related notion of participatory (or participation), is of course highly controversial with a range of different meanings and understandings, and it is also extremely difficult to measure as a social process in analysing development interventions. This thesis examines the kind of development process (an agricultural innovation platform) which Long propagates programmatically, or at least I should say that the facilitators of such a platform claim that a process of empowering is taking place.

The point is that such ‘empowering’ interventions are also suitable topics for interface analysis as used in a critical way, as this thesis seeks to do. In this respect, it should be noted that Long (2001) does not romanticise more bottom-up development approaches as all sorts of challenges arise, including the very problems (for example, non-participatory modalities of engagement) which such approaches are meant to subvert (Kronenburg 1986). For instance, the practicalities of pursuing inclusive participation add considerable complexity and strain to development interfaces and this may distract from meeting the more tangible objectives of the intervention. Indeed, the very notion of intervening tends to imply a logic which from the start reproduces managerialism and elitism (Long 2001:185), with this paradox of participatory strategies often encountered and experienced most acutely by development fieldworkers who are at the coalface of the interface so to speak.

2.4 Traditional Agricultural Interventions

Development interventions with specific reference to agriculture have also undergone changes over the past few decades. More specifically, the changing global context has shaped and reshaped agricultural research and development in recent years. Due to criticisms against state-led research interventions which were increasingly labelled as inefficient and top-down, the neo-liberal agenda on agricultural systems – and the forms of research and development underpinning them – increasingly came to the fore, with a mantra of non-state participatory modes of engagement gaining prominence (Sumberg et al. 2012). The wave of economic liberalisation had its origins in the 1970s (Chang 2009), with neo-liberalism being initially manifested in so-called developing countries including throughout Africa in the 1980s under, as indicated, the auspices of the structural adjustment programmes.

Following the Berg Report of 1981, it was made clear by the World Bank and International Monetary Fund (IMF) that state support for small-scale agriculture would be reduced, based on the neo-liberal criticism of state inefficiencies, with small-scale farmers now expected to engage in entrepreneurial logic and practices in and through the magic hand of the market mechanism. Thus state support and subsidies focusing on agricultural research, agricultural extension services, agricultural inputs, agricultural commodity pricing and agricultural credit were causing gross inefficiencies as well as corruption and hence these state-driven programmes had to be discarded. This would mean following in the development footsteps of Europe through private titling of agricultural land and agricultural modernisation as well as more efficient and streamlined systems of agricultural production (Stiglitz 2006). Even small-scale farmers were encouraged to adopt new crops, new production systems and new marketing strategies as well as the use of artificial fertilisers, insecticides, tractors and the application of other scientific knowledge and practices to replace the existing ones based supposedly on cultural irrationality and economic inefficiency. The industrial mode of agriculture, which was linked to large-scale commercial farming, was thus in some way to be reproduced in small-scale farming.

This led to the increasing liberalisation and privatisation of the agricultural sector such that the market mechanism was to reign supreme and non-state actors (including NGOs with their supposed comparative advantages over the state) were encouraged to participate in agricultural

support systems (Bates 1981, Sandbrook 1985). Adjustment programmes influenced agricultural research and development through for example changes in intellectual property rights (Tansey and Rajotte 2008), with intellectual knowledge being increasingly privatised, commodified and monopolised through patents and becoming a source of corporate profit. Thus intellectual property rights, in their privatised form, helped to lure corporate institutions into agricultural research and development (Wield et al. 2010). Information and technology were to be increasingly generated, diffused and applied through the corporate sector such that the latter has become central to agricultural research and development. Private corporations are now developing and supplying agricultural technologies and methodologies which farmers, both commercial and small-scale, use or at least are expected to use (including with reference to seed varieties, fertilisers and pesticides).

The role of the private sector is expected to grow thereby altering the traditional dominance of the public sector in agriculture. Likewise, neo-liberal thinking marked a new era in research and development in agriculture by positing agricultural innovation as a process to be animated by competitive forces. And, by elbowing the state out of agricultural innovation, it led to, at least rhetorically, a more participatory and inclusive research and development process in which NGOs (as non-state entities) were to be central. The emergence and consolidation of agricultural innovation platforms should be understood in this light of this participatory agenda. However, it is questionable whether neoliberal restructuring has necessarily undermined elite-driven agricultural research and agricultural interventions because – as a general tendency – it is now simply corporate elites (and not state elites) driving the innovation processes, as supported by NGOs particularly with regard to the implementation stage of these interventions.

Nevertheless, the root of participation can be traced to populist calls to transform relations between the state and citizens in the quest for consolidating in practice a liberal notion of social justice and equality (Chambers 1993, 1997, Cornwall 2003). As Leal (2007) argues, inclusive participation coincided with the neoliberal agenda which aimed at reducing state inefficiencies through administrative decentralisation. In this context, it meant that people would become active citizens as well as stakeholders in processes of socio-economic development (Pearse 1980). This then for example demanded the so-called authentic participation of small-scale farmers in agricultural

research and development as a way of countering the imposition of research-generated technologies which are often irrelevant to the agricultural systems of these farmers. In this way, the concept of participation and participation-in-practice is supposed to be a direct replacement of the ‘technology transfer’ system or blueprint approaches to agricultural research and development (Richards 1980). This is supported by Chambers (1986, 1993) who argues that top-down approaches to agricultural research and development, as historically formulated and implemented by states, are cut off from rural realities and lack respect for the dignity of local people (including small-scale farmers) and their indigenous knowledge systems. Whether or not the more participatory approach – involving small-scale farmers’ active engagement in agricultural innovation – does in fact what it claims to do is central to the goals of this thesis with reference to the case study in Zimbabwe.

2.4.1 Traditional Models – Linear and Holistic

During the 1960s and the 1970s, agricultural research and development was largely influenced by the linear approach (Chambers and Jiggins 1987, Pant and Odame 2010). The presence of the linear, often top-down, approach has faded in more recent decades (at least with regard to the linear approach driven by the state), but it remains influential despite its shortcomings and, indeed, it may exist where it is said not to exist. This approach treats knowledge production and application as separate activities, executed respectively by researchers and farmers. It is inspired by the assumption that new knowledge is the answer to sprouting agricultural problems and, further, that any effort to nip these problems in the bud rests upon the production of appropriate knowledge from outside. As a result of this assumption, researchers are perceived as the originators of expert knowledge while agricultural extension agents or officers play an intermediary role in transferring the knowledge to farmers who are expected to adopt it. The adoption of this expert knowledge is anticipated to unlock solutions to agricultural problems largely because the knowledge would have been developed by ‘knowledgeable experts’ with the capacity to un-problematically devise solutions to problems. This approach undermines the agency of farmers who are the recipients of the produced knowledge. On this basis, the linear approach is subject to significant criticism by proponents of agricultural innovation platforms.

The period that followed the 1970s saw a clear reservation by scholars and practitioners of the linear approach. There was resentment towards unidirectional (or top-down) engagements in agricultural research and development in favour of multidirectional (or more horizontal) interaction of actors. Rolling (2009) thus points to the fact that many actors play an active role in innovation (including research) and hence any effort to improve agricultural productivity needs to acknowledge the input from all relevant actors and most notably those directly involved in farming activity. This alternative thinking resulted in more holistic approaches gaining precedence, such as Farming Systems Research (Dixon et al. 2001, Collinson 2000). Such approaches led to the recognition that farmers as thinking actors have the capacity to come up with new ideas and solutions to local problems and to adapt their farming practices accordingly (Reijntjes et al. 1992). This was seen as a paradigm shift from the linear approach that viewed farmers as the passive recipients of knowledge and ideas given to them by external experts.

There was thus a rearrangement in terms of ‘ownership’ of research innovation in which more responsibility was now in the hands of farmers through more participatory methods (Chambers 1990, 1997, Nederlof 2006). Further, according to the linear approach, improvement in small-scale agriculture was largely conceived in terms of the ability to develop new technologies, with technology understood as impartial and devoid of social and indeed power relationships. In this sense, the linear approach was highly technicist without any sensitivity to the social context of technology applications. For the holistic approach, it became apparent that deficient technologies were not even the main stumbling-block in improving farmers’ livelihoods, as the missing link so to speak was institutional reforms, with institutions referring to rules, regulations, norms, roles and practices (North 2005, Uphoff 1993). Lack of or inadequate agricultural improvements were attributed to institutional dimensions which animate relationships between actors and which often disable farmers including inhibiting or preventing them from putting new technology to use even if such technology is deemed appropriate (Hounkonnou et al. 2012). Because of this, the holistic approach speaks more of technological-social systems rather than technology per se. The holistic approach resonates in part with the underpinnings of innovation platforms.

2.5 Systems-Thinking and Agricultural Innovations

In this context, the notion of ‘innovation’ has deep roots in the development of capitalism and is seen as central to the dynamism of capitalism under conditions of competitive markets with the enhancement of productivity and profitability being the ultimate objectives. This has involved innovation around, historically, systems of industrial production, labour control regimes, managerial systems and technological arrangements. And it has been central to agricultural production as well, including innovations around increasing the agricultural productivity of land through economies of scale, mechanisation and capitalisation as applied to commercial farming systems and ultimately industrial farming systems (Lundvall et al. 2002, Freeman 1995).

Schumpeter (1961) is sometimes credited for laying the foundations, analytically, for an innovation systems approach through a nuanced analysis of technological change through knowledge-building and by detailing the institutional conditions conducive to innovation. Scores of other scholars have built upon and significantly revised the work of Schumpeter (Lundvall 1985, Freeman 1987, Dosi et al. 1988, Edquist 1997), including the study of innovation at different spatial levels and in various time periods (Fritsch, 2004, Andersen 2004) and of particular technological systems (Carlsson and Jacobsson 1993, Carlsson, 1995, 1997). As well, the approach has been adopted by international agencies such as the Organisation for Economic Cooperation and Development, the United Nations Commission on Trade and Development, the European Commission, the World Bank and International Monetary Fund (Lundvall et al. 2002). The preference for the innovation systems approach boils down to its ability to unlock opportunities to critically analyse the social relationships and institutional arrangements which underpin innovations as social processes, including the intentions and practices of actors involved in these processes and the of dynamic of learning which arises through them (Metcalf 1995). Systems thinking inspired the innovation approach, an approach which (programmatically) tends to be highly critical of mainstream top-down, expert-driven and linear approaches to development interventions.

In systems-thinking, two types of systems are spoken about, namely, a theoretical system and an empirical system. As noted by Checkland (1981), a theoretical system is a complex set of concepts, suppositions and propositions having both logical integration and empirical reference, while an

empirical system is a set of phenomena in the observable world which is able to be described and analysed by means of a theoretical system. In this light, it is clear that a theoretical system and an empirical system are intertwined, with the former used to make sense of the latter. More specifically, a theoretical system seeks to identify and understand natural or social phenomena, events and processes as satisfying the general conditions of a system (Cohen 1989, Clegg 1990, Macy 1991).

Empirically, the term connotes a complex of interacting components together with the specific relationships between them which indicate the presence of a boundary-maintaining entity or process. In a similar vein, Ackoff (1981) talks of a system as a set of two or more interrelated elements in the real world in which each element generates an effect on the functioning of the whole and each element is affected by at least one of the other elements in the system. In trying to apply this to some kind of actor or network analysis, a knowledge system in particular is seen as an articulated set of actors (as rooted in networks) working in a synergic way to gain trust and to develop and support knowledge processes which bring about the achievement of set goals pertinent to the actors' relationship to the wider social or natural environment (Seegers 1991).

Normally, a system is seen as conserving (or maintaining) a set and pattern of articulated relationships constituting it, if only because – as Bullock and Stallybrass (1977) put it – a system needs to maintain a degree of equilibrium in order to be operational and sustainable. Systems invariably consume energy and there must be organising forces or relations present which permit the conservation of its structure and function. If pattern-maintenance is absent in a system, there is bound to be friction and ultimately disintegration of the system. At times, the organising force may exist outside the system, but then this raises complex questions about the boundaries of systems (Roling 1992).

In fact, the line or boundary which separates the aspects of a system from those of its environment (or context) tends to blur or perhaps more correctly shift, as the identification of a system fundamentally depends upon the unit of analysis adopted by the systems theorist (Spielman 2005, Rivera et al. 2005, Hall 2005). At the analytical lens of the theorist changes, constitutive entities

are seen to interact at various levels thereby producing complex relationships across different scalar levels, such that systems are part of broader systems and so forth. A systems theorist invariably makes a rational and reasonable decision that, for his or her purposes, the system under analysis has a particular boundary and that it interacts as an open system with its environment.

Systems of human activity tend to have multiple and overlapping purposes, of which it is possible to distinguish the purpose of the system and the purpose of its parts (Roling 1996). It is denoted by this theory that society is constituted by actors interacting together for the common goal of maintaining a pattern of relations in some form of equilibrium. This implies the identification of common goals and planning strategies to reach these goals, often with external intervention. When a system has been set by creating common grounds for interaction, there is then the actual carrying out of activities by actors to achieve set goals. All these processes are characterised by interactions between actors and the outcomes of these interactions, which determines the success or failure of the system. This is specifically relevant to innovation platforms, insofar as such platforms are, in part, knowledge systems involving a range of different actors interacting in networks in a manner designed to enhance, in the case of my study, agricultural productivity amongst small-scale farmers. In large part, then, the programmatic intervention known as innovation platforms rests, analytically, on some kind of systems theory.

2.5.1 Context for Agricultural Innovation

This kind of programmatic intervention (as indicated already) arose as a criticism of linear approaches to development interventions in the context of neoliberal restructuring. But other events in the field of agriculture also spurred on the emergence of agricultural innovation platforms. Notably, the food crisis of 2007-8 and the commodity price crisis in 2010-11 were major influences in the renewed global interest in agricultural productivity and likewise in innovation. Coupled to this is the dramatic correlation between poor agricultural performance and rural poverty especially in sub-Saharan Africa, including Zimbabwe (Dorward et al. 2004). This generated debates around the role and importance of new kinds of research in supporting productive agricultural systems (World Bank 2007, Barrett et al. 2010, Poulton 2009), including the issue of agricultural innovations. In this respect, agricultural research and development underwent a series of changes over the last century, and often in tandem with changes in the political economy of

agriculture. For the better part of the 20th century, agricultural development prioritised the production of staple food crops. These crops were seen as crucial as they contributed directly to the goal of boosting food security and enhancing rural livelihoods. However, with falling staple food prices and rising urban incomes, the agricultural pay-off shifted to strategies that enhanced agricultural diversification and increased the value-added in agricultural production (Bhargouti et al. 2004). The focus on food crops in the past was heavily supported by state-funded public research systems which had been institutionalised over the long-term to cater for the demand for food crops. However, with new trends in agriculture where value-addition along the global agricultural food chain is becoming increasingly important, public research systems have not flourished as in the past.

The historical and ongoing evolution of agricultural research and practices has meant that the existing ways of agricultural production are subject to ongoing dynamism. These changes have recently been going on against the background of increasingly unpredictable climatic and economic variables that are making agricultural problems much more complex. There have been deep concerns in fact that agricultural research has yielded inadequate results in improving the plight and productivity of small-scale farmers (Stoop 2002, Bie 2001, Mutimba 1997, Pretty 1995, Chambers and Jiggins 1987). Thus, as agricultural problems continued to grow in the light of the failures of existing approaches to agricultural research and interventions, newer approaches were required in world agriculture. The 1990s and 2000s saw the innovation approach, as animated by systems-thinking, gaining strength to counter some of the shortfalls of its predecessors (both the linear and holistic approach). Put simply, a system is defined as ‘relationships and linkages among elements within an arbitrary boundary’ (Röling 2009:19) but, for the innovation approach, the linkages are horizontal and not centralised. The innovation approach thus argues that innovation emerges from the interaction, on an equal footing, of multiple stakeholders, i.e., researchers, advisory service-providers, non-governmental organisations, farmers’ organisations and private sector actors (Waters-Bayer et al. 2009, Hall et al. 2006, Röling and Wagemakers 1989, Arnold and Bell 2001). In this regard, agricultural innovation platforms – as a new basis for agricultural research – are seen as giving a new lease of life to small-scale farmers (including in Zimbabwe) through the opening up of new frontiers of cooperation between varied stakeholders.

But innovation systems are not a completely new approach to agricultural research and interventions as they have come about as a result of modifications to various approaches to agricultural research and development. Hence, a succeeding approach normally builds on the key principles of its main predecessor; for the innovation approach, the predecessor was the holistic approach. The innovation approach changed the focus from 'technology' to 'innovation'. For technological approaches, there is an emphasis on new hardware that includes seeds, ploughs and water management techniques (Leeuwis and van den Ban 2004). Innovation admittedly includes technology but it highlights the importance of revising organisational and institutional principles and elements in the formulation, construction and implementation of any new agricultural technologies. I acknowledge that the holistic approach and the innovation approach overlap and are interlinked. But the innovation approach goes a step further by more forcefully challenging the existing institutional and policy arrangements which inhibit participatory methodologies. Emphasis is placed firmly on socio-technological systems and practices which suit local interests and situations. In this context, an innovation is constituted by three elements, namely, technical, organisational and institutional. Alternative organising principles for example influence how small-scale farmers and relevant stakeholders interact, with the innovation approach focusing on inclusive and broad-based participation throughout any innovation process involving agricultural research and development. The end result is, supposedly, improved agricultural performance for small-scale farmers (Engel and Salomon 1997).

Hall et al. (2006: 16) define an innovation system as follows, though this is not directly applied to the realm of agriculture:

An innovation system can be defined as a network of organisations, enterprises, and individuals focused on bringing new products, new processes, and new forms of organisation into economic use, together with the institutions and policies that affect their behaviour and performance. The innovation systems concept embraces not only the science suppliers but the totality and interaction of actors involved in innovation. It extends beyond the creation of knowledge to encompass the factors affecting demand for and use of knowledge in novel and useful ways.

For Hall et al. (2006), and for other proponents of such systems (Janssen and Braunschweig 2003), the totality of innovation involves an open system which respects the potential contribution that each actor brings to the table, such that there is an elimination of superiority and hierarchy in the interaction. Such interaction between actors, it is argued, helps to forge stronger linkages between stakeholders which will result in better information exchange and a kind of social space allowing for the flourishing of new ideas and opportunities. However, this approach does not deny the possibility of power differentials and animosity arising during or even existing from the start of the process. Additionally, a key assumption behind actors' interaction on innovation platforms is that actors need to be ignited through an initial push from a facilitator. This push is needed to break barriers against joint discussion, action, sharing and learning between actors. The implication is that interaction does not happen organically at least at the initial stages of the platform. Once actors come together, the platforms can provide the space for such joint work and interaction which can then sustain itself over time (Critchley et al. 2006, Devaux et al. 2007, Pérez et al. 2010). In this context, it is important to understand more fully the notion of an agricultural innovation platform.

2.6 Agricultural Innovation Systems

The two main agricultural innovation systems discussed in the existing literature are labelled as the Agricultural Innovation System (AIS) and the Agricultural Knowledge and Innovation System (AKIS). They have been central in providing conceptual rigour on systems thinking as related to agriculture as well as to the development of innovation platforms in the field of agriculture (Spielman 2005). Though they differ in specific ways, for the purposes of the thesis I treat them as the same as they embody similar principles and claims. Central to the concepts of AKIS and AIS is not only innovation and but also invention. Leeuwis (2004:59) defines invention as 'the first occurrence of an idea for a new product or process, while innovation is the first attempt to put the invention into practice'. From this distinction, it is clear that invention and innovation complement each other, and that (broadly speaking) innovation follows from invention. As Drucker (1985) puts it, invention is a new idea or product, whereas innovation is a process of programmatic implementation that brings benefits for human and environmental well-being. Running through these definitions is the implication that innovation is the successful use of an invention and that an invention, in and of itself, is of no significance whatsoever unless subject to application. It is through innovation platforms, and the complex interactions between actors in

these platform systems, that inventions are turned into innovations, with the latter entailing a package of new social and technical arrangements, processes and practices (Leeuwis 2004). This does not mean that inventions come from outside IPs. The interactions between actors in an IP are designed, or at least are supposed, to produce inventions which are then implemented in the IPs as innovations. In this way, the IPs are said to have the capacity to craft inventions and pursue innovations which improve the agricultural plight of small-scale farmers.

The two perspectives (AKIS and AIS) emerged as a direct challenge to the top-down theory of diffusion and adoption of innovations, which was preoccupied with studying why and how people come to adopt (or fail to adopt) new agricultural innovations and practices (Leeuwis 2004). Such a theory highlights the importance of innovation arising from outside (or from experts), with non-experts on the receiving end adopting the ideas and innovations formulated and prescribed by experts. This involves a linear technology-transfer model which is constituted by the accumulation of power at the centre of the system. Political elites and policymakers whose governments are characterised by the centralised control of power (based for example on a command economy) tend to adopt this linear model of adoption, as it enables them to control the system comfortably without having to be involved in the complex challenges of knowledge management (Assefa et al. 2007). Of course, in reality, non-experts may resist the imposition of so-called expert knowledge and there may be marked contestations over power amongst actors in this top-down linear system.

A system based specifically on AKIS is defined by Rölöing (1992:88) as follows: '[T]he articulated set of actors, networks and organizations, expected or managing to work synergically to support knowledge processes which improve the correspondence between knowledge and environment and/or the control provided through technologies used in a given domain of human activity'. The concept was developed by Rölöing in the early 1990s in order to describe the possibility of organisational forms which enable knowledge processes such as the generation, transformation and use of knowledge and information (Engel 1997), and which deepen efficiencies and effectiveness in the operations of the network or organisational systems. The critical term in the definition by Rölöing is synergy, with the AKIS entailing a new actor configuration and a more

flexible and horizontal approach in which focus is put on strengthening linkages and communication between system actors on a partnership and not a hierarchical basis.

In the case of agriculture, this would mean a shift away from concentrating on merely strengthening the knowledge-base of agricultural research and development institutions and then using agricultural extension agencies simply as conduits for implementing new sets of agricultural knowledge. In other words, AKIS and AIS imply that all system actors have a role and stake in the process of generating, disseminating and using knowledge and hence they have rights and responsibilities in each stage of system operation and development. Thus, farmers are not just recipients of 'expert knowledge' but they also generate relevant and appropriate knowledge. In this way, the AKIS and IAS are said to unlock the value that small-scale farmers are likely to contribute to the system.

The key principle then of the AKIS/AIS concept is a more inclusive approach to the formulation, development and learning of knowledge by all actors in a system, and often through the intentional facilitation of a platform. Once such a platform is created, communication lines need to be opened for (and to all) actors for maximum participation. AKIS/AIS thus eliminates 'experts' from the system and demonstrates a move away from the linear model of knowledge diffusion to a multiple source model that encourages active and full participation of actors. In doing so, it recognises that there is likely to be tensions within the system which need to be handled in an open, inclusive and participatory way.

However, Leeuwis (2004) argues that the AKIS (and by extension AIS) model is somewhat superficial in its depiction and analysis as it concentrates on knowledge processes within a system as a closed entity, thereby neglecting external forces (including politics) which may disrupt the intended inclusive (and democratic) interaction between actors. An innovation platform as constructed in terms of the model does not exist in a social vacuum, such that wider power differentials and structures of inequality are bound to disturb and possibly undermine the synergies being enacted through the platform. Another criticism is that the AKIS/AIS concept still places its main focus on the supply of innovative research as emanating from experts, but simply gives more

attention to linkages between research, knowledge dissemination and agricultural extension and to identifying farmers' demand for new technology. (Hall 2006). This criticism raised by Hall puts the entire specificity of AKIS/AIS in jeopardy, as it implies that the hegemonic position of the 'expert' is still in evidence even in this seemingly alternative approach, such that the position of small-scale farmers in generating acceptable knowledge is more superficial than real. A further criticism of AKIS/AIS stems from Long and van der Ploeg (1989) and is a more general criticism of any systems-based approach. They argue that it is deeply problematic to label a system as having some inherent objective or mission in that only actors have objectives and so-called systems-objectives only arise insofar as there is consensus between actors involved. As no such consensus may emerge, the existence of systems-objectives cannot be taken as a given.

Though Hall (2006) argues that the AKIS/AIS focuses on research supply as if research based on the work of experts is the sole supplier of knowledge in IPs, Spielman (2005) denies this by claiming that the researcher is merely a partner along with other social actors and all are engaged in generating and using knowledge. Attention then is given to the knowledge network in the system, recognising the contribution of substantial inputs from all actors in creating a relevant body of knowledge and ensuring that innovation takes place. In this respect, the purpose of AKIS/AIS is to facilitate continuous innovation in agriculture-related practices. And the innovation performances of farmers, particularly new practices in farming and natural resource management, should not be overlooked (Engel 1997). The value derived from AKIS/AIS, on the basis of systems thinking, is thus how innovation systems emerge, how they are coordinated and function through a variety of actors and stakeholders, and how innovation is influenced by market and non-market forces in varying contexts.

The AKIS/AIS may also add analytical clarity by highlighting that innovation takes place on many fronts, including any formal research process but also the practical experiences of social actors in their broader cultural and political context (Hall 2006). This means that the creation of knowledge does not always start from research and also that knowledge coming from research does not always create new practices referred to as innovation. It is the hallmark of AKIS/AIS that knowledge creation and innovative change only takes place through the interaction of all actors involved in

the system (or innovation platform). In the end, new knowledge and ideas need to be translated into skills and technologies and subsequently into real socio-technical innovation that will have a physical impact on the lives of the people or actors involved. It is in terms of the AKIS/AIS approaches then that intricate linkages are made between agricultural research, education and extension in generating knowledge and facilitating socio-technological change in a manner that is inclusive and participatory.

There are some studies which have sought to examine agricultural innovation approaches in practice. Studies by Hall and Clark (1995), Hall et al. (1998), Clark (2002), and Hall et al. (2002, 2003) provide focused attention on agricultural innovation research in developing countries. Specific studies on sub-Saharan Africa include those by Roseboom (2004), Peterson, Gijsbers, and Wilks (2003), and Hall and Yoganand (2004); while studies on Latin America and India also exist, respectively by Vieira and Hartwich (2002) and Hall et al. (1998). In different ways, these studies raise questions around institutional arrangements, agricultural research, and technological development and adoption. The highlighted studies on innovation systems approach are unique from the conventional studies on research and development. In their analysis, these studies embed agricultural innovation within the wider context of institutional change as well as the agency enacted by actors across a wide spectrum of social interaction. To give one example, Ekboir and Parellada (2002) provide a nuanced analysis of how the dynamics embedded in social and economic changes encourage the diffusion of zero-tillage cultivation in Argentina. This diffusion was the result of a complex series of events and interactions amongst farmers, farmers' organisations, researchers and private firms. The major themes running through all the studies are the role of diverse actors and the multiplicity of interactions occurring within complex systems of innovation, as well as the institutional context within which these processes occur (Clark et al. 2003).

2.7 Conclusion

This thesis seeks to analyse the agricultural innovation platforms in Hwedza by making use of the interface framework and by identifying and understanding the social networks of actors involved in the innovation platform. As actors engage with each other and interact, they form social networks that sustain their relationships over time. These networks are not restricted to actors

sharing the same life-world or worldviews but incorporate a range of actors marked by diversity. Admittedly, at least in the case of innovation platforms, these networks are normally formed on the basis of mutual benefit in a complex web of interactions (Malherbe 2005, Mowery and Sampan 2005), with such networks meant to be enabling for all actors (or stakeholders) (Giddiness 1990, 2000, Bandera and Result 2006, Beasley and Case 1994). However, because of power differentials and differing positions within the network, the interface constructed and established via innovation platforms is bound to be marked not only difference and diversity but by tensions and conflict. Some actors are in a position to be particularly influential and to participate more substantially in the innovation process (Foster and Rosenzweig 1995). Thus, though interfaces are said to be characterised by interlocking and bridging mechanisms, not all actors are necessarily fully committed to the process and may become engaged for reasons which undermine the position of other actors. On this basis, in the three empirical chapters (chapters 4, 5 and 6), I offer a critical analysis of the agricultural innovation platforms in Hwedza which goes beyond the ways in which they are portrayed in the discourses of those who propose and propagate such platforms. In the following chapter, I provide further context for my Hwedza study by examining the history of land and agriculture in Zimbabwe from colonial to current times.

CHAPTER THREE: LAND AND AGRICULTURE IN ZIMBABWE

The contentious issue of land in Zimbabwe cannot be understood well if one does not address the colonial overhang that the country has. As I reflected on the Innovation Platforms during the course of my study, I noticed that Zimbabwe had gone through a myriad of policies on land and agriculture and these policies were incubated by the prevailing political and social context of the day. It then frightened me to also think that IPs could also be another epoch of agricultural policies implemented in communal areas just for a limited time. The opportunities that were evident to me to transform the fortunes of communal farmers were immense (Personal reflections, 2014).

3.1 Introduction

This chapter examines land and agriculture historically but with a particular focus on the contemporary period. This is necessary in order to set the context for the analysis of the agricultural innovation platform, as an agricultural intervention, within the communal land areas of Zimbabwe, and specifically Hwedza communal land. The first three sections (sections 3.2 to 3.4) examine the controversial question of land in the country, by tracing the establishment and development of colonial land policies and programme until 1980, and then subsequent post-independence land restructuring including the fast track land reform programme from the year 2000. Section 3.5 provides an account of agricultural interventions (particularly since the year 2000) in Zimbabwe by focusing on both state-led interventions and non-state led interventions including the role of non-governmental organisations. This involves as well a discussion of conservation agriculture or farming, which is related to agricultural innovation platforms.

3.2 Land in the Colonial Period

It should be noted in passing that land ownership and usage before the arrival of European settlers were markedly different from the succeeding phases in Zimbabwe's land history. The basis of the economy was mainly subsistence agriculture which was predicated on a system of shifting cultivation. Under this system, a variety of crops was produced including beans, melons, pumpkins, millet, potatoes, groundnuts and peas. In terms of livestock and domestic animals, cattle, goats, sheep and fowls were kept. This shows some form of livelihood diversification by people who resided in the now Zimbabwe before the influx of the white settlers. What is critical is the fact that land tenure was based on communal arrangements (Moyana, 1984). Individuals had use rights to land and their rights were guaranteed by their residence in and connection to local society. An individual could not dispose of land as it belonged to local society in which chiefs and

kings were the custodians of the land. As indicated by Moyana (1984), land was regarded as sacred and therefore it was valued intrinsically by members of the community. As a sacred natural system, land was safeguarded from abuse as people felt obligated to protect the land on behalf of the ancestors. Thus, under pre-colonial conditions, communal land possession and access was a viable and productive arrangement for rural people.

3.2.1 1880-1923: The British South Africa Company

In 1880, a principal authority of the land (today known as Zimbabwe) was Lobengula, who was the King of the Matabele (Leys, 1959; Tindell, 1967) such that land was in the hands of traditional/communal authorities and people had a range of land use rights. However, this then-existing order of kings and chiefs was changed in the later years of the 1880s after Cecil John Rhodes (as a businessman and politician) sent his agents northwards beyond the Limpopo River with the key objective of acquiring mineral concessions from the local chiefs (Leys, 1959, Bowman, 1973, Martin and Johnson, 1981, Moyana, 1984, Ranger, 1985, Elich, 2002). This expansion of white settlerism was driven by the belief that the land north of the Limpopo was rich in gold, which was a source of wealth that needed to be exploited. Rhodes' agents, notably men like Rudd and Selous, received various concessions to extract gold from tribal chiefs in Mashonaland and from Lobengula and other chiefs in Matabeleland (Tindell, 1967). Through significant pressure and manipulation, Rhodes managed to sign the Rudd Concession with Lobengula in 1889 and this gave Rhodes mineral rights over all the land in Lobengula's sphere of influence, which was interpreted to be the whole of (present-day) Zimbabwe and Zambia (Ranger, 1960, Bull, 1967, Palmer, 1977). To expedite the extraction of minerals, Rhodes used the Rudd Concession to obtain a Royal Charter from the British government for the British South Africa Company (BSAC) (Leys, 1959, Bowman, 1973). It was this Charter that allowed the BSAC to extract mineral resources and, as noted by Tindell (1967), it gave the BSAC authority to administer and hold land rights, subject supposedly to respecting the laws and customs of the local people. In the end, as noted below, Lobengula effectively lost his territory to white settlers, with the BSAC legally entitled to acquire, administer, sell and lease land (Mutambirwa, 1980).

The BSAC did not waste time as it quickly assembled the pioneer column comprised of 400 prospective settlers and police to invade Mashonaland and established a settlement near present

day Harare in September 1890 (Leys 1959, Tindell, 1967, Bowman, 1973). These new white settlers (and later ones) were driven by the understanding that the land they were invading was rich in gold. However, it soon became clear that gold was not in abundance and the settlers turned to agriculture as the rationale for occupation. This new venture by the settlers clearly required access to land. So in 1893, the Company waged a military campaign against the Matabele on the pretext of Matabele aggression against the settlers, though Palmer (1977) correctly argues that the war was waged for political and economic reasons. The white settlers registered victory over the Matabele because of their superior weaponry and organisation (Bowman, 1973) and – as a way of consolidating their power – those Europeans who had participated in the military campaign were rewarded with 6,000 acres (2,400 hectares) of land each by the BSAC (Martin and Johnson, 1981, Lemon, 2000). This further pushed indigenous people away from their land and testified to the effective colonisation of the land now called Zimbabwe.

After the victory by the white settlers over the Matabele, there was a huge influx of white settlers (Tindell, 1967). As the white settler population increased, there was likewise growing conflicts over land and land-based resources between the locals and the white settlers (Ranger 1960). The white settlers sought to minimise the conflicts by setting up a commission which would organise settlement for the Matabele and the commission made it mandatory for the BSAC to reserve land for Africans that would cater for their pastoral and agricultural needs. The principle of land segregation in order to apparently meet the subsistence needs of Africans was introduced in the form of the creation of Native Reserves (Kay, 1970, Moyana 1984). Since the creation of these first reserves, and into the colonial period, successive white administrations appropriated land from locals to cater for the white settlers while settling locals often in agriculturally-marginal areas. This land appropriation, which continued unchanged until 1980, increasingly incapacitated rural people in terms of being food secure, and the agricultural crisis in communal (the former reserve) areas today is strongly rooted in this land history.

To attest to the discontent of the locals, the Mashona and the Matabele rebelled against the white settlers in 1896/97 though in separate rebellions. Their main grievances were the new land ownership system that had been imposed on them by the settlers (with the settlers acquiring

freehold title), the imposition of various taxes (for example poll taxes) and rentals on land alienated by Europeans (Ranger 1960, Tindell 1967, Palmer 1977). For the same reasons they had been defeated in 1890, the locals also suffered defeat at the hands of the white settlers during these rebellions. Bowman (1973) argues that the Africans had to concede to white administration and make the best of their conquered condition after the defeat. After their military victory, the white settlers then went on to establish many more African reserves, most of which were located in areas of light sandy soils, with little rainfall and inadequate water supplies (Moyana, 1984). Their location was in what became known as Natural Farming Regions (or agro-ecological regions) IV and V with very low agricultural potential. The population density in the reserves was also high which meant that there was heavy pressure on the land and the possibility of land degradation.

As the white settlers sought to improve their fortunes in their newly acquired land, they came up with ways of consolidating their power and safeguarding their property. Through the 1920 recommendations of the Reserve Commission set up in 1914 to review the structure of land ownership in (then) Southern Rhodesia, new policy was legislated by the Order-in-Council. Africans in reserves that were located near transport and communication lines were recommended to be subject to relocation. This in fact saw a downsizing of the reserves to accommodate the growing requirements of settler agriculture in areas that had high agricultural potential or were located near to market infrastructure (Tindell 1967, Moyana 1984). The incapacitation of Africans by the white settlers through pushing them into reserves was deliberately done in order to create a large pool of cheap labour and also to inhibit market competition from surplus-producing African farmers.

Another step towards consolidation of power came in the 1922 referendum in which the Southern Rhodesian white electorate voted for responsible government. This came after the settlers had requested it from the British Government and, resultantly, Southern Rhodesia became an official British colony in October 1923 (Ranger 1960, Bowman, 1973). This involved an end to all administrative responsibilities for the BSAC. The legacy of the BSAC on land, involving a massive transformation of land from communally-accessed to commercialised and individually-owned land (for whites) was to remain for decades to come. When the responsible government took over

from the BSAC, land had already been appropriated from the Africans and the path for consolidation of these gains was already in place.

3.2.2 1923-1953: Responsible Government

The BSAC clearly crafted a legacy of racial segregation where land was allocated on the basis of race. This led to land and other policies that catered for the needs of the white minority at the expense of the majority blacks. Ultimately, the subsequent governments simply plucked a leaf from the policy direction that had been set out by the BSAC. As Leys (1959) points out, the new government in the 1920s consolidated most of the policies that had been enunciated by the BSAC in order to strengthen the power and control of the white settlers. By 1925, white settlers had already acquired 12.5 million hectares of land (Lemon 2000) of which most was of high potential agriculturally.

As Leys (1959) and Ranger (1960) argue, the settlers were still not content with the quantity and quality of land they had taken and hence, in 1925, a Commission chaired by Sir Morris-Carter was appointed to investigate the apportionment of the remaining un-appropriated land. From the findings of the Commission, it emerged that segregation of land by race was desirous especially to serve the interests of the settlers and only peripherally those of the Africans. At the same time, and based on the commission recommendations, Native Purchase Areas were to be established where African farmers could apply for limited individual property rights (Ranger 1960, Matowanyika, 1997) and produce on a small-scale commercial basis. The government believed that this would contribute to limiting African competition with white settlers for land without impacting negatively on settler access to commodity markets.

The Land Apportionment Act of 1930 came into effect in April 1931 (Leys 1959, Ranger 1960, Matowanyika 1997). It was in terms of this Act that land division on a racial basis was officially recognised as well as governed under exclusively racially-determined land tenure systems. Reserves entailed land for occupation by Africans (under communal tenure) who had been disenfranchised of their land, and Alienated Land was for White ownership and occupation, on which Africans could only live as employees. These employees consisted mostly of agricultural workers (and often with their families) on white-owned commercial farms, and they were unable

to survive otherwise because of loss of access to land. The exclusively European areas consisted of 49 million acres. The Native Purchase Areas, with a form of freehold title and provided almost as a token of compensation for colonial loss and dispossession, were legislated and they became located adjacent to reserves. Eighty-one Purchase Areas were created but in rocky and poorly-watered areas, and hence they did not consist of prime farming land. Despite government's intentions, these areas did not pacify the African population as ongoing land-based struggles indicated. Moyana (1984) points out that a total of 51% of the land was reserved for the minority white population with only 30% of the land being available for the African majority, thus entailing massive disparities with reference to access to land and constructing livelihoods. All this was designed to protect the political economy of the white settlers, while the growing population in the reserves led to unprecedented land degradation as locals tried to seek a living from limited resources (Ranger, 1960).

Due to the issues mentioned above, and despite the government's justification of land dispossession, the situation in the Native reserves was viewed by the government to be a ticking time bomb as it feared that the situation could become explosive due to rising discontent. Therefore, the Land Apportionment Act of 1930 was amended in trying to manage this discontent. For example, the Act as amended in 1941 allowed for African settlement on land that was set aside for Missions with, however, certain restrictions and only under recommendation from the white-controlled Native Land Board. Subsequent amendments of the Act in the 1940s though (such as in 1944 and 1945) did not give any significant concessions to Africans but rather simply clarified the provisions as set out in the original 1930 Act. In 1950 there was another amendment of the Act which saw the formation of Special Native Areas as extensions of the Native Reserves and which meant ceding some still unassigned land as well as land from European areas. Lemon (2000) posits that this amendment was driven by the white settlers' desire to reduce pressure on European land from the Native reserves as well as to drive African tenants off white-reserved land. Yet, it was widely known that European-owned farms were often underutilised (Ranger 1985).

Despite these half-hearted amendments, the situation in the Native Reserves (now communal areas) continued to deteriorate in terms of agricultural productivity and food security. This saw the

enactment of the Native Land Husbandry Act in 1951 to address specific problems in the Native reserves. The white settlers believed that the deteriorating situation in the reserves was as a result of mismanagement of land by Africans, who were reportedly using backward and reckless methods such as shifting cultivation in their agricultural activities (Matowanyika 1997:12). Therefore, the Native Land Husbandry Act was meant to streamline land use and access by Africans through measures such as the reduction in the number of cattle that Africans could own (Ranger, 1985), and reorganisation of land use in the form of centralisation of homesteads into villages. For Matowanyika (1997) and Ranger (1960, 1985), this Act was the final nail in the already-deteriorating situation in the reserves and it also went contrary to significant culturally- and historically-held agricultural methods amongst the small-scale farmers. It contributed to leading to the nationalist resurgence against the colonial forces which emerged in the 1960s.

3.2.3 1953-1965: Federation Government

The creation of the Federation in 1953, for political and economic reasons, saw Southern Rhodesia (now Zimbabwe) entering into a federation with Northern Rhodesia (Zambia) and Nyasaland (Malawi) (Leys 1959, Ranger 1960, Bowman 1973). The Federation Government lasted up until 1963 and thereafter Southern Rhodesia became known as Rhodesia. In terms of policy on land, changes in Southern Rhodesia during the Federation period were minimal. Perhaps most significant was the further allocation of unassigned land in 1958 to the Native reserves as a way of relieving pressure on the reserves. Another concession came in 1961 when the remaining European Area in the hands of the government and the small Undetermined Area was consolidated to form Unreserved Land (Kay 1970, Lemon 2000). Restrictions on ownership or occupation of Unreserved Land was eliminated which meant that any person interested in this land could apply for the land regardless of race (Lemon 2000). This facilitated the transfer of 800,000 hectares of land that was in the European reserved areas to African farmers (Lemon 2000). Parts of the Native Purchase areas occupied communally were added to the Special Native Areas and, in 1963, the Native Reserves and the Special Native Areas were grouped together and renamed the Tribal Trust Lands (Kay 1970). Again, though, these changes were nominal as they failed to address the problems of overcrowding in Native reserves.

The amendments that the white government made on land likely only helped to remind the Africans that the white settlers were ensuring themselves a permanent home in the land of African dispossession. So, it was not a surprise that, during the period of federation, there was increased political consciousness as well as growth in nationalist political movements, which became reinvigorated from the late 1950s in both urban and rural areas. These developments were born out of the realisation by the African population that only a well-organised struggle would dislodge the white government. Movement-cum-political parties, rooted in earlier movements and lobby groups, were formed to spearhead the effort of charting a political solution to the situation within which Africans found themselves (Bull 1967:118-119). These parties included the Zimbabwe African People's Union (ZAPU) and the Zimbabwe African National Union (ZANU) which had their military formations, namely, Zimbabwe People's Revolutionary Army (ZIPRA) and Zimbabwe African National Liberation Army (ZANLA) respectively. The Patriotic Front (PF) was only formed for the Geneva and Lancaster House talks. Undoubtedly, land was the critical rallying call for the nationalist movements.

3.2.4 1965-1979: Unilateral Declaration of Independence

Following disagreements between the Rhodesian government and the British government as the colonial power, notably around the issue of black (or African) majority rule, the Ian Smith-led regime decided to strike out on its own and therefore declared UDI (Unilateral Declaration of Independence) in 1965. This contributed in the following years to an escalation in the intensity of the liberation struggle led by the Patriotic Front. In trying to manage (and certainly not solve) the land question, the Smith regime enacted the Tribal Trust Lands Act in 1969 as a means to stabilise land use practices, enforce conservation measures and boost agricultural production in the tribal trust (communal) areas (Matowanyika 1997). As well, in trying to gain the cooperation of African chiefs in subduing rural revolt, chiefs were given the power to allocate land under the Act. This in fact was a revocation of the provisions of the Land Apportionment Act of 1930 that had rescinded this authority. There was some superficial 'parity' in terms of the land that was allocated under the 1969 Act. Lemon (2000) notes for example that 46.6% of the country's land was given to each of the two main racial groups under the Act; but there was a marked difference in terms of the agro-ecological regions in which the racially-based landholdings existed. As a continuation of the past, African land remained largely in low potential areas far from communication and transport

networks while white land was in high potential areas that were closer to communication and transport networks. As a result, this was far from addressing the core of African grievances about land and therefore failed to undermine the burgeoning guerrilla movements.

As the guerrilla war continued, Smith was pressurised by a combination of factors to make certain concessions. The Smith regime was under sanctions from the United Nations as well as lobbying from the British government to bring about a majority government, not to mention the ongoing attacks in rural areas from the guerrilla movements. Smith felt compelled to enter into an alliance with moderate African leaders in the late 1970s and this led to specific reforms. These included the following: an agreement to allow land outside the Tribal Trust Lands to be purchased by all races; the granting of credit to African farmers as a way of capacitating them; and measures to improve productivity in Tribal Trust Lands through for instance small-scale irrigation schemes (Lemon 2000). These measures had no significant impact on the guerrilla war and, indeed, created even more pressure on the Smith government to relinquish political power.

At the same time, while Britain and the United States continued to engage with the Smith regime to end the war, the nationalist movements were put under pressure from the so-called frontline African countries, notably Tanzania and Mozambique, to enter into a negotiated settlement. The Smith government agreed to negotiations after Britain and America agreed to contribute at least 75 million British pounds (Palmer 1990:166) for purposes of compensating white commercial farmers. However, as noted by Palmer (1990), the change of government in Britain altered the initial promise that had been given for compensation such that the new British government only pledged to pay half of the costs of compensation to the white farmers. Nevertheless, in 1979, the warring parties came together at Lancaster House to end the war through protracted negotiations.

The Lancaster House agreement and constitutional arrangements fundamentally secured for whites, amongst other rights, the ‘preclusion of expropriation of private property’ (Moyo 1995:106) as land was to be acquired on a willing-buyer and willing-seller basis, and with compensation paid in foreign currency (Lebert, 2003). As a way to maintain peace and stability in the country, and as a basis for national reconciliation, the agreement bound the new African-led

government for ten years without any changes to the Constitution. Though Lancaster House managed to end the war, it by no means solved the land question in that land dispossession would be reversed within a highly problematic market-driven framework.

3.3 Land in the First Two Decades of the Post-Colonial Period

As a way of analysing the land trajectories in post-1980 independent Zimbabwe, I identify three phases: 1980-1990, 1991-1999 and 2000 to the present. These are significant periods which are distinguished by unique political and economic contexts. What is critical is to show the ways in which the political economy of each period shaped land policies and specifically the status of communal areas. In this section, I discuss the first two periods, until the year 1999.

3.3.1 1980-1990: Growth with Equity

Sachikonye (2003) points out that, on the political front, the first decade of Zimbabwean independence was shrouded in political turmoil between the main political parties, PF-ZAPU and ZANU-PF. ZANU-PF had won the 1980 elections but the emergence of PF-ZAPU-linked guerrilla dissidents in the early 1980s led to the Zimbabwean army crushing the dissent and terrorising the civilian population in Matabeleland. This provided the context for reconciliation in 1987 when PF-ZAPU signed an agreement with ZANU-PF to form a consolidated ZANU-PF, with the terms and conditions of this agreement clearly set by (the pre-unity agreement) ZANU-PF. This eliminated a strong political opposition to Robert Mugabe's ZANU-PF who was moving to consolidate his grip on power through a one-party state.

In the economic sphere, the government continued to pursue economic policies not unlike those of the Rhodesian government (Rukuni 1994). This was despite the fact that the UDI-driven economy was internally and structurally weak because of sanctions and the strain from the war. The new government was cautious given the delicacy of the national economy that it had inherited and hence it sought to focus on reinvigorating the economy through stimulating economic growth (Rutherford, 2001). Through national reconciliation, it sought to minimise outward-movement of whites in order to retain their skills-sets as well as to build up the confidence of foreign investors. The first few years of independence registered positive economic growth which Kanyenze (2004) attributes to the opening up of credit lines that had been closed due to sanctions against the UDI

Smith government. The formal macro-economic strategy, as introduced in 1980, was called growth with equity.

Hence, there was a strong emphasis on historical redress and social redistribution during the 1980s, which speaks to the government's emphasis or stance on equity (Rutherford 2001). This was exemplified most prominently in the massive expansion of health and educational facilities. But it was also demonstrated in the field of agriculture in the direct promotion of, and support for, small-scale communal African farmers and their livelihoods. For instance, there was a significant opening up of credit and finance for small-scale African farmers in what was now called communal areas and this led to increases in their agricultural output (Drinkwater, 1989). There was access to credit through the Resettlement Loan Fund under the Agricultural Finance Act which resulted in about 60% of communal farmers accessing mostly short-term loans for the purchase of inputs such as fertilisers, seeds and agro-chemicals (Kanyenze 2004).

The good economic years did not last long due to inherent structural defects of the economy (Rutherford, 2001). Successive droughts (between 1982 and 1984) contributed to the derailing of the early economic gains such that, by 1984, the structural weaknesses in the economy had become apparent and a situation of macro-economic instability slowly emerged. This included current and capital accounts deficits as well as an increasing debt service ratio that triggered inflation (Kanyenze, 2004). The net effect of these developments was increased pressure on the national balance of payment situation which also negatively affected the capacity of agro-based industries to produce agricultural inputs for local, white and African, farmers. The prices of available inputs also increased beyond the reach of many communal farmers who found themselves at the mercy of a rising cost of living. Many farmers indeed started to default on their loan repayments (Kanyenze 2004).

Simultaneously, the new government sought to address the land question. At independence, approximately 6,000 white commercial farmers retained 15.5 million hectares of land much of which was in the prime agro-ecological regions (Sachikonye, 2003; Moyo et al., 2004; Goebel, 2005). In contrast to this, one million African households lived in the communal areas covering

16.4 million hectares of low potential land (Moyo, 1998). Particularly given the land clauses in the Lancaster House Agreement and the fact that the Zimbabwean government pursued a programme of national reconciliation, political independence would not automatically and instantly translate into a radical policy which would redress the sharp racially-based land inequalities. And this was despite the ZANU-PF government's socialist ideologies and quest for historical redress around land (Herbst 1990, McCandless 2000).

As noted by Bernstein (2003:213) and Goebel (2005:348), the new government's socialist conviction was in large part mere rhetoric, with political independence and economic restructuring in Zimbabwe arising in the context of an emerging neo-liberal global order. This global development with its emphasis on market restructuring, along with the Lancaster House agreement and its clause against seizing land without compensation, would create structural constraints for Mugabe's government in bringing about significant land redistribution (Palmer 1990, Moyo 1995). Any land reform could (and would) only occur within the confines of the neo-liberal framework that respected private property. This emphasis on retaining the white commercial sector also arose because communal farming by independence had been devastated by the war (Palmer 1990) and the new government wanted to maintain the agricultural status quo to ensure that the country was food secure at the national level.

Despite the constraints and hesitations on the part of the ZANU-PF government about land reform, 8.3 million hectares of land were initially targeted to resettle 162,000 families under Phase One (which ended in 1996) of the Land Redistribution and Resettlement Programme (LRRP) (Thomas, 2003, Sachikonye, 2005). The government set out reasonably clear criteria as to which categories of people should be prioritised for resettlement. These categories included those who had been displaced by the protracted war of liberation, any landless people/families in communal areas, unemployed and poor people, and destitute people. In other words, marginalised people were the main focus. Sachikonye, (2005) argues that, from these categories, it appeared that the government simultaneously wanted to decongest the communal areas. Those farmers remaining within the communal areas, as indicated, would expect to receive significant support from the state in order

to enhance their agricultural capacity and levels of production for both own consumption and market sales.

As noted by Moyo (2004b) and Waeterloos and Rutherford (2004), significant resettlement took place during the early 1980s but then the pace and scale of redistribution tapered off. Palmer (1990) and Moyo (1995) argue that, of the 56,000 families resettled on 2.6 million hectares between 1980 and 1989, 70% were resettled by 1983. The commercial farms were divided up with each farming household given a reasonably-sized plot to farm, with grazing land shared (as in communal areas). A combination of factors contributed to the decline in resettlement in the 1980s, including the droughts in 1982 and 1983 which meant that the government was pre-occupied with relief programmes rather than land distribution. Also, in terms of historical redress, the government was tending to concentrate its efforts on health, education and housing (in both urban and rural areas). A large portion of the land that was acquired for resettlement between 1980 and 1985 involved white commercial farms which had been abandoned by their owners during the war of liberation, And, as Masiwa (2004) notes, this land was mainly in agriculturally-marginal areas of the country such that 81 per cent of the early resettlement schemes were located in the drier agro-ecological regions.

The Land Acquisition Act was amended in 1997 by the government to expedite land redistribution. Under the amended Act, the government reserved the right to expropriate any land that it deemed unutilised and underutilised through paying compensation in local currency (Rukuni 1994). Despite this, land redistribution did not pick up momentum, if only because this amendment was not implemented to any significant extent. At the same time, it was becoming clear that land redistribution was marked by corruption, with political elites acquiring land (including entire commercial farms) though not falling within the redistribution criteria (Alexandra 1994). Increasingly, as well, the government issued permits of occupation to resettled farmers on condition that they would fully utilise the land and commit themselves exclusively to farming (Kinsey 1999). This was not necessarily inconsistent with its attempt to ensure food security through redistribution, as farming activities in the newly-resettled areas were from the start regulated to improve food production by African farmers. This often took the form of specifying

which crops would be produced and the amount and methods of production in such areas (Thomas 2003). The support provided by the state to resettled farmers was though minimal.

By the late 1980s, the Zimbabwean government was being pressurised from the International Monetary Fund (IMF) and donor agencies to radically liberalise its economy through a cocktail of neo-liberal structural adjustment programmes in order to arrest a decline in the national economy (IMF 2000). Kanyenze (2004) points out that the result of the adoption of neoliberal policies in the early 1990s was to structurally weaken small-scale farming in both the resettlement and communal areas, as the central government was forced to assume a new role of being a facilitator rather than adopt a more interventionist role as in the 1980s. This meant the withdrawal of active support including credit for small-scale African communal farmers, before they had the opportunity to recover from decades of neglect prior to 1980 (World Bank, 1991).

3.3.2 1991-1999: Neo-Liberalism and Land

This period saw the ZANU-PF led government coming under immense pressure from global financial institutions in the face of declining macro-economic variables and, in this context, it adopted the Economic Structural Adjustment Programme (ESAP) in 1991 (Moyo and Yeros 2004). Under this package, and amongst other standard neo-liberal measures, the government reduced its public spending, devalued the currency, liberalised prices, lowered interest rates, and deregulated capital accounts and labour relations (Kanyenze 2004). According to Moyo and Yeros (2004), the result was increased trade deficits and inflation with a fall of 17% in the Gross Domestic Product during the 1990s. By the year 1995, there had been a two-thirds drop in real wages which was accompanied by increased job losses in both the private and public sectors.

The years of 1997 and 1998 were particularly troubling for the Zimbabwean economy. Parsons (2002) identifies the war veterans' payout, the entry of the Zimbabwean army into the war in the Democratic Republic of Congo (DRC) and the impact of the Asian financial crisis as the major shocks that catalysed the economic meltdown. Facing mounting pressure from the war veterans (or ex-guerrillas) who were now threatening the legitimacy of the ruling ZANU-PF party, President Mugabe sought to regain their trust and support through massive unbudgeted compensation gratuities which contributed to draining state coffers (Phimister and Raftopoulos,

2004). The Zimbabwean government also committed itself to a costly intervention in the DRC to prop up Laurent Kabila whose government was under siege from rebels. The effect of this intervention was the withdrawal of IMF and World Bank financial support in 1999 to a country (Zimbabwe) which was seen as having misplaced priorities and going against neoliberal principles. The economic and financial crisis along with a currency plunge accelerated in this light.

In addition to all this, a series of dramatic events occurred that included protests in late 1997 over the government's tax increases to cover its unbudgeted expenditure as well as demonstrations against increases in the prices of maize in January 1998 (Phimister and Raftopoulos, 2004). This opposition was mainly urban-based, and it culminated in the formation of the opposition political party, Movement for Democratic Change (MDC), in 1999 led by Morgan Tsvangirai. The birth of this new political party is quite pivotal to the contemporary politics of Zimbabwe because it triggered landmark policy and programmatic shifts on land and resettlement by the ZANU-PF-led government as a way of maintaining its control over the state and state resources (Raftopoulos, 2003). Fast track land reform, from the year 2000, was facilitated by the growing pressure emanating from the MDC and the plummeting popularity of the ruling party. Raftopoulos (2003) argues that accelerated land reform, as pursued under fast track, was the only selling point that the ruling party apparently had for addressing the systemic crisis marking the national economy.

However, in the context of the structural adjustment programme, land redistribution slowed down considerably during the 1990s. It was also during this period that the government officially modified the criteria for identifying the beneficiaries of land distribution. Under the dictates of the neoliberal principles, the government was now entirely focused on agricultural productivity and thus a productivist understanding of land redistribution emerged (Raftopoulos, 2003). This meant a departure from the criteria for land redistribution beneficiaries of the 1980s which focused in large part on the rural poor to enhance food security at household level, though even during the late 1980s there was evidence of a shift away from this (Moyo 1995). Land redistribution now targeted agriculturally-capable farmers who were graduates from vocational agricultural colleges, communal farmers with Master Farmer Certificates and experienced communal farmers who were prepared to forgo their communal land rights (Moyo, 1995; Masiwa, 2004). The marginalised

rural poor who mainly subsisted in the communal areas were excluded from this new focus despite the fact that pressure for land and livelihoods had continued to mount in the communal areas from 1980.

As an indication that the situation in the communal areas was becoming potentially explosive, Zimbabwe's population had risen from seven million in 1980 (Wiggins, 2004) to 10.4 million in 1992 (Central Statistics Office, 2004) with over 60% of the total population residing in rural areas. Despite the legal possibility of engaging in expropriation, land redistribution during the 1990s was strictly based on the willing seller-willing buyer model with state assistance. Financial compensation to white farmers continued, as did the setting of land prices primarily by market forces (Waeterloos and Rutherford, 2004). This was the major handicap that stalled the process of land distribution during the 1990s. Facing a frustrating situation around land, Mugabe appointed Mandivamba Rukuni to chair the Land Tenure Commission (LTC) to examine the appropriateness of Zimbabwe's diverse land tenure systems, with currently freehold for commercial farms, and resettlement and communal areas owned by the state (with rights of occupation and possession only for resettled and communal farmers) (Alexander, 2003).

The findings of the Commission, from 2004, indicate that a crucial way to relieve the mounting pressure in the communal areas was to engage more proactively in land distribution (Rukuni 1994). In this respect, the Commission claimed that taxes should be levied on unused or underutilised land on commercial farms to encourage the selling off of land by commercial farmers in high-yield agricultural areas (Rukuni 1994). On the tenure system in the communal areas, it was recommended by the Commission that the prevailing permit system (of occupation) was undesirable as many farmers felt insecure (without ownership rights) and this compromised their commitment to the land and investment in it (it also prevented formal financial institutions from giving credit to them) (Rukuni 1994). It was argued that the government should give long-term leases or title deeds to communal farmers to secure full ownership of the land and thereby stimulate agricultural production. The recommendations of the Rukuni Commission seemed appropriate or at least reasonable. However, for a variety of reasons, the government failed to commit itself to these recommendations let alone to implement them (Moyo, 1998; Moyo and Yeros, 2004).

Meanwhile, with government rolling back state expenditure under neoliberal restructuring, communal-based agriculture suffered significantly (Moyo and Yeros 2004). The government stopped offering input subsidies, privatised agricultural boards and significantly reduced agricultural extension services to the farmers. Communal, along with resettlement, farmers bore the brunt of the effects of ESAP compared to large-scale commercial farmers who took advantage of trade liberalisation, export opportunities and foreign currency generation by diversifying into high value-added agricultural activities such as horticulture and ecotourism.

Against the background of a very slow land distribution process during the 1990s, the government faced increasing pressure from war veterans and communal area farmers to address the land question, as exemplified by sporadic land occupations of white commercial farms during the last years of the decade. In this respect, the ruling party sought to enhance its legitimacy and the loyalty of the war veterans and others by designating in November 1997 nearly 1,500 white-owned farms for redistribution without any guarantee of compensation (Masiwa, 2004), which led to considerable uncertainty and fear amongst farmers, who subsequently successfully challenged these designations through court action. Consistent with this new land redistribution push, the government adopted the National Land Policy in 1997 (Thomas, 2003), which signified the start of the second phase of the LRRP. In terms of this policy, the government did underscore its commitment to pay compensation for any land acquired through expropriation but, due to insufficient funds of its own, it sought to mobilise funds from donors.

Consequently, the government convened a donor conference in September 1998 where it articulated the National Land Policy to the donors in search of a buy-in for funding. The government sought to mobilise 1.5 billion Zimbabwean dollars for compensation of white commercial farm land (Thomas 2003), and expected one million hectares to be redistributed within the first year of implementing the second phase. Mugabe, at the conference, highlighted that it had become imperative to compulsorily acquire land to speed up the redistribution process and argued that it was the responsibility of the donor community to support this initiative. There was a massive buy-in from the donor community, with many donors supporting the initiative with financial pledges and technical support (Government of Zimbabwe, 1998). But donors expected the

Zimbabwean government to respect the rights to private property as per the neoliberal reasoning on land redistribution, and demanded that the land policy be redrafted for financial aid to be forthcoming.

The new land policy also entailed a shift in terms of the intended beneficiaries of redistribution (Masiwa, 2004), with the government taking a more inclusive approach as in the 1980s. Thus key categories of beneficiaries included the landless and families residing in particularly overcrowded communal areas, but not necessarily excluding graduates from agricultural colleges and people with extensive farming experience. However, of the intended 150,000 beneficiaries for resettlement, only 4,697 were resettled by the year 2000 (Moyo 2000, Waeterloos and Rutherford 2004). Nevertheless, this policy initiative was soon to be taken over by events on the ground from early 2000.

The initial failure of the second phase of the land reform programme meant that the Zimbabwean government had only one other option available to expedite land redistribution, namely, expropriation without compensation. In this respect, the government sought to amend the national constitution in order to enable it to pay only for compensation on improvements to the land (that is, to compensate for fixed property on the land but not the land itself). This position arose in late 1999 through the Constitution Commission that was appointed by the ZANU-PF government. This constitutional proposal arose in the context of constitutional changes also being proposed by urban civil society organisations, with these organisations flourishing in the 1990s around civil and political liberties and in opposition to ZANU-PF. The National Constitutional Assembly (NCA), which was linked to the main trade union federation and was central to the formation of the MDC, played a key role in drafting a civil society-driven constitution. When the new constitution as drafted by the government was put to a referendum (in February 2000), civil society groups campaigned heavily against it such that it was rejected by the electorate.

The government's failure to amend the constitution in order to move the land redistribution process forward on a significant basis led to further frustration amongst the already-disgruntled war veterans and the many landless and land-short people in the communal areas (Masiwa, 2004). As

a result, widespread land occupations arose in late February and engulfed the entire countryside (Thomas 2003). It remains unclear if the occupations occurred at the behest of the ruling party. Nevertheless, the ZANU-PF government effectively legitimised the occupations by refusing to have the occupiers forcefully removed from white (and other) farms, particularly given that parliamentary elections were to take place in June 2000. Subsequently, in July 2000, it drafted the fast track land reform programme.

3.4 Year 2000 and Beyond: Fast Track Land Reform

In this section, I examine the contemporary phase of land issues in Zimbabwe, starting off by first setting out the broad political economy of the country and then going on to examine specifically the radical Fast Track Land Reform Programme.

3.4.1 The Political Economy of Zimbabwe's post 2000 Era

From the year 2000 going forward, there has been increasing economic turmoil and political tension which has created a multiplicity of hardships in Zimbabwe (Sachikonye 2012). For example, the ZANU-PF-led government's fast track land reform, recurrent interference and intimidation of the judiciary and the widely unpopular and unrealistic price controls have led to a drastic drop in investor confidence (Human Rights Watch 2005). Data from a recent IMF Country Report (IMF 2012) shows that the country's national economy had contracted by as much as 40% between the years 2000 and 2007, with agricultural output dropping by 51% and industrial production by 47% (Sachikonye 2012). It was also during this same period that the national rate of inflation shot to unprecedented levels of more than 100,000%. The collapse of the economy led to acute shortages of hard currency, fuel, medicine and food.

Faced with such a collapse of the economy, the government has repeatedly blamed the problems on the sanctions imposed on the country by the United States and its Western allies (*The Herald* 22 March 2007). This stance has been largely supported by the central government in its annual monetary policy announcements (RBZ Monetary Policy 2003, 2004, 2005, 2006). The major message from such sentiments is that the 'the West' is deliberately crippling the economy in a bid to overthrow President Mugabe's government. The response from 'the West' is that sanctions are merely targeted on President Mugabe and his inner circle to keep them at bay due to their human

rights violations. But such initiatives had broader global implications with, for example, the IMF and the European Union suspending any further direct financial support to the Zimbabwean government. This only served to add to the woes of the Zimbabwean economy, with the IMF in fact suspending Zimbabwe because of its incapacity to service its foreign debt repayments (Sachikonye 2012).

The crisis reached epidemic proportions in 2008 with the holding of the controversial national elections, the outcome of which was the formation of a Government of National Unity (GNU) (including ZANU-PF and two factions of the Movement for Democratic Change). Faced with an unprecedented annual inflation rate that was running now into millions of percentage, the newly installed national unity government formalised foreign currency transactions in 2009 as a measure for stimulating and revitalising the national economy. A multicurrency arrangement was put in place but with the economy effectively dollarised (with the United States dollar being the dominant currency in circulation). The instant impact of the multicurrency era was a reversal of inflation which also permitted the banking sector to become stabilised. As well, the Zimbabwean economy started to register, at least initially, slow growth after 2009. But economic problems continued under the GNU. For instance, there were extremely high interest rates due to limited capital in the economy (Raftopoulos 2013). After the slow growth until 2011, the economy started to show signs of decline (World Bank 2013). The then Finance Minister (Tendai Biti) from the MDC had announced that Zimbabwe's national public account held just \$217 in January 2013 (*BBC News* 30 January 2013) The President of Zimbabwe, and the leader of the ZANU-PF in the GNU, was on several occasions quoted as singling out political bickering (within the GNU) as the reason why economic growth could not be sustained (*The Herald* 11 March 2012). There seemed no doubt that ZANU-PF wanted, in and through the upcoming 2013 elections, to restore its role as the uncontested sitting government without any form of alliance.

There was considerable bickering between ZANU-PF and the MDC factions regarding the setting of preconditions for the 2013 elections, with the ZANU-PF party insisting that the elections go ahead as scheduled. The subsequent election results, which gave ZANU-PF a massive victory, were highly contested with the MDC claiming that they had been rigged (*News Day* 6 August

2013). Despite the promises that have been given by ZANU-PF to revive the economy once it once again ruled on its own (i.e. post-GNU) (ZANU-PF Manifesto 2013), the economy has been shrinking even further and experiencing deflation (Biti 2014). This of course considerably impacted negatively on the national fiscus as well as the capacity of line ministries within the state to implement policies and programmes. In August 2014, Zimbabwe began selling treasury bills and bonds to pay civil servants' salaries (which are normally delayed as well). The year 2015 saw many company closures as the economic environment continued to be challenging. And public infrastructure and social services continue to deteriorate, while the coercive practices of the state against political opposition remain pronounced.

3.4.2 The Fast Track Land Reform Programme

The ZANU-PF government was handed its first loss in a national vote since independence in 1980, if only in a referendum. This forced ZANU-PF into panic mode, realising the real possibility of losing political power and worse, to the MDC, a party supported by white commercial farmers. The rejection of the draft constitution in the February 2000 referendum did not however stop the ZANU-PF government from amending the constitution in April 2000 to allow for compulsorily acquiring land from white commercial farmers without the obligation to pay compensation (Masiwa, 2004). Moreover, having amended the constitution, the government reiterated its stance that it would pay only for improvements to the land and that Great Britain, as the former coloniser, would be expected to pay any compensation for land. The Fast Track Land Reform Programme (FTLRP) was then officially launched on the 15th of July 2000 (Government of Zimbabwe 2004). No challenge as to the 'fairness' of the compensation as determined by the government's Compensation Committee would be considered. The programme also removed the need for officially designating farms and this, according to Coldham (2000), effectively removed what was considered a land reform process bottleneck.

At the time of fast track, about eleven million hectares of agricultural land were still in the hands of about 4,500 commercial farmers, the great majority of them being white farmers (Human Rights Watch, 2002). Fast Track, which was animated by the ongoing occupation movement, led to massive land expropriation and over a very short period of time. And, in the end, the Zimbabwean state did not pay for compensation for land improvements. Since the FTLRP amounted to a

complete disregard for the laws of private property, there was widespread condemnation of it locally, regionally and internationally. Efforts were made to convince the government to back-track on fast track. For example, the United Nations Development Programme dispatched two technical teams to Zimbabwe with the intention to give recommendations on making land reform more systematic and less chaotic. And, on the local front, the Commercial Farmers Union (CFU) drafted its alternative policy document termed the Zimbabwe Joint Resettlement Scheme (ZJRI) (UNDP 2002, Made 2004, Worsley-Worsick 2005). Perhaps, predictably, these efforts did not sway the Zimbabwean government. The rapid take-over of highly-productive commercial farms led to a significant downturn in agricultural production as measured in terms of national figures and, because of the dependence of manufacturing on agriculture on both the upstream and upstream sides, this had a serious knock-on effect for the national economy. The economic problems which solidified under structural adjustment in the 1990s therefore became more intense and reached crisis point.

The FTLRP led to radical changes to the agrarian economy (Murisa 2010). Under the auspices of the programme, resettlement took place on the basis of what are called the A1 and A2 models. A1 farms are extensively subdivided with farming households receiving about six hectares for crop production and common land for grazing, along the lines of farming in communal areas. In fact one rationale behind the A1 model of resettlement was to de-congest the communal areas. As a way of cementing the loyalty of the war veterans, 20% of the land was reserved for them. Homestead arrangements on the A1 farms were to be in the form of centralised villages or self-contained small farm units (Government of Zimbabwe 2004). Given the crisis of the post-2000 economy, and its effect of state fiscal capacity, A1 farmers received very minimal state support. The main purpose of the A1 plots was to engage in agriculture at a largely subsistence level though hopefully allowing for some level of agricultural commodity sales. The A2 scheme was for commercial farming and was aimed at increasing the number of African indigenous commercial farmers. Some commercial farms were taken over as one unit while others were divided into a small number of commercially-viable plots. Officially, all citizens of the country could apply for land under fast track provided they met the requirements of the model they chose (Government of Zimbabwe, 2004). However, it is widely recognised that the A2 redistribution process was subject

to considerable bias and corruption, with government/state elites and businesspeople with close ties to the political elite often receiving farms (Kanyenze 2004).

3.5 Agriculture in Zimbabwe

So far, this chapter has discussed the political history of land in Zimbabwe, up until the contemporary period. In this context, I now provide a similar discussion of agriculture including with reference to state policies and the interventions of private companies and NGOs. NGOs are currently driving the agricultural innovation platform process in communal areas of Zimbabwe, but they are doing so in cooperation with state institutions.

3.5.1 State Interventions in Agriculture

The centrality of the land issue in Zimbabwe, and the pronounced agricultural base of the national economy, has guaranteed the central involvement of the state in agriculture throughout the history of the country. A large number of state ministries and departments have been involved, such as those focusing on land, agriculture, natural resource management, local government and finance (including the Reserve Bank) as well as parastatals notably the Grain Marketing Board (GMB). The extent to which state intervention has prioritised small-scale African farming historically, even after independence in 1980, is problematic, as I demonstrate immediately below in relation to the post-2000 period.

As already indicated, the period from the year 2000 has witnessed a downward spiralling of the national economy mainly due to the ripple effects of the FTLRP on agricultural production (Kanyenze, 2004). In response to the multi-faceted economic problems, the government devised and implemented a plethora of economic measures to arrest the impending meltdown but without considerable success, including the effort to attract desperately-needed foreign direct investment (Moyo 2002, Moyo and Yeros 2005). The main policies since 2000 have related to for example controlling agricultural, food and commodity prices; state control of agricultural and mining foreign currency revenues; less reliance on external finance; the diversification of exports; and fuel and energy subsidies targeting mainly the urban poor (Jawah, 2009). Most of the interventions have been reactive and short-lived rather than pro-active and sustainable. In tackling the economic woes, the government has also faced the complex task of appeasing competing interests including

indigenous businesspeople, fast track farmers on both A1 and A2 farms, and the urban working and middle classes (Moyo and Yeros 2005:199). It has sought to balance these interests with the recognition that its capacity to remain in power and to govern is contingent upon maintaining a sufficient support base.

Overall, in terms of the fast track programme, it is clear that the government has given preference to large-scale A2 farmers over A1 farmers in order to ensure some degree of agricultural recovery after the undercutting of white agrarian capital. This is reflected in the extent to which the government has invested in irrigation and provided technical support to A2 farmers. Of course, as noted previously, A2 farmers owe their fast track commercial agricultural landholdings either directly or indirectly to the state, with many policy makers as political elites engaged in A2 farming. This is deeply troubling as it involves a relative neglect not only of small-scale A1 farmers but also of small-scale communal farmers. Soon after the implementation of fast track, Moyo (2002:4) in fact noticed this trend emerging, in arguing that ‘the political economy policy project of agrarian reform could very well marginalize the peasantry [small-scale farmers] and even continue to undermine their incomes and livelihoods if the policy is deliberately not balanced in favour of small farmers’.

Rukuni (2013) points out that the 2011 national statistics on agriculture show an increase in agricultural output compared to the previous year, as follows: maize output increased by 9%, tobacco output by 44%, finger millet by 34%, groundnuts by 24% and soya beans by 20%. But the important point for my purposes is that, of the total agricultural output, communal farmers accounted for the largest share (at 43%) and A1 farmers contributed 24%. The other figures were: long-established commercial agriculture (4%), A2 farmers (20%), resettlement farmers from the 1980s (5%), and small-scale commercial farmers and peri-urban farming activities contributing 2% each. The significance of communal agriculture therefore is beyond doubt, with most of the agricultural output by communal farmers contributing to food security at household level. And this is being accomplished without massive backing from the state.

In turning back to the 1980s, Bernstein (2002) points out that the Zimbabwean government in the early 1980s did not seek to bring about an end to the dual agricultural system (inherited from the Rhodesian state) and the racial geography of the countryside by for instance revising the tenure systems then existing. Nevertheless, without seriously compromising the operational integrity of white commercial agriculture, there was a deliberate and targeted attempt to support small-scale communal farmers. This was motivated by the realisation that the long period of colonialism had disadvantaged these farmers. The policies that were followed by the government aimed at capacitating communal farmers through subsidised inputs, the promotion of conservation farming techniques, investing in smallholder irrigation schemes, animal disease control and opening up of marketing channels that aimed at allowing communal farmers to sell their crops at competitive prices (Chasi et al. 1994, Marongwe 2003, Moyo 1995). The 1980s were dominated by an effort to control the price of agricultural inputs (in order to keep inputs affordable to communal farmers) and to set profitable market prices for agricultural commodities (in which the GMB played an important role as official purchaser of for example maize). In this respect, the government allocated a foreign exchange budget to agricultural trading associations involved in the importation of inputs to minimise the post-import price of inputs; similar price controls were placed on locally-produced inputs including those produced by parastatals (such as fertiliser). In pursuing this, the government envisaged communal farmers as conduits for achieving food self-sufficiency. As a follow up to this policy objective, the government also promoted the production of specific crops such as maize. As well, the Agricultural Finance Corporation (AFC), a parastatal under the direction of Zimbabwe's Reserve Bank (RBZ), was established in the early 1980s with a sole mandate to promote communal and resettled farmers who engaged in agriculture full-time. Through this initiative, in the 1985-86 agricultural season for example, it provided 100,000 communal, small-scale farmers with funds (Jansen and Rukovo, 1992), resulting in 45% of marketed maize being produced by these farmers.

Moyo (2001) points out that these policies, including significant state subsidies for communal farmers, were soon abandoned after the adoption of ESAP. This market-oriented macroeconomic programme meant reduced state intervention including within the realm of agriculture: for example, input subsidies for small-scale farmers were eliminated, and trade in agricultural

commodities was liberalised and became subject to the market mechanism. The communal farmers now had to operate on the same basis as large-scale white commercial farmers, with the latter on a firmer and more financially-stable footing because of the colonial legacy and, generally speaking, more capable of operating under neoliberal circumstances. In realigning its agricultural policies consistent with ESAP, the government promulgated the Zimbabwe Agricultural Policy Framework and Strategy, 1995–2020. This involved doing away with the central role of the GMB and privatising the agricultural sales market through the Zimbabwe Agricultural Commodity Exchange, with open competition bringing down the prices for agricultural commodities. As well, the AFC was undercut with its successor (Agribank) being formed in 1996. Agribank was created at a time when the government's fiscal space was increasingly shrinking and hence it failed to play any role in financing and providing credit to communal farmers. These farmers now found themselves in a difficult situation in which the only available option was commercial banks, but they were denied funding because the absence of collateral (such as ownership of land) disqualified them from credit facilities.

The situation for communal farmers did not improve significantly subsequent to the year 2000, in large part because of the sheer incapacity of the state. For instance, in its November 2005 report to Parliament, the Portfolio Committee on Lands, Land Reform, Resettlement and Agriculture expressed deep concern about the lack of available funding facilities for communal farmers. The government sought to address the plight of communal farmers through the promulgation of the National Agricultural Strategy Framework, 2005–2035, which was augmented by the Agricultural Mission Statement Strategy Framework and Action Plan, 2007–2011. These arrangements were meant, amongst other things, to reintroduce the basic principle of capacitating communal farmers as a way to achieving food self-sufficiency and security. However, the formulation of these initiatives suffered due to limited stakeholder consultation and they were never properly implemented. In fact, the government appeared to be preoccupied with the FTLRP and financing fast-track based agriculture, and primarily A2 farmers. In this respect, the RBZ provided financing for sourcing inputs and agricultural equipment through various programmes.

From the early 2000s, Zimbabwe's policy on the marketing of grains shifted back to state-controlled markets and thus away from private agricultural commodity markets which was designed in part to control prices for agricultural inputs and outputs and to minimise costs of agricultural goods for urban consumers. This more interventionist policy was marked by the reconstitution of the Grain Marketing Act through the Grain Marketing (Controlled Products) Notice, which made private grain trade illegal, leading to the suspension of the operations of the Zimbabwe Agricultural Commodity Exchange. There were also efforts by the Ministry of Agriculture to come up with another key agricultural policy document through the help of the Food and Agricultural Organisation. The deliberations produced an agricultural blueprint referred to as the 'Nyanga Document' in 2009. The document aimed at strengthening agricultural self-sufficiency and productive capacity in the country as well as streamlining agricultural institutions to enhance coordination and effectiveness. But, in relation to communal farmers, there were for instance no concrete measures to ensure that funding and credit lines were activated.

Through different institutions, there have been some initiatives rolled out by the Zimbabwean government to resuscitate the ailing agricultural sector with reference to both small-scale (resettlement and communal) farmers and large-scale commercial farmers (including A2 farmers). Such initiatives have included the GMB's Crop Input Scheme, the Agricultural Rural Development Authority (ARDA) Irrigation Fund, and ARDA's Livestock Development Trust (LDT) livestock support schemes (World Bank 2006:54). These initiatives have tried where possible to include small-scale communal farmers given the realisation by the state that they play a central role in the food security matrix of the country.

The focus of the GMB crop input scheme has been to improve food security in the country by stimulating grain production, which was on the decline since 2000 but has more recently shown a recovery. Farmers have received seed, fertilizer and pesticide inputs on a concessionary loan basis which is repayable when the farmer delivers grain to GMB, with A1 and A2 farmers both being targeted. This scheme excludes the communal farmers. Another intervention has been the irrigation fund administered by ARDA with assistance from the Department of Agricultural Engineering and the Agricultural Research and Extension Services. This scheme has targeted

small-scale communal farmers who wanted to either rehabilitate their irrigation schemes or install new equipment. Applications were invited for such support with on-site inspection by ARDA staff involving an assessment of existing equipment and prospects for installing new irrigation systems. If accepted, farmers would be offered a loan at 20% interest with a timeframe for repayment of between three and five years. Manzungu (2004) points out that, by 2002, an amount of US\$196,000 had been distributed to 323 applicants to reconstruct irrigation infrastructure covering 7,751 hectares. Further, there has been the public livestock resettlement schemes implemented after FTLRP to cater mostly for communal and resettled farmers. The schemes gave farmers money to buy heifers. A2 farmers though were also included, and were given money to buy up to fifteen heifers, while communal and A1 farmers could apply for two or three heifers (Moyo, 2004).

The World Bank (2006:54) points out that, despite these measures to improve agriculture, a number of issues have acted as stumbling blocks to their successful implementation. The crop input scheme has not been particularly successful, in large part because of inefficiencies and incapacities within the parastatal (GMB) leading for example to inadequate levels of inputs and delays in disbursing inputs (FAO/WFP 2003). Such problems have heavily compromised agricultural yields. The GMB has also failed to develop tight monitoring measures to enable repayment by farmers and many farmers have in fact defaulted on their payments. Similar problems have arisen with the other two schemes because, as with the crop input scheme, farmers are expected to meet the repayment terms for acquiring irrigation equipment and heifers but often fail to do so, which then undercuts the financial capacity to maintain the schemes and prevents the scaling up of the schemes. Corruption and mismanagement are as well major allegations levelled against the livestock and irrigation schemes.

The Reserve Bank of Zimbabwe (RBZ) specifically has been directly involved in agricultural support. Since the economic meltdown of the economy in Zimbabwe from 2000, the RBZ increasingly moved from handling fiscal and monetary matters only to engaging with issues of broader economic restructuring. Kanyenze (2010) argues that the role of the RBZ was expanding beyond its standard responsibilities because of its centrality in mobilising the much needed foreign currency for the government. The period of hyperinflation (from 2000 to 2009) saw the

government entirely dependent upon the RBZ for foreign currency. In June 2005 government through the reserve bank introduced the Agricultural Sector Enhancement Productivity Facility (ASPEF) with the following aims: providing low-cost funding for specific kinds of primary production in the agricultural sector; enhancing capacity utilisation, infrastructural development and output from the agricultural sector; ensuring food security and import substitution; and generating foreign currency (RBZ, 2007).

The initiative though mainly targeted large-scale commercial farmers (including A2 farmers) who had the capacity to pay back loans. The main reason for the focus on large commercial farmers was to stimulate agricultural production for the purposes of exporting agricultural commodities to generate foreign currency. As at 31 August 2007, Z\$3.9 trillion (US\$3.3 million) had been disbursed under this facility to 21,940 applicants at concessionary interest rates to stimulate agricultural production (RBZ 2007:33). Even though the facility was of potential significance for agriculture as a whole, it intentionally excluded communal farmers (as well as A1 farmers) as they were largely viewed as non-creditworthy and hence high risk debtors.

Another intervention spearheaded by the RBZ was the mechanisation programme that intended to capacitate farmers through the subsidised provision of agricultural equipment. It was launched in June 2007 by the RBZ as a nationwide intervention to procure and distribute agricultural machinery and equipment, including tractors, combine harvesters and other (tractor- and animal-drawn) farm implements (RBZ, 2007). As this was the time when the country was reeling under the effects of a hyperinflationary environment, the capacity of even large-scale farmers to replenish their equipment had eroded. Re-capitalising the agricultural sector was seen as the basis for reviving the national economy more broadly. Sophisticated equipment such as tractors and combine harvesters would be imported, but locally-produced equipment such as ploughs, scotch carts and knapsack sprayers were distributed under the programme (which, it was claimed, would build-up small local manufacturers engaged in such production). The more basic agricultural equipment was meant for small-scale farmers.

The RBZ spoke glowingly about the success of the programme, claiming that the machinery and equipment had been allocated with an emphasis on such noble criteria as transparency, proven productivity records, geographical spread, ability to pay, type of farm soils, record of previous debt or loan repayment, size of land, and type of national crops grown by each selected farmer (RBZ 2010). But critics have highlighted major flaws of the programme such as corruption and the lack of systematic planning and implementation. For Kanyenze (2010), the mechanisation programme was simply used by the government to cement ties with A2 farmers (who benefited immensely) such that ZANU-PF politicians high-jacked the programme to mobilise political capital for themselves. Some of the equipment was also sold by the beneficiaries (and at a profit) despite measures that were put in place to control this.

Broadly speaking, since 1980, it can be concluded that state agricultural interventions with reference to small-scale communal farmers have been sluggish and ineffective. Though there was significant intervention in the 1980s, structural adjustment undermined this and the legacy of the adjustment programme from the 1990s has not been addressed by the Zimbabwean government since the year 2000 in any sustained manner. Concrete agricultural policies focusing specifically on communal areas have not been forthcoming over the past fifteen years, in large part because of state incapacity but also because of the focus on fast track farms. In this respect, it has become apparent that the government prefers to concentrate its resources on the large-scale A2 farmers despite the fact that A1 and communal areas produce the bulk of the country's grain. As well, key policies such as the National Agricultural Strategy Framework have been made ineffective by the lack of stakeholder buy-in emanating from insufficient consultation and a shrinking fiscal space. These challenges are mirrored in the efforts by the state to boost food security through different schemes rolled out through the GMB and the RBZ.

3.5.2 Non-State Actors and Agriculture

The Zimbabwean government has always benefited from international development assistance, including in relation to agriculture, though the form and extent of this assistance varies over time (Alden and Anseeuw, 2009). International assistance around agriculture was prevalent during the 1980s when the government sought to invigorate and invest in the small-scale agricultural sector and the government continues to benefit from multiple sources of agriculture-focused

developmental aid (IMF 2010) from both multilateral and bilateral donors. Admittedly, though, the post-2000 period has been very problematic because – from the perspective of mainstream donors – fast track land reform is conceptualised as anti-development (Kanyenze 2004). Thus Sukume and Guveya (2009) note that the fast track period has seen Zimbabwe receiving not only relatively low donor assistance towards agriculture, but also donor funds granted on a short-term, year-on-year basis. To illustrate this general point, development funds to Zimbabwe decreased to US\$150 million in 2001 and only reached pre-2000 heights of US\$592 million in 2008 (Woods, 2005; OECD-DAC, 2010). Not unlike the Zimbabwean government’s own somewhat haphazard and piecemeal measures for supporting agriculture in recent years, the current ad hoc approach of donors to agriculture in Zimbabwe suggests that they lack, or refuse to formulate, a robust and effectively sustainable long-term development strategy to support the government (FAO, 2010).

International and regional support to Zimbabwe by donors around agriculture has generally taken a target-specific or project-based approach rather than adopting a wider sectoral approach which addresses the agricultural sector as a whole in a systematic manner (Sukume and Guveya 2009). This in part reflects the failure on the part of donors to network on a regular basis and thereby to coordinate their efforts. At the same time, agricultural support initiatives have been often crafted to address clearly-defined socio-economic constraints and to reach vulnerable farmers most in need (Kapuya et al. 2010). An example of this is the provision by the Southern African Development Community (SADC) of seed and fertiliser through the SADC Agricultural Inputs Support Initiative of 2008 that primarily targeted Zimbabwe’s smallholder sector in communal and old resettlement areas. But most of this support for agriculture has been in response to emergencies (for instance supplying seeds because of input challenges in Zimbabwe) and is not designed to pursue any long-term development objectives for small-scale farmers. Further, fast track farmers (including the A1 farmers) have been in the main ignored by donors because of the illegitimacy of the fast track programme (Raftopoulos 2003) such that, while donors continue to support NGOs working with small-scale farmers in communal areas, they are unwilling to do so in the case of A1 farmers.

Giordano (2011) thus argues that the perceptions of Zimbabwe of mainstream funders from ‘the West’ (such as United States Agency for International Development) have been shaped by allegations of human rights abuse and mismanagement of the economy (both of which are linked to fast track land reform) such that a political impasse has taken place which negatively affects the flow of assistance to the agriculture sector. In this regard, assistance for agriculture is often channelled outside government structures and directly to NGOs and the rural communities with which they work (WFP 2010). This separation of efforts, with the donors and government at loggerheads, has created a dual system of agricultural support which has fragmented efforts to improve the agricultural lives of communal farmers (and A1 fast track farmers). Of course, the Zimbabwean government is antagonistic as well to donors as the latter are seen as representing and pursuing anti-government interests as part of a regime change agenda (FAO, 2010). As evidence of this, the government introduced the NGO Bill in 2004 (which never became legislation) as a potential mechanism to control the work of donor-supported development NGOs which are seen as aligned to the political opposition. The operating environment for development NGOs working in communal remains tense though they do work closely with line ministries of the state (Makumbe 2009). In this regard, at local levels in rural areas of Zimbabwe, it is not unusual to find cooperation existing between state structures, NGOs and community organisations, which is a kind of arrangement consistent with the agricultural innovation platforms studied in this thesis.

In response to the current turbulent environment, NGOs working in the agricultural sector have set up their own regulatory framework to improve their coordination when working in communal areas (FAO, 2010). An example is the Agriculture Coordination Working Group coordinated by the Food and Agricultural Organisation which has, additionally, sought to promote joint operations between non-state actors and the government (IMF 2010). To augment such cooperation, the European Union, under the auspices of the Multi-Donor Trust Fund (MDTF), is setting up a multi-stakeholder strategic reflection group which includes the government. Another category of donors organised around the MDTF model is headed by the United States Agency for International Development (USAID) and the World Bank, which is seeking to establish and direct funds towards more strategic and long-term agriculture-oriented approaches. The IMF (IMF 2010) highlights

though that coordination for such arrangements is often weak and donor alignment or cooperation is regularly ineffective.

Besides donors as non-state actors, development non-governmental organisations have been actively involved in rural Zimbabwe, and since the early 1980s. Also, private corporations have at times been involved in agricultural development endeavours. This of course is necessary given the linkages between agriculture and particularly agro-based manufacturing industries, both upstream and downstream. But corporations have also more directly and intentionally become involved.

Currently, these companies include agro-processors (Cottco, National Foods, Olivine, Chibuku, National Breweries and Ingwebu Breweries). Such companies have adopted at times the contract farming model to ensure the planting and harvesting of agricultural crops that form their key raw materials. In this model, they provide inputs to farmers to produce a particular crop (such as cotton) in exchange for the exclusive right to buy the produce at an agreed price (World Bank 2006). The arrangement has meant that farmers who cannot mobilise their own resources for farming, and this is particularly the case with resettlement and communal farmers, are able to engage in agricultural production annually and the companies involved are also assured of agricultural produce to sustain their production process. However, contract farming is not without its problems. For example, small-scale farmers are known to engage in side-marketing, namely, selling their harvest to individuals or companies (other than the one in which they are under contract) at higher than the contract selling price and thereby prejudicing the contracted company. Additionally, contracting companies have been blamed for providing inadequate inputs and buying the produce at unsustainable prices from the perspective of the farmers.

The financial sector in Zimbabwe has also played a role in agriculture through various financing schemes. At the behest of the government, commercial banks opened up credit lines for farmers but only for those who have collateral (World Bank 2006) and this thereby automatically disqualified small-scale communal farmers. These loans have been offered for the purposes of acquiring vehicles, and farming machinery and equipment to qualifying farmers. All farmers and communal farmers, with only rights of occupation to their land, have no collateral whatsoever. But

even A2 farmers have struggled to obtain such loans, as they have 99-year leases on their farms (rather than freehold title) which are often considered as insufficient as collateral to guarantee repayment or servicing of any loans. In this respect, commercial banks have consistently recommended that the land tenure system in, for example, the newly-resettled fast track areas be moved in the direction of freehold to ensure that land can be used for collateral purposes. However, the government has stood by the 99-year lease arrangement in arguing that title deeds for A2 farmers may lead to reselling of this land back to white commercial farmers and hence undermine fast track restructuring. In any case, the prevailing macroeconomic environment in the country has meant that interest rates charged by banks are exorbitant and thus unsustainable for A2 farmers.

Prior to 1980 in Zimbabwe, there was a range of welfarist-type NGOs which fitted into the logic of the colonial system in terms of the ways in which they related to the African population (Takure 2009). In fact, in many cases, these NGOs received some funding from the colonial power (Shivji 2005). These organisations were recognised under the Friendly Societies Act of 1891 (Moyo, 1993). The NGOs were mainly foreign Christian organisations which included the Catholic Commission for Justice and Peace and the Christian Union, and the Rhodesian state tolerated such organisations in so far as they did not question the policies of the government. However, from the 1950s, some church-based organisations involved in social welfare issues started to align themselves with the burgeoning nationalist movement and struggle (NGO Consultancy 2005). At the same time, NGOs (in their social welfare work) were simply acting as gap-fillers in providing services to the African population (for example, the promotion of income-generating activities) because of the neglect shown by the Rhodesian state in this regard (Muir, 1992). In this context, the Christian Council was banned in 1967 by the colonial government. As well, a piece of legislation (the Welfare Organisation Act) which more vigorously regulated the operation of NGOs was enacted two years after the Unilateral Declaration of Independence, in 1967, to thwart NGO support of the liberation movements. In the years before independence in 1980, given the sheer intensity of the guerrilla war in the countryside, there were not any realistic prospects of NGO involvement in development efforts in what are now the communal areas.

The attainment of independence in 1980 brought with it inevitable changes in the relationship between the state and NGOs. During the 1980s and early 1990s, most Zimbabwean NGOs interacted regularly and productively with individual ministries in their programmatic efforts, with a particular emphasis on the communal areas which bore the brunt of the war in the 1970s (Takure 2009). The mutually-perceived role of NGOs was that of addressing the racial legacies of the past and rebuilding Zimbabwe in a complementary way with the new government (Muir, 1992). NGO interventions in Zimbabwe during this period included relief and rehabilitation work but also more long-term development efforts in building rural infrastructure and supporting communal agricultural activities (Wellard and Copstake 1993).

NGO attention though focused as well on the resettlement farms which emerged during the 1980s. In this respect, the United Kingdom's Office of Development Assistance (ODA) released in 1988 an evaluation of the land resettlement schemes involving small-scale farming. This occurred in the context of initial doubts by some international donors and NGOs about the significance of land redistribution as a basis for rural development (Human Rights Watch 2002). The ODA report concluded that the sheer scale of the resettlement was an impressive achievement and that the government had made great progress in achieving its key objective of empowering the poor and marginalised. Most settlers had benefited from increased income-generation activities and access to schools and clinics, such that overall returns on government and donor investments were impressive. For this reason, NGOs continued to engage with the resettlement farms.

However, during the 1990s, the relationship between NGOs and the Zimbabwean state began to deteriorate. This was in part because the Zimbabwean state was seen as becoming increasingly authoritarian, which resulted in the formation of urban-based NGOs focusing on civil and political liberties, and financed by international donors. Indeed, in the face of the structural adjustment programme and its negative implications for the national economy, massive urban protests arose amongst the working classes at this time. The now complicated relationship between the state, donors and NGOs was manifested at the 1998 donor land conference and in the months following it, with criticisms being raised about the lack of government transparency in its land redistribution programme and its failure to adhere to the principles agreed upon at the conference. Despite these

problems, development NGOs (such as World Vision) continued to work extensively on agricultural challenges in the communal areas while avoiding open criticisms of the Zimbabwean state. The importance of this is made clear when considering the particularly severe concentration of poverty in communal farming areas. These areas contain half of Zimbabwe's total population but three-quarters of the poor and over 80 per cent of the very poor (Kinsey 2010).

With the beginning of the new millennium, and in the face of fast track, the relationship between the state and NGOs (with backing from donors) became marked by massive conflict, with the state accusing NGOs of supporting the main opposition party, the MDC. The fact that urban civic NGOs campaigned openly against the government with reference to the referendum in February 2000 was a catalyst which led to the state painting all NGOs (including development NGOs) with the same brush, as engaging in regime change on behalf of foreign powers, notably the United Kingdom (Dorman 2001, Makumbe 2009, Raftopoulos 2001). Development NGOs tried to remain above the political fray but their donors made it very clear that they (the NGOs) were to refrain from any development activities on fast track farms as the FTLRP was deemed as illegitimate. The state became highly suspicious of development NGOs working in communal areas, even accusing them of using food and relief aid as a political weapon in fomenting an anti-ZANU-PF stance amongst communal farmers. Development NGOs continue though to engage in communal areas around activities such as the following: provision of credit, savings initiatives, technical advice on inputs, diversifying the range of crops, assistance with ploughing, the supply of inputs, and assistance with marketing. In doing so, they claim to engage in broad-based participatory development unlike (from their perspective) the more top-down rural development efforts of the Zimbabwean state.

To conclude this section, it is clear that Zimbabwe like many other so-called developing countries rely on non-state actors – notably NGOs – for many developmental projects (including agricultural projects within communal areas). However the involvement of non-state actors in Zimbabwean agriculture is heavily influenced by the political atmosphere prevailing in the country. The year 2000 going forward has largely been characterised by ideological clashes between the state and non-state actors (specifically, donors and NGOs). The fast track land reform programme damaged

Zimbabwe's relations with its main donors and this has had a knock-on effect on development assistance broadly speaking, with donors and NGOs refusing in particular to engage with fast track farms. Donors and NGOs continue to support development (and specifically agricultural) interventions in the communal areas, and they have done so in a manner by which the state sometimes becomes sidelined in terms of receiving and administering development funds. Given the state's unwillingness and incapacity to engage in agricultural interventions in the communal areas, the role of development NGOs becomes increasingly important. However, NGOs do work with the line ministries of the central state and with local government structures. At the same time, the interventions by NGOs are often fragmented and piecemeal by nature due to the absence of coordination between NGOs. Finally, though private corporations are involved in the communal areas (through for instance input schemes), the financial institutions are hesitant about providing capital to communal farmers because of the absence of secure (i.e. freehold) land tenure.

3.5.2.1 NGOs and Conservation Farming

Non-governmental organisations have been in the forefront in introducing adaptable and user-friendly agricultural practices in Zimbabwe. Conservation Agriculture (CA), related to IPs, is being promoted as a potential solution to the production problems faced by small-scale farming households in sub-Saharan Africa (Haggblade and Tembo, 2003). Conservation agriculture is a suite of land, water and crop management practices that aim to improve productivity, profitability and sustainability (IIR and ACT 2005). The primary principles promoted for mainly hand-based and draught animal-powered cropping systems are: disturb the soil as little as possible; implement operations notably planting and weeding in a timely manner; keep the soil covered with organic materials (crop residues or cover crops) as much as possible; and mix and rotate crops. In order to ensure that a consistent message on conservative agriculture was delivered by the many NGOs working in Zimbabwe, the United Kingdom's Department for International Development (DFID) Protracted Relief Programme for Zimbabwe – on behalf of other humanitarian relief agencies – tasked the FAO (located in the United Nations' Emergency Office for Zimbabwe) to establish a broad based partnership that would coordinate CA activities (Twomlow et al. 2008). The CA Task Force for Zimbabwe was initiated in March 2004.

Despite nearly two decades of development and promotion (of CA for small-scale farmers) by the state's national agricultural extension programme (CA has been promoted by agricultural extension workers in the country) and numerous other projects in Zimbabwe, adoption has been extremely low in the smallholder sector, compared to other continents such as South America, North America and Europe (as well as sub-Saharan Africa) due to various constraints (Hobbs 2007, Derpsch 2008, Gowing and Palmer 2008). These constraints include: a low degree of mechanisation within the small-scale farming system; a lack of appropriate farming implements; absence of suitable soil fertility management options; problems of weed control under no-till systems; access to credit; deficiencies in appropriate technical information for change agents and farmers; blanket recommendations that ignore the resource status of rural households; competition for crop residues in mixed crop-livestock systems; and the availability of labour (Twomlow et al., 2006).

Another conservation farming initiative is run by the International Maize and Wheat Improvement Centre (CIMMYT), with originally the German Federal Ministry for Economic Cooperation and Development (BMZ) and now with International Fund for Agricultural Development (IFAD) funding, with the aim of facilitating the widespread adoption of CA in the maize-based systems of Zimbabwe (Twomlow et al. 2008). In Zimbabwe the target population for this initiative is the emerging commercial maize farmers located mainly in the fast track resettlement areas with financial and draught power resources to invest in animal-drawn no-till equipment such as direct seeders. The project partners have imported and are evaluating a range of equipment developed in South America. However, according to Twomlow et al. (2008), non-state players such as NGOs are unreliable (and their involvement unpredictable and unsustainable) as they tend to respond to politics in the recipient country. Usually a dramatic shift in politics, such as the fast track land reform in Zimbabwe, leads to the scaling down of NGO operations because of donor pressure.

However, a major flaw associated with CA programmes is that they, like all NGO programmes, are considered too short-term and narrow (or sector-focused) and hence do not often consider structures and processes in the broader agrarian political economy over the longer-term. NGO-implemented rural agricultural development programmes regularly focus on specific geographical

locations and run on the basis of three- or five-year projects whose time frames are not usually extended (Twomlow et al., 2008). Collaboration with permanent institutions, such as government agencies involved in long-term programmes, becomes difficult, ineffective and unsustainable. According to various stakeholders, institutional coordination and networking required for such initiatives as CAs is very expensive because every organisation has its own core business to pursue in relation to agricultural or other activities (Hobbs 2008). Thus, budgeting for coordination platforms, such as agricultural field days, may have to include the costs for collaborating organisations which have no or limited financial resources of their own (such as the state department involved in agricultural extension services in Zimbabwe).

Currently, the shortage of resources is leading some organisations to shift their attention away from shared activities to concentrate on their core business, and this presents a threat to established linkages and networks. Some key informants (from the Hwedza fieldwork) highlighted cases in which officers within line ministries of the state claimed travel and subsistence allowances from, for example, rural district councils. When such expenses were not met, collaborating line ministries were unwilling to continue in the established linkages. There is thus a tendency for stakeholders involved in CA and other joint agricultural initiatives to choose where to go to, and what to attend, based entirely on whether suitable daily allowances from the funding organisation are available, making stakeholder involvement somewhat haphazard and unpredictable (Twomlow et al. 2008).

Some of the organisations which were established for coordination purposes have failed to fulfil this role. For example, the National Agency for Non-Governmental Organisations (NANGO) in Zimbabwe has been largely ineffective and is on the brink of collapse. A more serious criticism is the suggestion that collaboration efforts have been more supply-led (donor- and dollar-driven) than demand-driven (in response to the efforts of the organisations involved) (Hobbs, 2008). Different organisations have also tended to use different field extension approaches and strategies. Examples of this include the use of top-down versus participatory approaches and the use or non-use of subsidised inputs earmarked for collaborating farmers in intervention programmes. Such

differences in approaches and on-the-ground strategies have also tended to make collaboration difficult.

3.6 Conclusion

This chapter has chronicled the history of land and agriculture in Zimbabwe and, in doing so, has brought to the fore the situation with respect to communal areas (given that the thesis study is based in a communal area). The communal areas have been an ongoing characteristic of the agrarian countryside though, under colonialism, they went by different names. Thus, there is significant continuity in land tenure systems in Zimbabwe with fast track land reform from the year 2000 bringing about the most significant change in this regard. However, communal areas remain and it is debatable if they have been decongested through fast track. In terms of agricultural interventions, in the 1980s there was significant and systematic state support for small-scale farmers in communal areas but this support was undermined from the 1990s in the context of structural adjustment. The situation post-2000 remains problematic for these farmers because the state has focused primarily on fast track farms. As well, overall state incapacity in the face of a declining economy has hindered the prospects for meaningful state engagement with the communal areas. This will be evident in the following empirical chapters on agricultural innovation platforms in Hwedza, which are being spearheaded and implemented by NGOs.

CHAPTER FOUR: ESTABLISHMENT AND OPERATIONALISATION OF INNOVATION PLATFORMS IN HWEDZA DISTRICT

4.1 Introduction

This chapter is the first of three empirical chapters on the agricultural innovation platforms in Hwedza. This particular empirical chapter examines the establishment and operationalisation of the platforms in Hwedza, but starts off by providing a background to the study site including the agricultural activities in Hwedza communal areas. I discuss the formation of the Hwedza agricultural innovation platforms including the selection of the villages from which small-scale farmers were drawn to become part of the platforms as well the subsequent operationalisation of the platforms. In this regard, attention is given to the patterns of local interactions which existed prior to the innovation platforms and then, more elaborately, to the ways in which the different platform stakeholders (or actors) became enrolled in the platforms and how bridging relationships and forms of engagement developed over time.

4.2 Agricultural Background and Studied Farmers in Hwedza

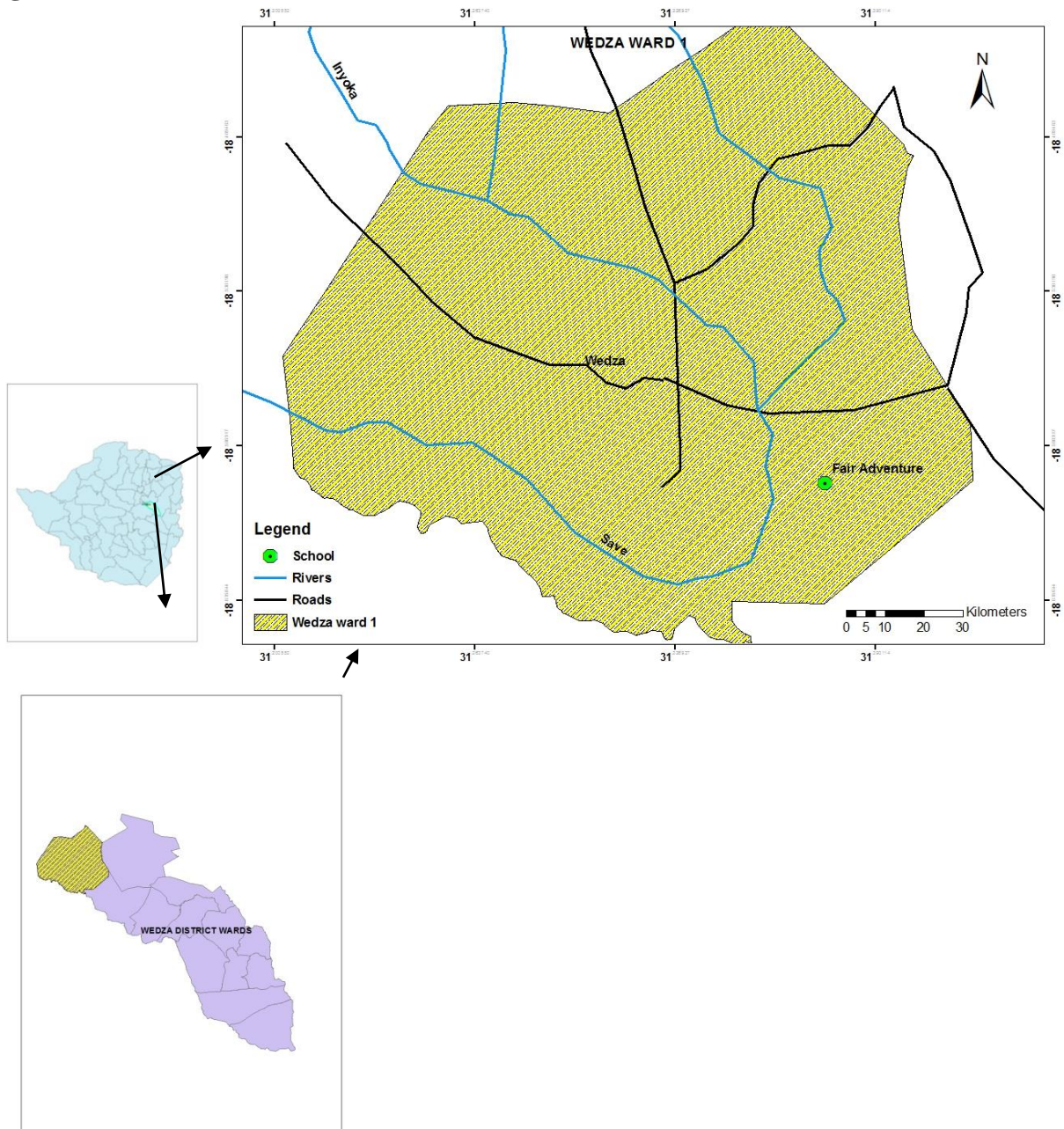
The study was conducted in Hwedza District (see Figure 4.1). The district is in the Province of Mashonaland East and was established in 1910 by the colonial government. The district is located about 50 kilometres south of Marondera and 127 kilometres south of Harare (Mtambanengwe et al. 2012). Translating the word Hwedza literally, it means the “the lighting of the sun”, which is derived from the location of an ancient town found on the other side of a deep forest, as pointed out by Svatwa et al. (2009). There were beliefs in times past that minerals such as gold, beryl, nickel and tungsten were in abundance in the hills around the villages in Hwedza and that this would be the basis for socio-economic development in the area. Zvinorova et al. (2012) note however that the deposits turned out to be too insignificant to make any mining viable.

Hwedza mountain range is one of the most outstanding geographical features in the district as noted by McDonald (2003), and it influences climatic variation in the area. The water bodies that exist in Hwedza district have a direct impact on agricultural activities in the district. Hwedza lies between major rivers, namely, Save River in the west and Ruzave River in the east. Other large rivers in the district include Nyamidzi, Mhare, Nyamhemba, Jeke, Mumburu, Kurongonora and

Chineyi (McDonald 2003). These rivers are critical to agricultural activities in Hwedza as they provide the potential for irrigation and water for livestock. The size and texture of soils in Hwedza range from fine to coarse grained sandy loam, and these prevail because of the dominance of granite rock in the area. Pockets of dolerite in some parts of the districts have also led to the formation of red clay soils which are generally found in the upper Hwedza. Red clay soils have a low-water holding capacity and impermeable underlying granite which makes it susceptible to a high-water table lasting for only a short period during the rainy season (Thompson and Purves 1978). The major vegetation types prevalent in the district include bush savannah grassland with hyperhenia, hypothelia and digitaria as the major grass types, as well as deciduous trees such as *musasa* (*brachystegia specifformis*), *mupfuti* (*brachystegia bohemia*), *mutondo* (*julbernadia globiflora*) and *mususu* (*terminalia*) (McDonald 2003). This vegetation is determined by the climatic conditions which exist in the area and which can be divided into two extremes.

In this regard, the district can be climatically divided historically into two halves, with upper Hwedza stretching from St Barnabas Chisasike to Hwedza centre. Upper Hwedza is generally cooler and receives rainfall that is moderate to high and this is where historically white agriculture existed. Lower Hwedza stretches from Mukamba through to the areas of Goneso and Zviyambe (which are areas where historically communal areas existed as well as former Native Purchase Areas) and this part of Hwedza generally has warm to hot temperatures and lower rainfall compared to upper Hwedza (McDonald 2003). The differences in rainfall patterns between the two parts of Hwedza mean that the crops grown and farming activities undertaken in the areas are different as well. Cotton and sorghum or millet are suitable crops in lower Hwedza while, in upper Hwedza, the same crops would not produce much yield. Upper Hwedza has the potential to have commercially-intensive farming because of its favourable climatic conditions. Livestock rearing is also a prevailing agricultural activity in both upper and lower Hwedza, and thus cattle and goats form an important basis of household wealth in the small-scale farming areas.

Figure 1: Location of Hwedza in Zimbabwe



Source: ZIMSTAT Hwedza District Map (2013).

Though the district is along the borders of prime agricultural land in Zimbabwe, it is not entirely in a particularly high yield geographical area of the province. During the colonial era, the district was dominated by large-scale white commercial farming. This involved extensive large-scale

livestock rearing and tobacco farming. Communal areas in Hwedza were overcrowded by small-scale farmers who faced an expanding population and deteriorating arable land. This changed, at least in part, after the fast track land programme of 2000 which opened up large tracts of land for resettlement. The major land tenure and land use categories in the district, before fast track, were communal, large-scale commercial and small-scale commercial as well as state lands. There were no resettlement areas in the district before the fast track programme (Marongwe 2003:4) but, after fast track, there is now considerable land for fast track farmers (see Table 4.1). Mashonaland East Province had a total of 1,171 large-scale commercial farms before fast track, with Hwedza district having 98 white-owned large farms. By 2003, a total of 913 farms in the province and 48 in the district had been earmarked for resettlement (PLRC 2003).

The fast track farmers were drawn mainly from communal areas to replace white commercial farmers who were in the district (Nyamadzawo et al. 2013). Hwedza communal areas thus have now been partially decongested following the fast track programme by relieving pressure in overpopulated communal areas. The resettlement process took place mainly from the year 2003 (Mtambanengwe et al. 2012), leading to the establishment of large numbers of newly-settled fast track farmers. This has involved massive changes in land use because white farmers used specialised and diversified farming methods with sophisticated agricultural technologies which newly resettled farmers in the main are not using. The resettlement process however did not mean that communal areas ceased to exist; in fact, they continue to accommodate a sizeable number of the population in Hwedza. And Mapfumo (2005) points out, with regard to Zimbabwe more broadly, that the challenges faced by communal farmers (such as limited capacity to produce food) since the colonial period continue to exist well after the introduction of fast track.

In the context of the fast track reform programme undertaken in the area, the pillar of people's livelihoods in Hwedza remains agriculture, which is small-scale and involves both communal areas and fast track resettlement areas. With respect to small-scale farming, mixed cropping and livestock production are the main agricultural activities which sustain household livelihoods of people in Hwedza (McDonald 2003). Hence the production of staple crops such as maize is closely complemented with cattle or small ruminants which, together, form the core of household

sustenance. In upper Hwedza, cash crops such as soya beans, tobacco and sugar beans are produced mainly under rain-fed farming by communal farmers. Lower Hwedza is mainly for maize, groundnuts, sweet potato, cow peas and small grains because the annual rainfall is less than upper Hwedza. Average landholding in Hwedza for communal farmers is 2,3 hectares per household. But communal small-scale farmers also depend on small gardens which are located near streams or around wetlands where vegetables, tomatoes, onions and sometimes sweet potatoes are grown throughout the year for domestic consumption and for at times sale. However, during the main farming season, activity in small gardens is significantly low because people are concentrating on the larger fields. Small-scale farmers as well struggle to maintain vegetables during the rainy season due to the high incidences of diseases.

Table 1: Farming Systems in Hwedza after Fast Track

Sector	No. of Farmers	No. of Properties	Total Area (Ha)
Large scale commercial (excluding A2 farms)	76	76	80,561
Small scale commercial	475	486	45,900
Resettlement area (including A1 and A2)	758	N/A	94,454
Communal area	22,036	N/A	108,400

Source: Adapted from Whitbread et al. (2004).

Communal farmers in Hwedza do not only rely on farming to sustain livelihoods, as some people have taken the initiative to engage in small-scale vending as a way of addressing current economic problems. This includes the buying and selling of clothing as well as foodstuffs through flea markets operating from nearby shopping areas. Such informal traders normally get their products from nearby Marondera town or even from Harare where they buy at wholesale price and then put a significant mark up. As well, barter trade is important in Hwedza. Some villagers buy basic commodities such as sugar, soap and cooking oil from towns and exchange these with maize during times of crop abundance (when prices are low) and resell the maize during times of scarcity (when prices are high). Importantly, barter trade thrives with reference to labour hiring. Thus some households, which normally get to the start of the new farming season (in October or November)

with diminished grain supplies from the previous agricultural season, work in other villagers' fields in exchange for maize. These bartering networks at village level provide a solid ground for social interaction between farmers themselves.

4.2.1 Overview of Studied Farmers

Hwedza communal areas are marked by the system of traditional authorities as part of the prevailing social organisation. Any attempt to introduce a project or a programme, such as innovation platforms, has to go through the elaborate traditional authority channels. The innovation platforms are being operationalised in five villages in Hwedza (Wogoneka, Chidora, Nhukarume, Nyamutsika and Samundera) and these villages fall under Headman Makwarimba who is under the chieftaincy of Chief Svosve.

The innovation platforms (IPs) were implemented in villages where there had been no similar or related agricultural intervention. Hwedza and Murehwa both had villages that met this criterion. The table below (Table 4.2) refers to Murehwa and Hwedza though the thesis focuses only on the five villages in Hwedza.

Table 2: Intervention Villages for IAR4D implementation

Country	District	Intervention (IAR4D) Villages
Zimbabwe	Murehwa	Bruce, Twin Rivers, Bango, Springdale, Kournine
Zimbabwe	Hwedza	Nhukarume, Samundera, Chidora, Nyamutsika, Wagonaka

Source: CAIT Baseline Survey (2004).

As indicated in Chapter 1, the sampling that I followed was adopted and adapted from the IAR4D project that was running IPs in Hwedza. The following table shows the demographic distribution, in terms of Hwedza villages, of small-scale farmers who were interviewed for this thesis.

Table 3: Demographic Profiling of Small-Scale Farmers Interviewed

Village	Number of Households	Number of Respondents	Sex Female	Sex Male	Number of Female Headed Households	Number of Male Headed Households	Average Age
Wagoneka	10	15	6	9	2	9	47
Nhukarume	10	22	8	14	3	14	44
Samundera	10	16	6	10	1	10	49
Chidora	10	18	7	11	3	10	43
Nyamutsika	10	17	7	10	2	8	49
Total	50	88	34	54	11	51	46.4

Source: Fieldwork 2014.

As Table 3 shows, all five villages participating in the implementation of the IPs was investigated. From the participating villages, I chose ten households from each village to ensure an intensive and nuanced study. These households were selected through purposive sampling because they showed great potential in being information-rich cases. In undertaking the fieldwork in the five villages, I planned initially to interview at least one member per household. In the case of a significant number of households, I ended up interviewing more than one person and this depended upon availability and willingness to be part of the study. In total, I interviewed 88 people. For the five villages, 38.6% were female small-scale farmers while 61.4% were male small-scale farmers. Because they tend to be heads of households in rural patriarchal areas such as Hwedza, men were the majority of the respondents. In certain cases, however, I interviewed both the man and the woman in the same household though separately. I also encountered some households which were female-headed and interviewed the female heads. A total of 11 out of the 34 female respondents interviewed were heads of households while 23 were wives of the males interviewed. A total of 51 male respondents interviewed were heads of households while only three were sons of the respondents interviewed. The average age of the respondents was 46.4.

4.3 Networks in Hwedza before the Implementation of IPs

In understanding any possible social changes in the Hwedza villages subsequent to the introduction and implementation of the IPs, it is critical to describe the situation of social networks prior to the IPs. In this section, then, I provide an overview of the relevant social networks which existed in Hwedza prior to IPs. This will facilitate an understanding of how IPs possibly altered existing social networks in a quest to improve the agricultural productivity of small-scale communal farmers. Thus it becomes possible to understand with more precision the continuities and changes in networks which were brought about by the IPs in Hwedza.

There were reasonably elaborate institutional linkages as well as informal networks constituted by joint planning, joint implementation, division of tasks, and sharing of information and resources existing in the five villages before IPs. Such networks and linkages were mainly driven by common interests by those who were involved. Even though such networks and linkages were not necessarily systematic and sustained over long periods of time, it was clear that the principle of working together existed in the villages of Hwedza. This entailed both formal and informal arrangements.

Formal linkages are institutional in nature and they are drawn from the mandates of institutions that exist at district and provincial administrative levels. However, the formal presence of institutional arrangements did not invariably translate into meaningful operationalisation in the Hwedza villages. Structures existed officially and even stipulated how procedures and mandates were to be executed but an active presence on-the-ground was problematic. However, the coming in of IPs capitalised on the existence of such structures and this involved invigorating the structures in operationalising the IPs.

Two formal arrangements in particular were in place. First of all, there was the involvement of agricultural extension officers through the Department for Agricultural Research and Extension Services (AREX) in Hwedza before IPs. Interviews done with representatives of AREX show that there were formalised networks between AREX and other extension service providers on the one hand, and the Hwedza villages on the other. An example that was given was the relationship that existed between the Department of Veterinary Services and AREX where on-farm trials were done

by the Department with AREX field staff having the responsibility of mobilising local communal farmers and identifying collaborating farmers. Overall, AREX played a role as a conduit for any development agents who wanted to work with the communal farmers. In this regard, it was established that similar formal arrangements existed between AREX and certain donor-funded NGOs involved in rural development programmes (which were neither CIAT nor CIMMYT, which are the NGOs behind the IPs in Hwedza). Further pre-IP linkages included joint field days that were organised by AREX where seed companies were invited to showcase their products and also to give prizes to the winning communal farmers. As well, there has been cross pollination of personnel in the sense that some of the NGOs operating in Hwedza were being run by former AREX workers who had entered the NGO sector. Such NGO practitioners then had a degree of embeddedness within the Hwedza villages. Local AREX officers as well had both formal and informal linkages with the rural district council in Hwedza.

The second formal arrangement relates to rural district councils. In Zimbabwe, rural district councils are central to any development activities of rural communities, in particular because all development processes targeting rural communities have to pass through rural district offices. The office of the District Administrator (DA) is mandated to implement development projects in communal areas as one of its key result areas. However, due to serious underfunding of such local government structures in Zimbabwe, the DA offices have been relegated to mere coordinators of development projects that are mainly brought into their areas by NGOs. Before IPs in Hwedza, the DA office had certain linkages with other institutions through a system of subcommittees. Some of the subcommittees within Hwedza included: Agriculture and Water Supplies subcommittee (chaired by AREX), District Agriculture and Natural Resources subcommittee (chaired by the Natural Resources Board), and the District Social Forestry subcommittee (which included the Forestry Commission and AREX). All the development initiatives in Hwedza would come through the planning committee which was another subcommittee. An example of a development initiative which was approved by the local government offices is CARE International's Small Dams Rehabilitation Programme implemented in Hwedza in the year 2001. This programme also involved AREX, the Natural Resources Board, and the Ministry of Youth Development, Gender and Employment Creation.

Informal networks are mainly determined by individual efforts to work together and there are mainly unwritten norms and values that drive people towards common understanding and action. These networks, as existing in Hwedza, mainly emerged from mutual accommodation as well as cooperation among and within different state agencies, developmental organisations and communal farmers. It emerged that the informal networks existing before the IPs were generally predicated on the reciprocal exchange of information and favours and, at times, involved exclusively communal farmers.

In this context, some communal farmers (and in large part women) organised themselves into voluntary associations in which they pooled resources together, shared ideas, and sought assistance from development agencies and agricultural extension services. Membership of such groups was largely geographically determined in that people from the same village would form such associations because of a binding common locality shared by all. As well, people from the same village would often be related to one another through kinship and totemic relations.

4.4 Contextual Background to Innovation Platforms in Hwedza

This section gives a contextual background to the project that gave birth to the principles of innovation platforms in Hwedza. The Conservation Agriculture Systems coordinated by the Forum for Agriculture Research in Africa (FARA) under the Sub-Saharan Africa–Challenge Programme (SSA-CP) is the project that led to innovation platforms in Hwedza and elsewhere. The project has been operational since the year 2008 covering parts of Zimbabwe, Malawi, and Mozambique. In Zimbabwe, the Conservation Agriculture–Task Force (CA-TF) of CIAT and CIMMYT, which was formed in 2006-2007, has the mandate to jointly implement this project using the Integrated Agricultural Research for Development approach (IAR4D). The concept of IAR4D is fundamentally constituted by four pillars, namely, productivity, policy transformation, improvement of natural resource management, and increase in market accessibility by small-scale farmers. In Zimbabwe, these pillars were driven by identifying major constraints to small-scale farming in communal areas, including poor soil fertility, unreliable rainfall and poor input and output market linkages. A combination of these and many other variables were believed to be at the centre of contributing to an accelerated decline of agricultural production in communal areas such as those in Hwedza district. Farmers therefore needed technologies and innovations which

help to arrest these problems, such as a decline in soil productivity, so that agricultural production could go beyond subsistence and ensure a surplus for market sales. In fact, Hwedza communal farmers regularly struggle even to reach subsistence level in terms of agricultural production such that they have been increasingly facing the stark reality of food insecurity at household level.

In this respect, Conservation Agriculture (CA) was seen as a potential remedy to the limitations and constraints that most smallholder farmers face in many parts of southern Africa. It involves for example the retention of crop residues, minimal soil disturbance and crop rotations coupled with good agronomic practices. The benefits of conservation agriculture are said to include increases in organic soil matter, reduction in soil erosion, better moisture retention and improvement in soil macro and micro fauna. Although it is recommended that farmers adopt the full CA package for maximum benefits, farmers often adopt it in a tentative and stepwise manner, mainly because it is a complex package which is knowledge intensive. Though it is true that CA has always existed historically in Zimbabwe in some form and degree, there has never been a systematic uptake and dissemination of it which goes beyond sporadic and disjointed implementation (as chapter 3 highlighted). The introduction of innovation platforms in Hwedza is one such step aimed at systematically pursuing CA and simultaneously scaling up the dissemination of CA knowledge.

In this context, it becomes important to consider the guiding principles of the Integrated Agricultural Research for Development (IAR4D) approach including from its formative stages to the design and implementation of conservation agriculture research and practices. This includes the institutional arrangements, involving social networks and interfaces, which are supposed to drive productivity gains, enhance the efficient use of resources, deepen the care for eco-systems, and improve market access with reference to small-scale farmers in Hwedza. In the end, all this centres on the establishment and operationalisation of innovation platforms, and thus this current chapter focuses on capturing the processes unfolding during the formative stages of IPs in Hwedza, and in the light of the ideals of IAR4D which seek to resolve a multiplicity of constraints faced by small-scale farmers in Hwedza communal areas. The ultimate goal, as indicated, is the uptake of conservation agriculture interventions for enhanced agricultural productivity and linked to

improved agricultural input and output markets. But this is expected to involve the building and consolidation of social linkages to allow farmers to tap into both internal and external community networks, entailing linkages to traders, financiers, extension agents and NGOs. In emphasising the importance of innovation platforms and conservation agriculture, a CIAT agent put it in the following way:

It is only human to be futuristic about food production. Today's agricultural constraints are not only a threat to today's generation, but to humanity as a whole. So if small scale farmers are not equipped to solve today's challenges, then we are endangering future generations. Food production should be a priority of every concerned citizen across the world (Key Informant Interview with a CIAT official, April 2014).

This should not involve an over-reliance on external bodies, as IPs are supposed to build the capacity of farming communities in relevant agricultural and social competencies. Given all these claimed advantages of IPS it is not surprising that there are spirited energies by development agencies and NGOs to spearhead the adoption of IPs not only in Hwedza but across the whole of Africa. Success stories have been recorded in Mozambique, Malawi, Nigeria and Niger where the principles of conservation agriculture have been embraced with positive results. And thus, at least from the perspective of the proponents of IPs, further interventions of this kind are seen as the key to unlocking the potential and value of African agriculture.

Interaction among farmers need a platform based on trust for information to flow smoothly between farmers. But I noted that political intolerance had created tensions in the villages investigated. In this thesis, interaction is not only investigated in the context of farmers but also in the context of external actors interacting with farmers under the auspices of the innovation platforms. The findings also reveal that, except for the agricultural extension workers and a few companies such as COTTCO which are local, most of the actors operating in the villages investigated were of international scope. These were mainly NGOs which had been operating in the area for periods ranging from one year to up-to ten years. Such NGOs were doing developmental work as well as relief work in the areas that badly needed support. What I found out was that, despite the fact that overall responsibility for making all citizens food secure rested

upon the Zimbabwean government, it had failed to achieve this especially during times of poor harvests. The coming in of non-state actors (including within the context of innovation platforms in Hwedza) was mainly to buttress the efforts of the government in alleviating the suffering of rural people.

4.4.1 Procedure for the Selection of Participating Villages

The procedure for selecting the IP intervention sites by NGOs in Zimbabwe was random and, as a social experiment, it sought to capture the causal effects of IAR4D on outcome variables which include household learning outcomes, household technology adoption, agricultural yields and profits and livelihood outcomes under the auspices of Conservation Agriculture research-driven innovations. The key factor in assessing the effectiveness of the innovation system is the presence of IAR4D interventions (in the selected villages) or their absence. However, to emphasise, this thesis is not concerned with establishing causality between variables (namely, the effectiveness of IPs in terms of the outcome variables), which has been the focus of the IPs from the point of view of the NGOs involved. Rather, I am concerned with the social relationships embedded within, and altered through, the IP process. The innovation platforms, as pursued by the relevant NGOs, are installed and operationalised at district level and the districts selected in southern Africa (in specifically Zimbabwe, Malawi and Mozambique) are listed in Table 4.4 below.

Table 4: Selected CA districts for IAR4D Intervention

Country	District	Development domains			
		Rainfall	Population	Market	Suitability in Percentage
Zimbabwe	Murehwa	Moderate	Moderate	High	89.7
Zimbabwe	Hwedza	Moderate	Moderate	High	82.2
Mozambique	Barue	High	Low	High	42.1
Malawi	Balaka	High	High	High	66

Source: Adopted from CIAT Baseline Survey (2004).

The selection of sites by NGOs for the establishment of innovation platforms as well as their comparison sites involved using GIS mapping techniques to ensure that they are representative of Pilot Learning Sites in terms of development domains characterised by different combinations of agricultural potential. Factors such as rainfall patterns, soil types, length of growing period for crops, population densities and market access were carefully considered to ensure that the IAR4D framework is generalisable outside the test environment of Hwedza district. Each intervention district selected had to be paired with a control district (which did not have any IP intervention) which had almost similar conditions to those of the intervention district in terms of the agricultural potential criteria. The control district for Hwedza was Chikomba district while the control district for Murehwa was Marondera. However, given the main objective of the thesis, focus is placed on Hwedza as an independent district without contrasting it to Chikomba. Table 5 below shows the thresholds used in the analysis of the developmental (specifically agricultural potential) domains. In terms of market access, there were three categories which were identified, namely, low, medium and high. In the low category, farmers would take between 3 hours to 25 hours to reach the market, while farmers in the medium category would take between 1 and 3 hours; farmers in the high category would take one hour or less to reach the market. Hwedza District was in the high category. In terms of population density, there were three categories as well: low (<30 people per km²), medium (30 – 100 people per km²) and high (>100 people per km²). Hwedza was in the medium category. Lastly, the rainfall pattern was also categorised into low (<900mm per annum), medium (900 – 1300mm per annum) and high (>1300mm per annum), and Hwedza was in the medium category as well.

Table 5: Criteria used for Site Selection

Variable	Low	Medium	High
Market Access	3 – 25hrs	1 – 3 hrs	0 – 1 hr
Population Density	< 30 people km ²	30- 100people km ²	> 100 people km ²
Rainfall	< 900mm	900 – 1 300mm	> 1300mm

Source: Adopted from CIAT Baseline Survey (2004).

Once the intervention and comparison districts were selected, it meant that in each intervention site there was an IP pursued while, in the comparison site, there were conventional agricultural research, development and extension systems (or non-IAR4D conventional systems). Once the IP district was selected, a multistage stratified random sampling technique was used to select wards as smaller socio-spatial units as well as focal villages and households within these villages. For purposes of the thesis, I sought to track processes and changes unfolding at the Hwedza district level, but also ward level, village (or community) level and household level. Though the primary unit of analysis for this thesis is the district (in this case, Hwedza), there are also other levels of analysis: the ward, the village and, at the lowest level, the household.

At the establishment stage of the IP, key informants were utilised by the NGOs to obtain additional information on the selected villages to ensure that they met the set criteria. As well, CIAT and CYMMYT investigated whether or not there had been any agricultural research and development activities, and the promotion and dissemination of agricultural technologies (in a conventional research, development and extension mode) over the previous five years (or from 2004). This was done to assess if there were any related projects being implemented in the selected villages to avoid duplication of activities and contamination of the research results. In the IAR4D intervention sites, only 'clean' villages were selected because there was the need to control for previous interventions to avoid results contamination. One key informant from CYMMYT pointed out the following:

Such interventions such as IPs should always be done in villages that did not receive a similar intervention for the purposes of estimating the pure effect of such interventions. As a social experiment, there are some variables that cannot be controlled but it is important to make an effort to neutralise some previous interventions. This explains why the leading organisations such as CYMMYT insisted on clean villages (Key Informant Interview with a CYMMYT official, April 2014).

In each village investigated, there were village committees (consisting of farmers) created specifically to drive the agenda of innovation platforms. Key positions in the village committee were the secretary and the chairperson, with the latter normally a village head or any other traditional leader of the village. Each village committee had though five people who were selected

on a one-year rotating basis. However, members who had proven their worthiness in the functioning of the committee were normally retained beyond a year in all villages. The secretary was involved in the administration of the innovation platform with the responsibility of scheduling and initiating meetings (in consultation with other committee members) for all the actors involved. Maintaining a register of those attending meetings as well as ensuring that minutes of meetings were kept was also the work of the secretary. In all villages, the secretaries were relatively middle-aged men as the duties involved a lot of energy because one would walk long distances to mobilise fellow IP members for different meetings. All members of the innovation platforms were expected to attend the meetings taking place a village level, in order to discuss various aspects of the functioning of the IP and to plan the way forward. The importance and influence of the traditional leadership was recognised in all the villages as the chairing of village meetings were done by the village heads or their appointees. This was done in order to create continuities between the long-standing leadership structures of the villages and the new IP structures.

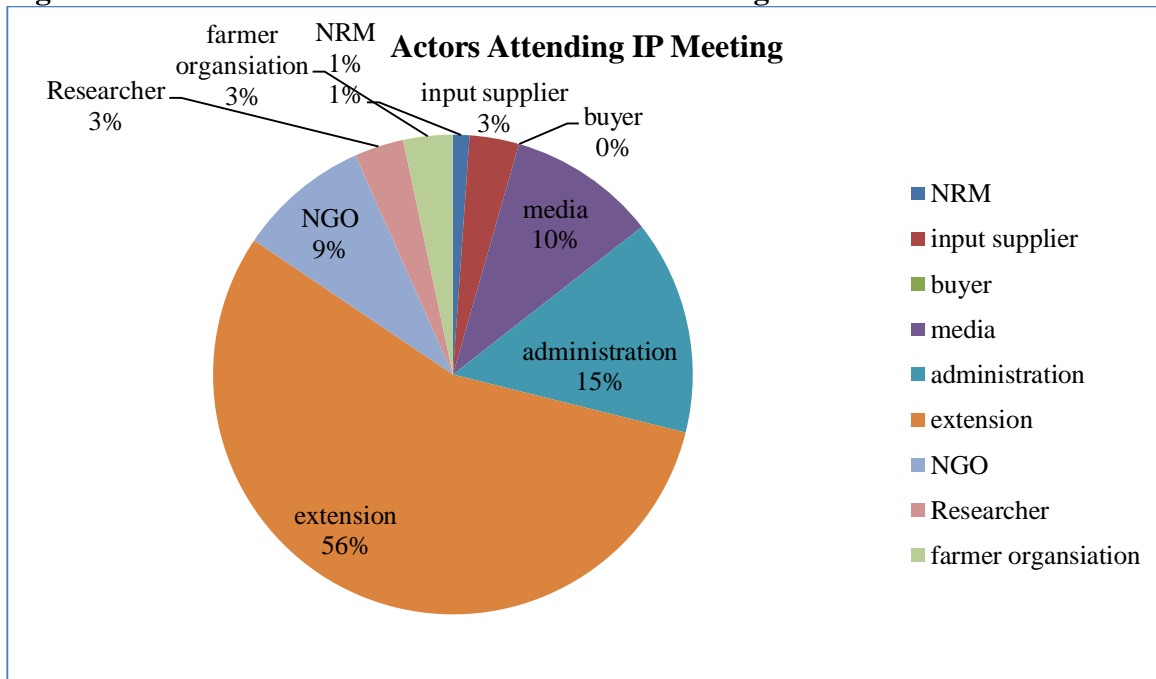
4.4.2 Engagement of Suitable Partners at the Formative Stage of IPs

The point of departure for IPs is its inclusive multi-stakeholder approach to problem solving. This therefore means that the identification of all actors who had potential contributory value to the IP was critical. All stakeholders living and working in these areas were identified and appropriately characterised by the primary actors (CIAT and CIMMYT) who were driving the IAR4D process in Hwedza. The characterisation was meant to confirm or disconfirm the relevance of an actor (or stakeholder). Identified stakeholders were then invited to meetings. The objectives of the stakeholders' meetings were to introduce the IP concept and its objectives to stakeholders, to document different programmatic areas in which different organisations were involved, to map existing interactions of the stakeholders (and the types and intensity of such interactions and to analysis (with the stakeholders) their specific innovation capacities.

This involved certain individuals from the stakeholder groups answering a set of questions in a pre-determined questionnaire to assess and confirm their suitability to be part of IPs. These questions were used to more fully map the existing linkages between groupings in Hwedza and to analyse the strength of these linkages. The completed questionnaires also allowed CIAT and CIMMYT to make assessment of different micro-scenarios that represented different elements of

the interactions and innovation capacity such as knowledge sharing and coordination of activities, and thereafter to triangulate this information. The leading NGOs needed a sound appreciation of the existing linkages in Hwedza before implementing the IPs. This was necessary because it would give a clear indication of existing linkages which could be adapted for the effective implementation of the IPs. In the case of Hwedza, the groupings invited to the stakeholder meetings included agro-processors, agro-dealers, farm input suppliers, farmer representatives, farmer organisations, finance houses, media, agricultural extension officers, non-governmental organisations and government line ministries. At the meetings, the different community visions of the stakeholders for Hwedza district, in terms of improving agricultural productivity, were brought to the fore. Given the objective of IPs, the visions of the different actors could all be collapsed into enhancing agricultural production and food security specifically for smallholder farmers in Hwedza though, as the thesis shows later, any such agreement did not do away with the existence of different understandings of IPs and controversies which arose from this.

Figure 2: Attendance at First IP Establishment Meeting



As demonstrated in Figure 2, attendance rates of different stakeholders during the first meeting of innovation platforms at district level in Hwedza showed a domination of government departments

at the establishment stage. Figure 2 reflects actors who attended the district IP that in turn led to the birth of the village IPs. With reference to the first meeting specifically, about 63% of the stakeholders were from agricultural extension offices and local government (Rural District Council and District Administration Office), and primarily from the former. It emerged that the mobilisation of government departments was relatively easy because of the expected benefits from participation. Because of the decline in local state capacity in rural Zimbabwe over a number of years, it is now a norm that government department representatives anticipate direct benefits from participating in NGO-driven interventions in the rural areas in which they work. Related to this is that central government had not funded any development projects or interventions in Hwedza district for some years. By participating in the IP process, local government officials thus saw an opportunity of making themselves active and relevant, and hopefully legitimate from the perspective of small-scale farmers, and thus they grabbed the opportunity. One disgruntled farmer pointed out the following:

I am worried that government officials are going to hijack this project. They are rarely available for small scale farmers but now they want to be seen as if they work with us. I think they want to steal ... things that are supposed to benefit us (In-depth Interview with a farmer from Nhukarume village, May 2014).

This suspicion of government by Hwedza farmers seemed to be quite prevalent and, indeed, it would become a potential source of conflict. Simultaneously, and in contrast, there was a clear view (and almost assumption) by the farmers that NGOs bring material benefits to them as had been witnessed and experienced by farmers from previous NGO interventions.

Only a few input suppliers from the private sector attended the first meeting. This would soon become a major weakness of the IPs as corporate actors were not attracted to the IPs. Key informant interviews with representatives of CIAT who were mainly at the forefront of the IAR4D highlighted as well that, although managers from local banks and produce buyers (for output markets) were invited, they did not attend the meeting. Other attendees during the first meeting included staff from the environmental management agency, media (for purposes of information dissemination), farmers and farmers' organisations. It also emerged from NGOs leading the

process that the domination of government departments and absence of key private sector actors was rooted in the criteria followed in selecting the research site:

We chose research sites that were clean from current interventions as a way of safeguarding the purity of our findings. Lack of active non state actors [such as input suppliers and banks] running any major programmes in Hwedza is an indication of the effectiveness of the parameters that we set to select some sites. However, this doesn't mean that it is the ideal composition of an IP as non-state actors are important to the success of any IP. Efforts will then be made to mobilise all relevant actors as currently we have excess of some actors and a deficit of some (In-depth Interview with official from CIAT, April 2014).

Further, at the meeting, the stakeholders identified and selected, scored and ranked critical issues which they viewed as constraints to the achievement of their set visions for the IP process. Overall, the critical issues identified and ranked in order of importance were as follows: lack of capital; shortage of agricultural inputs; and unreliable and unstable markets for farmers' produce. One important issue which was raised specifically by Hwedza small-scale farmers was lack of information about general farming techniques. The information which farmers claimed to have was locally-circulating knowledge and they identified a clear gap between this currently available knowledge and any new knowledge which could enhance agricultural productivity. Small-scale farmers indicated, at least to some extent, the inadequacies of their farming knowledge and hence they wanted alternative farming techniques which would improve their farming activities. Besides constraints, actors also identified existing opportunities for reaching the set visions and militating against the challenges which had been identified. The stakeholders identified key actors that they considered important to them in moving the IP process forward, and then ranked them according to their relevance and power in pursuing the set visions. This was done in large part to identify the networks in which actors were already involved and how these networks, and extending these networks, could be harnessed for the purposes of enriching the IPs. The identified stakeholders were then invited to follow up meetings for more firmly establishing innovation platforms in Hwedza.

4.5 Founding Principles of Innovation Platforms

The setting up of IPs was based on an inclusive approach which was viewed by the facilitators as a paradigm shift from the usual imposition of views on the farmers by ‘experts’. Under the auspices of IPs, all views of all relevant actors are important. There are no ‘experts’ and ‘non-experts’ based on a hierarchy of knowledge, as all people occupy a life-world rich in experiences and knowledge and with transformative potential if only tapped into:

The consultative nature of Innovation Platforms requires the involvement of each actor in all the stages of IP establishment from the formative stage through into the implementation and evaluation stage. This is essential because it creates a common framework within which actors should operate (Key Informant from CIMMYT, June 2014).

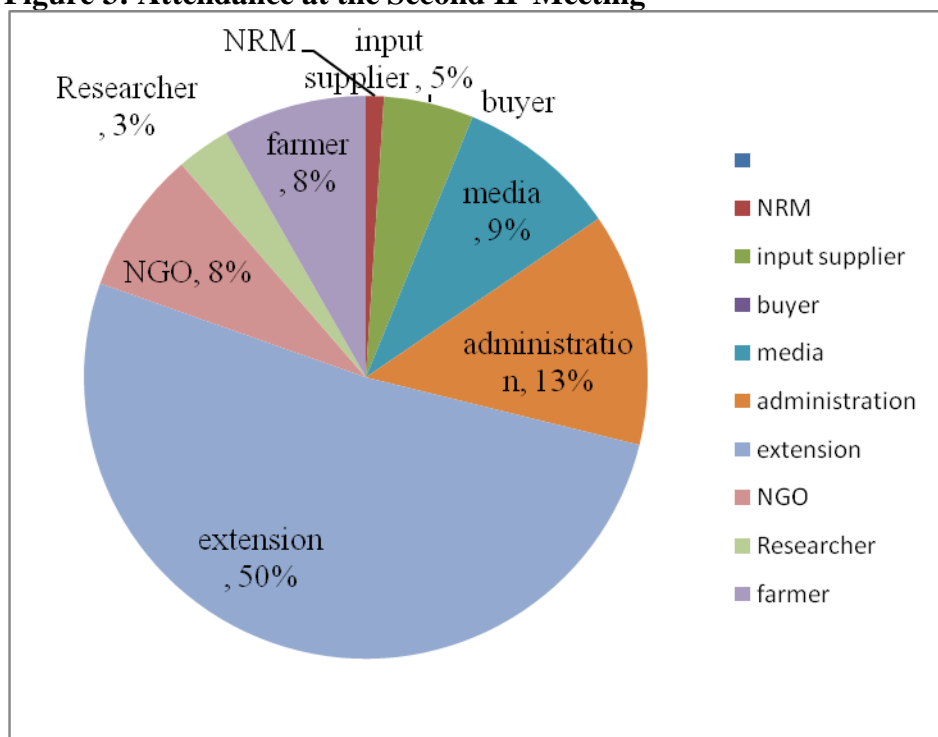
This is considered as an innovative approach in pursuing alternative forms of intervention which are not top-down, and which focus on collective wisdom, knowledge, strategies, attitudes, skills and capabilities of each group and notably the often-marginalised small-scale farmers (Sanginga et al. 2005, Dangbe’gnon 1998). The IP intervention thus sought to incorporate a diversity of relevant actors along the agricultural value chain and supporting structures, including the producer, input supplier, output market and agricultural processor, as well as key government institutions involved in policy making pertinent to land use and allocation, and environmental and natural resource management. This approach is a strategy for intentional inclusive change and a process of collaborative enquiry based on the assumption that in every society or community there is a vantage point that is more effective than others, a vantage point that represents a common position amongst all stakeholders even though it is created from multiple realities.

In the case of IPs in Hwedza, the vantage point emerged from a series of engagements between multiple stakeholders who had a common interest in improving the plight of small-scale farmers, and this involved assessing available and potential opportunities and discovering, appreciating and valuing the best alternatives for improving communal agriculture in Hwedza. On this basis, and without necessarily based on any pre-fixed model of best practice, the aim was to design structures, processes and relationships that would move the IPs forward while at the same time prioritising effectiveness and efficiency to ensure the success of the IP platform. Eventually, this would allow for scaling-up IPS across rural Zimbabwe. One CIAT representative pointed out the following, namely, that this:

Also has to do with focusing on things that are working and amplifying them to benefit as many farmers as possible. It is an approach that works as an experiment and once it produces positive results, then comes the scaling up on other farmers. This is what the IPs are all about in Hwedza. It is not to say that we are establishing IPs and we withdraw. We are intending to scale up this approach to the rest of the province and to the nation at large (In-depth Interview with an official from CIAT, April 2014).

Ongoing innovation platform meetings were held mainly to establish regular dialogue between the identified key players in agricultural production and to identify, map and consolidate a common interest and vision among the various actors. Figure 4.3 below shows, by percentage, participation of key stakeholders in second meeting of the innovation platform in Hwedza. In this regard, it is critical to note that the composition of IP actors at the first meeting (as shown in Figure 2 earlier) is exactly the same as shown in Figure 3 for the second meeting. In effect, the same participants were at the first and second meetings.

Figure 3: Attendance at the Second IP Meeting



Again, most important players from the private sector (such as output market groups and input suppliers) remained missing from the IPs as initially established. The reason for this was quite clear, namely, that the private sector groups were adopting a wait-and-see attitude. This included the view, or the fear, that the IP intervention may be just another development project in which actors are being co-opted to participate in a futile and valueless exercise. Because of this, the dialogue process and common platform within the IP in Hwedza was not, at least initially, as exclusive and all-embracing as intended by the initiators of the process. It is also important to note that the combined representation of farmers and farmers' organisations of 11% was very low. The implications of this low representation would likely impact negatively on the levels of farmers' inputs into the innovation platform process.

Hence, in key informant interviews, buyers, financiers and input suppliers expressed reservations about the IP intervention. A representative of the Commercial Bank of Zimbabwe (CBZ) argued as follows:

Banks are in business my friend and sometimes you would not want to jump into something before you ascertain its potential to give business. So it's only prudent for a bank to adopt a wait and see attitude. Remember, we don't own money as such but we rely on depositors' money. So a wrong investment is a dangerous move especially in this volatile business environment. Otherwise you will hear that CBZ is now under curatorship (In-depth Interview with a CBZ representative, April 2014).

National Foods, which distributes foodstuffs and animal feed based on agricultural produce (such as maize and soya bean) was likewise hesitant because small-scale farmers, unlike commercial farmers, are not generally able to supply large quantities of crops on a regular basis:

The problem that we have with small scale farmers is that they do not produce enough quantities that warrant us to come and buy directly from them. Most of these farmers they produce different crops. Some produce maize, some soya beans, some sugar beans and some even tobacco. So it becomes difficult for them to adopt a coordinated production that will increase the quantities of a specific crop. As a buyer, I would rather wait for the farmers to be coordinated first before I expend my energies (In-depth Interview with a buyer from National Foods, May 2014).

And Farm and City, which supplies inputs to farmers, expressed concern about the capacity of small-scale farmers (because of their inconsistent agricultural production) to repay loans for inputs:

I have had some previous experiences with small scale farmers. Their major problem is that they are high risk borrowers. They rely more on rain fed farming and this increases the risk of non-payment of inputs borrowed. It would be welcome if they are capacitated to produce more (In-depth Interview with a Farm and City input supplier, May 2014).

Based on these interviews, it is clear that private sector corporations were extremely sceptical about engaging from the start with the IP process, as though they wanted to see the results of the IP process first before making any firm commitments. Though they had their reservations, most of these actors expressed some optimism with the agricultural potential of the small-scale farmers. What these actors lacked though was the willingness to be part of the solution to the many challenges that they were even acknowledging. This of course raises problems for the IP process, as IPs are intended to bridge the gap between actors and create lasting networks among key actors.

The two initial IP meetings in Hwedza were used as platforms for negotiating on critical issues to be addressed. They also gave different stakeholders their first joint experience of being participating partners in the development process in rural localities and at village level in particular. Additionally, the meetings sought to establish ways of working together as the process unfolded. The meetings became the first step in building relationships among players, strengthening already-existing relationships, forging bridges and establishing mutual understanding and trust. Though the intention was for each actor to experience the sense of being an equal partner in a non-hierarchical collaborative process, the fieldwork showed that this was not necessarily (or at least always) the case.

Thus, just because the concept of IPs had been introduced to the villagers by NGOs as a genuinely participatory process for their benefit, this would not make communal farmers equal partners in something which was introduced to them with minimum or even no consultation. In seeking to come together in a spirit of negotiation and thereby creating a common platform, contestations emerged and these were mainly around the protection of personal space by each group of actors.

Each group had its own institutional or community history, interests and aspirations as is also apparent, as discussed above, with respect to the private sector groups which adopted their wait-and-see approach. For example, small-scale farmers in Hwedza had deep-rooted indigenous agricultural knowledge-practice systems which they inherited from previous generations and which they adapted and refined over time. These included farming methodologies, choices of fertilisers, land preparation methods and storage arrangements for agricultural harvests. Additionally, farmers had traditional methods of curing their livestock from sicknesses and diseases using traditional herbs which were readily available in the forests. One farmer indicated the following:

I have knowledge that I inherited from my forefathers concerning how to cure livestock. This has been working for me well. At the start of each rainy season, green grass becomes available for livestock and our livestock normally react to the green grass; we mix thatching grass with cumulated smoke from our huts and other herbs with water and give to our livestock to drink. This prepares the livestock for the new grass and protects our livestock from diseases. This works excellently for me and it is also convenient (In-depth Interview with a farmer from Wagoneka Village, June 2014).

Clearly, if these methods (curing and others) worked ‘excellently’, concerns would be raised by Hwedza small-scale farmers around any attempt to undermine these long-established practices and to introduce ‘modern’ methodologies.

Researchers such as university representatives had their own social space which was discovery, construction and ownership of scientific knowledge and this could potentially lead to a situation of dominance over small-scale farmers in Hwedza. This is particularly the case if researchers presented their knowledge as modernising knowledge which would invariably benefit the Hwedza farmers if adopted or even adapted. Thus the interface between researchers and small-scale farmers entailed fertile ground for contestations whether overt or covert. Even though I did not witness any apparent attempts by researchers to impose their knowledge on communal farmers, I concluded from my interactions with the researchers that they felt that it would be appropriate and of value for the farmers to adopt some of their (the researchers’) ‘new’ knowledge. To quote a CIMMYT researcher:

The whole idea behind the IPs is to allow small scale farmers to actively participate in the interaction on an equal footing. This underscores a deliberate attempt to meaningfully listen to the voices of the small scale farmers. However, [we] as researchers have been working in this area for long and there are many discoveries that we have made. It would be prudent to share these discoveries with small scale farmers for possible adoption (In-depth Interview with a researcher from CIMMYT, May 2014).

Perhaps of even greater significance is the relationship between government departments and local politicians on the one hand, and the NGOs (and their operations) on the other, with the former expressing resentment towards the latter. The recent history of interactions between politicians and NGOs in Zimbabwe broadly and Hwedza specifically has been turbulent with both suspecting each other of improper conduct. Working together in the IP process would possibly ignite these suspicions. In particular, politicians were not prepared to take a backseat to NGOs in relation to interacting with communal farmers as they feared that they would be relegated to the periphery and their development relevance compromised. However, transparent interactions between actors in the Hwedza IP tended to allay such tension. The following are two comments made on this issue, with the first from a local politician:

Personally I feel that all the actors involved in the IPs are honest in their motive. Transparency is shown by the fact that all actors attend all meetings. There are no back room meetings that are convened somewhere (In-depth Interview with Comrade Muleya, local politician, August 2014).

The lead NGO seemed to confirm this:

We invite all actors who committed themselves to IPs. There are no meetings which are arranged separately. If someone fails to attend, it is not because they are barred from attending but it is because they will be committed somewhere. This shows transparency (In-depth Interview with a CIAT official, April 2014).

The NGO facilitators in Hwedza also sought to situate the IPs within the existing administrative and political networks (as well as within the traditional structures of the villages) as a way of trying to legitimise the process and minimise resistance from local government and politicians.

4.6 Facilitation to Form Mutually-Beneficial Networks

Successful partnerships in innovation platforms take time to form, establish, develop, groom and build because these platforms are made up of different actors with different agenda and visions. Of course, as indicated earlier, some networks existed in Hwedza prior to the IPs being introduced but some were established thereafter. Pursuing enrolment, cooperation and collaboration vis-à-vis building partnerships were difficult social processes which took time in all the IPs investigated in Hwedza. Ensuring that IPs became up-and-running called for effective facilitation, negotiation and renegotiation.

While the benefits of IPs in Hwedza are seemingly evident to all, bringing stakeholders together in a meaningful partnership was said by stakeholders to have been difficult and, typically, the IPs were reconstituted on specific occasions as a means of trying to stabilise them. Most notably, new actors are enrolled (or at least encouraged to enrol) at specific times while others become irrelevant or at least of less significance. In this regard, some actors were more critical at a particular stage in the agricultural season, such as input suppliers at the start of the season when communal farmers are seeking to secure inputs. Even though such actors (i.e. input suppliers) might remain official members of the IP throughout the entire process, their relevance wears off as the farming season progresses. Buyers also became more critical towards harvesting time and their participation in IP activities was concentrated towards the end of the farming season. This shows that the incorporation of stakeholders (or certainly many of them) was, generally speaking, a continuous process often conditional upon the annual cycle of agricultural activities. Along with the communal farmers in Hwedza, the significance of certain actors (such as agricultural extension workers) remained constant throughout the agricultural season.

Table 6: Characteristics of Innovation Platforms

Innovation Platform								
	Origin			Structure		Facilitation		
	From scratch	Building of existing networks	IP already existed	Structured	Amorphous	Researcher	Local stakeholder	Joint facilitation
Hwedza	×	√	×	√	×	√	×	×

Source: Adopted from CAIT Baseline Survey (2004).

Table 6 shows that all IPs within Hwedza, as suggested earlier, were established on already-existing social networks. These networks were then adapted to promote the IP emphasis on conservation agriculture as central to the lead NGOs' agricultural development strategy. The table also shows that the process of establishing innovation platforms was done by researchers working with the primary stakeholders (namely, CIAT and CIMMYT) but with the aim of gradually ceding their role to agricultural extension officers after training them with regard to facilitation skills and capacity. For the lead NGOs, it made solid sense to identify extension workers as crucial to the IP process (including a lead role) because they are in effect the custodians of agriculture in communal areas including in Hwedza. They are indeed mandated by government to offer a range of technical and agricultural support to small-scale farmers.

Interviews with CIAT and CIMMYT key informants indicated that the envisaged facilitation skills identified in the IPs which were imparted to extension workers included the willingness to learn from the diverse IP actors, which involved discovering, seeing and experimenting rather than instructing or teaching others in a top-down manner. A CIAT official elaborated on this in saying the following:

Facilitation of IPs requires an open minded attitude, learning to listen to innovation partners, helping them express their views and assisting them in building consensus for action, using effective communication skills to facilitate their participation and exchange of new knowledge and ideas (Key Informant Interview with a CIAT official May 2014).

4.7 Central Issues in IP Establishment

In the previous sections (Section 4.5 to 4.7), I sought to provide – at least schematically – a chronological overview of the introduction and establishment of innovation platforms in Hwedza. In this section, I discuss certain themes during this establishment phase, or important issues which were explicitly addressed in order to ensure that the IPs gained traction in Hwedza.

4.7.1 Identification of Training Needs

In the main, training needs were identified and prioritised during the early stage of the establishment of IPs. There was a general consensus that the Hwedza communal farmers should be trained on practical skills and techniques consistent with, and involving the application of,

conservation agriculture technologies such as mulching, herbicide use, crop rotation and minimum tillage (like basins). Additionally, the small-scale farmers expressed the need for training in the use of mainstream conservation agricultural implements (such as jab planters, direct seeders and rippers for farmers with draught power) in order to become technically efficient and proficient. This also involved training on soil and water conservation methods which could be used for improving field crop production.

Training of IP actors, most notably the farmers, was important because it equipped members with basic knowledge about conservation farming and how it could be implemented through specifically innovation platforms. In this respect, it needs to be emphasised that conservation farming did not originate with IPs but, rather, IPs are seen as an innovative way of ensuring the successful pursuit of conservation farming. As a local agricultural extension officer argued:

Though CA has always been in existence before the coming of IPs, it is important for all actors to appreciate the principles that guide IPs from the point of view of the initiators. If this is done systematically and effectively, then areas of conflict are reduced. I want to emphasise that conflict is not eliminated by training but it is significantly reduced (In-depth interview with an Agricultural Extension Officer, April 2014).

The point here is that training about specific conservation agriculture technologies but also propagation around the very value of conservation agriculture (as the IP farming methodology), narrows the gap between the world-views of the different actors. In doing so, this leads to a common understanding (a vantage point as spoken about earlier) which provides at least a minimum basis for consensus in moving the innovation platforms forwarded.

4.7.2 Ground Rules

As the actors participating in the Hwedza IPs were from diverse backgrounds, it was important to identify criteria for framing interaction between the actors. This meant that ground rules had to be negotiated, established and agreed upon by all. One representative of CIAT also indicated that ground rules are a way of creating a sense of ownership for all actors involved because they will feel obliged to abide by the rules as they would have participated in their very making:

One best way of creating ownership of the project by people is to involve them in the establishment of rules and regulations that guide their actions. It is normal to have

divergent ideas at this stage but with time people will always bridge the gaps between their expectations (Interview with a CIAT official, April 2014).

Such ground rules are normally a compromise between competing worldviews and interests. The rules for operationalising IPs were in fact not made fully explicit at the Hwedza district level. However, at village level, IP actors came up with rules and regulations which ensured reasonably smooth operations for IP activities. This was important because implementation of IPs takes place primarily at village level.

The rules as established in Hwedza made reference to the character of the multi-faceted partnerships and the frequency of interaction, the significance of – and need for – attending IP meetings, and the importance of pursuing IP strategies and activities based on collective action. Overall, all members of the IPs were bound by the ground rules. As well, enforcement was collective as all members committed to enforce the agreed-upon ground rules. The following interview excerpts from two communal farmers, one from Wagoneka Village and the other from Nhukarume Village, bring this to the fore:

[A]ll actors agreed that they would make an effort to attend all scheduled IP meetings. Participation was agreed as the only way that would take the IP forward. Such a commitment was not forced on people (Communal farmer from Wagoneka Village, April 2014).

Even though our village understanding of partnership is very broad, I understood partnership as joint activities that are done with other people like from CIAT, extension workers and GMB. To me this means we are working together to improve agriculture in our village. These people have been helping us before and now that they are many, we expect more help (Communal farmer from Nhukarume Village, May 2014).

In referring to pre-existing relations within villages and the current IP-based interaction, a village head likewise noted:

The village has its own traditional forms of enforcing rules. This is defined by the societal consensus that people have on issues of common interest. This meant that even the agreements that were made for IPs were communally owned by all involved villagers (Village Head for Chidora Village and communal farmer, March 2014).

To reiterate, at village level in Hwedza, the IPs inherited and adopted existing village administrative structures (traditional authorities), or were crafted into the existing networks of communities more broadly, to enforce agreed-upon IP positions. Pre-IPs, people in the villages were bound by collective ideas around community membership and interests. Traditional authorities in the villages then became an organising force, or instrument, used by the lead NGOs to facilitate active farmer participation in the IPs based on agreements reached by IP stakeholders. Thus, the agricultural extension officers (with a coordinating role) were supported by local traditional authorities who were de facto members of the IPs with the sole responsibility of mobilising farmers on the basis of their status as traditional authorities, which small-scale farmers tended to respect.

4.7.3 Motivation for Consensual Agreements by IP Actors

To avoid misunderstandings and to minimise confusion, it is often proper for actors involved in development projects (like IPs) to commit themselves in writing. In this regard, all stakeholders who wished to be part of innovation platforms in Hwedza expressed their commitment to be IP members in written (though loose) consensual agreements which also highlighted the importance of cooperation throughout the IP process. One CIMMYT representative pointed out that innovation platforms were not meant to be hierarchical and dominated by particular actors, and particularly actors without a clear and long-term commitment to the process. His sentiments were expressed as follows:

We are not here to waste time with people who have nothing to offer or to gain. We are here to mobilise serious actors who want to make a difference in their lives and the lives of other actors. It would be unfortunate if the IPs were dominated by back benchers with nothing to offer. This is not a political rally that everyone attends (In-depth Interview with a CYMMYT official, June 2014).

All committed stakeholders, and from the beginning, were therefore expected to highlight what they would and could contribute towards meeting the goals of innovation platforms. Fieldwork evidence shows that the intended contribution of actors (including of those who joined IPs later) related back to their area of speciality, expertise and resources. Marketers (or buyers of agricultural produce) for instance, after joining, pledged to provide knowledge on how communal farmers

could access lucrative markets and input suppliers pledged to provide details on how best communal farmers could access inputs. In the process, actors also managed to identify what they perceived to be the missing links in their vision of robust innovation platforms and resolved that efforts should be made to ensure that key players with potentially significant roles would be continually invited to join the IPs. As one key informant indicated:

Despite the fact that the IP is [now] operational, we have acknowledged as IP actors that there are some key actors still missing. The major problem that we are still facing is that of attracting financiers who are prepared to support communal farmers. This is one of the gaps we are trying to close through continuous invitation of such actors (Key Informant from CIAT, May 2014).

Additionally, each stakeholder brought past experiences and knowledge, and evidence of current resources, to the platforms and this made all stakeholders knowledgeable in their own right in terms of knowing potential actors (such as financiers) who would add value to the IPs. Some actors even used their existing networks to negotiate and invite potential actors. In this regard, one stakeholder used his past networks to lure a financier to the IP. In trying to be more inclusive in this way, actor networks had a ripple effect and worked in favour of consolidating the IPs. One respondent commented on this issue by saying the following:

Our jobs in the NGO sector thrive on networks. One finds out that some previous networks from past projects may come to be handy on a current project. The ultimate goal of NGOs is to improve the lives of local people and this can only be achieved through partnerships. There is no one NGO that can achieve this goal alone. Actors in the IP are constantly inviting past networks when they are necessary and this makes our work easy (Key Informant from CIMMYT, April 2014).

Some actors were convinced of joining the IP process after noting that other actors they knew were involved in IPs and were satisfied with the IP arrangement. Overall, then, networks facilitated a more inclusive IP process and made the entire process more viable with respect to fulfilling the IP mission around small-scale farming in Hwedza.

4.7.4 Institutional Engagements between Actors

All village-based innovation platforms in Hwedza were established initially at district level to capture the diversity of key players at district level with the knowledge, expertise and skills for ensuring achievement of the set IP vision. Members of the district IP agreed to set up lower level tiers of the IPs at village levels, and this was the level at which IPs became operational. Fieldwork evidence shows that, in the main, the actors who made up the village IPs included the following: communal farmers, agricultural extension workers, traditional leaders, CIAT officials, CIMMYT officials, local politicians, GMB officials, the District Administrator's office, representatives from the input supplier Farm and City, and researchers. The list of existing stakeholders was reviewed from time to time as new actors were invited and joined in different ways. It was also made clear by CIAT that the village IPs needed to have the same institutions that were found in the district IP though this was not always the case. Some actors were participating at the district level while not participating at the village level IP. Additionally, the district IP in Hwedza was supposed to monitor the implementation of IP activities on the ground at village level. As noted, agricultural extension officers from the government were mandated by the IP facilitators (or lead NGOs) to coordinate, at village level, the activities of the innovation platform (but they also were heavily supported by the NGOs).

As well, interviews with the communal farmers in Hwedza showed that farmers learnt most of the new conservation farming technologies from government extension officers because of the latter's proximity and frequency of interaction with farmers. Hence, extension officers were fundamentally crucial to any innovation platform successes. Most farmers interviewed, despite recognising the significance of their well-established indigenous agricultural methodologies, expressed a keen and sincere interest in learning new agricultural technologies to improve their farming practices and, in doing so, they relied heavily on government extension services. However, in the past (pre-IPs), the relationship between farmers and extension officers was often problematic and indeed weakened by the relative absence of necessary resources from the extension side of the relationship. For example, the frequency of meetings with farmers on a one-on-one basis was minimal in Hwedza because extension officers had limited capacity and resources; and this limited the effectiveness of agricultural extension in relation to enhancing agricultural productivity among Hwedza communal farmers. In this context, the partnership that was built around the conservation

agriculture IPs, and the central role given to government extension officers, strengthened interactions between farmers and extension services in the investigated villages in Hwedza, in the main because the lead NGOs provided resources to increase extension service capacity. This thus saw an increased frequency of extension visits and knowledge exchanges between extension officers and farmers.

Partnerships involving complementary arrangements were also forged between Community Technology Development Trust (COMMUTEC) and CIAT since COMMUTEC became engaged in implementing conservation agricultural technology in resource-poor farmers' fields in Hwedza district. The partnership with COMMUTEC led to practical inputs into the lives of Hwedza farmers, including information on savings clubs (*mukando*) but also with respect to technologies. Of particular importance are solar vegetable driers, with the farmers now using these to dry their tomatoes and to mix with other dried vegetables as a move towards innovation in agricultural product development and processing. The idea, as highlighted earlier, was to scale up such technological interventions and pursue them in other parts of rural Zimbabwe. COMMUTEC also had drip irrigation kits that had earlier been distributed to some parts of the district where they were not being fully utilised, and these have now been provided to other villages in Hwedza. These activities were noticeable in specifically Nhukahuru Village, where farmers now use drip kits as well as being instructed around the advantages of viable savings clubs.

Another intervention related to the work of the AGRISEEDS Company, which contracted farmers in Hwedza (and Murehwa) for the production of maize seed and cow peas. In terms of implementation, a tripartite partnership among NICO ORGO chemical company, CIAT and AREX was formed to set up demonstration plots for each intervention village for the crops. The demonstration plots were being monitored by extension officers. The partnership included giving farmers 5kg packs to experiment with organic soil builders comprising of chicken manure, cotton seed cake and tobacco dust. After noting positive results from these field experiments, a number of farmers from the intervention villages in Hwedza placed orders and bought fertiliser from the input supplier (NICO ORGO) thereby improving their production and capacity to engage in market sales. It is noticeable that NICO ORGO had joined the district IP at a relatively early stage of the

IP being established in Hwedza, but that the company delayed a year before participating in the village IPs. NICO ORGO highlighted that their main incentive for eventually joining the village IPs was to form a strong link with rural farmers and access markets for their products, which they had been struggling with before joining the IP.

Other stakeholders included HASST machinery manufacturers and Grownet Investments, which were involved through CIMMYT in producing and testing draught animal equipment like animal drawn planters, rippers and jab planters. These though were being viewed by farmers as very expensive, and measures were being taken to make them more affordable.

4.8 Functioning of the Innovation Platforms

Hwedza innovation platforms defined the main roles of their stakeholders as problem diagnosis, coordination, mobilisation and networking of the diverse set of players in the IPs. The tasks of problem diagnosis and mobilisation were crucial in identifying stakeholder gaps and ensuring the constant invitation of new relevant players at each iterative stage of the IP cycle. As has been noted, a key problem for all IPs in Hwedza was to attract some critical stakeholders such as banks or financiers in general. However constituted though, and within the parameters of how each village IP wanted to run its operations, they each arranged for a division of labour with defined roles within the IP. The defined roles informed the working plans that were formulated by each IP based on its vision, goals and critical issues it set out to address.

Tabulated in Table 7 are the identified perceived roles within the Hwedza innovation platforms, as articulated by actors in the stakeholder workshops. Some of the roles listed in the table have been touched on already and will receive further attention in later chapters. For now, I would like to highlight in particular the importance of information dissemination as well as monitoring and evaluation.

Table 7: Roles of Stakeholders in Innovation Platforms

	ROLES OF INNOVATION PLATFORMS	TARGETED BENEFICIARIES
1	Identifying small scale farmers` needs in Hwedza	Farmers
2	Implementation of agreed programmes	All actors
3	Assisting in the selection of demonstration sites for use in IPs	All actors
4	Generic training on conservation agriculture	Farmers
5	Training workshops	Farmers, Extension Workers
6	Record keeping to improve efficiency of farmers	Farmers
7	Mobilisation of new stakeholders to join the IPs.	All actors
8	Linking farmers to service providers (inputs and output markets)	Farmers, Input and Output Suppliers
9	Influencing policy and legal frameworks governing IP activities	All actors
10	Coordination of activities and stakeholders	All actors
11	To consider and develop research concepts from farmers` indigenous knowledge systems	Researchers, Farmers
12	Planning, monitoring and evaluation of conservation agriculture activities	Researchers, CIAT and CIMMYT
13	Motivation and dissemination of information to farmers	Farmers
14	Advise researchers on challenges being faced and areas of concern	Researchers, CIAT, CIMMYT and Farmers

Source: Field Work 2014.

4.8.1 Information Dissemination as a Driver of the Functioning of IPs

Evidence from key informants showed that the partnerships and networks within the village IPs in Hwedza were aimed at integrating agricultural knowledge from scientific and tacit (or indigenous) sources, from the public and private sectors, and from local and global sources. The processes of learning and acquiring knowledge were interactive, often requiring extensive links between different sources of knowledge. It was pointed out by one CIAT representative that IP networks entailed the application of knowledge (of all types) from various stakeholders to achieve the desired outcomes of the IPs. Through my interaction with the communal farmers, it emerged that significant knowledge was acquired by Hwedza farmers through learning, experience and participation in the IP activities. One communal farmer had the following to say about this:

I acquired a lot of knowledge from my participation in IP meetings. Despite the fact that people were sceptical of the IP meetings, most of us eventually embraced them and we

learnt a lot from different stakeholders who participated (Interview with a Communal Farmer from Chidora Village, August:2014).

However, fieldwork evidence showed that this knowledge was not considered by extension workers as particularly significant (or as innovative) until it was applied by communal farmers in their daily farming activities.

Actor interaction which came through IP meetings was used to situate conservation farming methodologies within a set of relationships necessary to make knowledge available to farmers and allow that knowledge to be put into more effective use through interactive learning. Such interaction provided a platform where all stakeholders expressed and applied new ideas which could hopefully facilitate the pursuance (and indeed the development of) the vision of enhanced rural agricultural productivity. Fieldwork evidence showed that IP stakeholders were involved in the actual identification of a vision for guiding the IP process. This vision, once formulated, was used to jointly identify and prioritise actions among actors. One CIMMYT official indicated the following:

The stakeholders observed the impacts of their activities and reassessed their objectives in the light of their observations and reformulated plans for the next activities (Key Informant Interview with a CIMMYT official, August 2014).

This involved the different stakeholders drawing upon their life-worlds but, in the process, reshaping their life-worlds within the spirit of expecting mutual benefits. However, it should be noted that there was always some reluctance in terms of total adoption of another actor's positions. In this light, one farmer had the following to say:

It is welcome that different players come here to help us with these new ideas, but what is also important is that we as farmers, we have intimate knowledge of the area which we can't just abandon. These actors should acknowledge that as well (In-depth Interview with a farmer from Nhukarume village, May 2014).

This relates back to the indigenous agricultural knowledge and practices which farmers in Hwedza continue to recognise as valid, such that they ultimately refused to simply capitulate to the alternative agricultural methodologies arising through the IPs.

It was also clear, at least from the perspective of some stakeholders, that local government authorities wanted (as indicated previously) to control the processes around the IPs in order to remain relevant to the local people; and that government discursively constructed the process of knowledge dissemination by NGOs as part of a broader agenda related to foreign (notably Western) imperialism. Excerpts from the interview with the District Administrator showed this point:

NGOs may come here with the agenda to improve the lives of small scale farmers but they cannot do that without coming through our offices. We are the local authorities and we represent the central government. Our mandate is to protect the local people from any exploitation by any external people. We have had some NGOs who have come here to advance certain political positions in the name of helping the local people (In-depth Interview with DA, May 2014).

One ZANU-PF Member of Parliament who was interviewed also expressed concern about NGOs, including the influx of NGO-driven projects in rural Zimbabwe:

What really amazes me is the fact that most of these NGOs get their funding from Western countries and America. These countries are the ones who have been at the forefront in attacking our land reform and our government policies. What exactly has changed now which has made them want to help the very people they don't like. Yes these NGOs bring development like what other people want to think, but there is always a hidden agenda behind their projects. We are normally forced by the situation in the country to allow them to work with our people but that is not ideal (In-depth Interview with ZANU-PF Member of Parliament, July 2014).

He went on to say:

Zvinonzi kugara nemuroyi wotorara wakavhura ziso rimwe [Staying with a witch means you have to always open one eye when sleeping] (In-depth Interview with ZANU-PF Member of Parliament, July 2014).

This animosity towards NGOs, which is a manifestation of the political conflict in Zimbabwe notably since the fast track land reform programme started, certainly had the potential of tearing the IP process apart.

But any animosity between NGOs and government did not scuttle information dissemination on a day-to-day operational basis, and did not undercut the role of government employees (notably agricultural extension officers) in the IP process. In this respect, one of the key roles of the NGO facilitators was to maintain linkages between various IP levels (district and village) and to enhance feedback loops to ensure engagement with – and of – farmers – at village level. At this level, various information-sharing mechanisms were designed. These included letters of IP meetings posted through schools to parents, often with school pupils bringing such notices home after school. Traditional institutions (notably the village heads in Hwedza) would likewise be used for quick and effective dissemination of information at village level. Further, in the intervention villages, most farmers now own mobile phones (along with radios) and this is used extensively for providing details around different aspects of the IPs such as planning, coordination, networking and dissemination of market information. Farmers had bought mobile phones and radios from the sale of their farm produce.

The stakeholders on a regular basis also discussed how they would capture, disseminate and document learning experiences from the IPs. In this regard, the village IPs in Hwedza appointed secretaries from the IP membership who subsequently attended all the meetings and took minutes of all IP proceedings for bi-directional feedback including disseminating discussions and findings to all local farmers. This information sharing was strengthened through farmer field days, farmer exchange visits, stakeholder joint planning and the establishment of a community-based monitoring and evaluation system.

4.8.2 Implementing an Iterative Process of Monitoring and Evaluation

Fieldwork evidence showed that actor participation in Hwedza IPs was seen not as a once-off happening but as a longitudinal process of planning, experimenting and implementing from the very formative stages of the IPs. Though I noted that participation of specific actors was not always sustained throughout the IP processes, there was a clear effort by all stakeholders to make sure that all necessary actors participated in the IP processes. This to me reflected a movement away from conventional top-down approaches to development interventions involving planning with (and not simply for) the farmers as well with other key stakeholders. This gave farmers, at least the opportunity and space, to experiment with, adopt and evaluate their own local innovations.

The innovation platform members planned to meet at regular intervals to discuss and implement opportunities to improve production and markets (along with related policy issues) and therefore sustain the IP process over time. Admittedly, initially, this process was to be driven by (and indeed was driven by) the ‘external’ agents (lead NGOs) who brought the idea of IPs to Hwedza, notably CIAT and CIMMYT. However, stakeholder involvement, including of farmers, increased over time as the benefits of increased cooperation were becoming realised to some extent. And though the lead NGOs were responsible officially for monitoring and evaluation, the regular interaction between stakeholders in the IPs in effect also involved monitoring the strengths and weaknesses of the IP process including identifying gaps in stakeholder presence.

Since the establishment of the village-level innovation platforms in Hwedza in June and July 2009, there were slight iterations to initial visions, objectives and plans. When the innovation platforms were set up, the general vision was to ensure food security and increased income from agriculture for farmers in Hwedza. However, as different players interacted through IPs, members came to learn that the benefits were not only to farmers but to all of them. The following evidence, from an input supplier, supports this point:

[T]here is potential for input markets in Hwedza through IPs. Our involvement in this intervention is opening up new market opportunities for our wares. We had struggled to penetrate fully the market of communal farmers. Now that we anticipate the joining of financiers willing to fund communal farmers, we also anticipate increased sales (In-depth Interview Representative of Farm and City Suppliers, June 2014).

A government official, from the Grain Marketing Board (GMB) which buys maize and other grains from farmers, indicated:

I have always argued that communal farmers are productive especially if they are given enough support. Most of the supplies that we receive come from communal farmers. The coming in of IPs will increase capacity of the communal farmers and their produce will increase. This will also benefit us as GMB because we will receive increased supplies (In-depth Interview with a GMB official, July 2014).

As the stakeholder presence in IPs in Hwedza was widening, platform members (including farmers) also started to consider the need for an agricultural commodity which could be grown during winter (when normally no significant crop production is undertaken by communal farmers). This would bolster the IPs because there was no guarantee that the staple agricultural crop (maize) could alone ensure long-term agricultural production even through the use of conservation farming. As well, this change was mainly prompted in Hwedza by the need to move away from the 'maize poverty trap' which existed in part because of the unsatisfactory maize output market. Farmers were also dissatisfied with the pricing of maize in relation to the costs associated with its production. Thus, in monitoring and evaluating the situation on the ground, the IPs agreed on seasonal variations of crops with maize merely being the main crop produced by the IPs in the summer season based on the initial vision of food security using conservation agriculture. Commodity variation was agreed on for the winter season and each village IP was given the chance to select a winter crop with which to experiment. All the IPs in Hwedza chose tomatoes as a winter crop, hoping thereby to contribute to moving away from subsistence (or sub-subsistence) farming towards some form of commercialisation. Participatory market surveys were carried out by the village IPs to assist them in their selection of crops and they visited various input and output markets for various agricultural commodities before deciding on tomatoes.

The IPs in Hwedza planned to produce tomatoes for Cairns canning company. Cairns, in representing buyers of produce more broadly, joined the IPs in Hwedza only in April 2014 and farmers were working to upgrade their systems to meet the requirements of quality and scale of production required by Cairns. The IP actors also visited Chegutu Cannery and learnt that the basic requirement for this canning company was drip irrigation. Thus the IPs started initiating mechanisms for drip irrigation for tomato production in successive cycles. Since the bigger output markets seemed to be still out of reach for the IP Hwedza farmers, they decided to form partnerships with neighbouring boarding schools in a bid to link farmers to local markets. The schools were invited to IP meetings and also became IP members. Mt St. Marys Mission (and Goto and Chemhanza schools) was in particular incorporated into the IPs. The IPs then, on the basis of monitoring procedures, not only changed their focus from maize production to include tomatoes but also changed their very composition. For the growing of tomatoes, for instance, new technical

advisors had to be brought on board but, earlier, I mentioned additional stakeholders over time including NICO ORGO in the case of chemicals. Such changes attest to the dynamism and rejuvenation of IPs to achieve their goals. Farmers indicated that these changes brought additional value to their agricultural production and they continued to feel encouraged to commit to the IPs.

4.9 Innovation Platforms and their Role in Environmental Management

One final point, in relation to the themes of this chapter, needs to be highlighted. Fieldwork evidence showed that the Hwedza platforms were deeply concerned about the conservation of the environment and ecosystem, which is not surprising given that the IP focus is on CA technologies. This explains why, though late in the process (July 2014), the government's Environmental Management Agency (EMA) became involved in the Hwedza innovation platform. From the start, IPs sought to be sensitive to – and to address – issues of natural resource management through such CA technologies as mulching, basins, manure application, minimum soil disturbance and crop rotations. The adoption of CA by farmers in Hwedza thus focused on issues of soil moisture retention, soil erosion control and soil fertility management. Through their integration and partnering with the EMA, IPs in Hwedza are now ensuring and managing appropriate wetland use so that, for instance, farmers place their gardens beyond a specified distance from river sources. IP actors are also involved in managing forest (along with water) resources with support from the traditional institutions of village heads in Hwedza. The innovation platforms thus are adopting a holistic approach in which farming includes taking care of the environment for purposes of sustainable development.

However what was clear is that, even though EMA would have its agents visiting some Hwedza farmers before July 2014, they were not ready at first to become full-time members of the IPs. Some key informant interviews with EMA's representatives showed that they would rather capitalise (from outside so to speak) on the structures and systems implemented by IPs to mainstream their agenda of environmental protection. The following was said by one EMA representative:

[W]e appreciate very much the efforts that are being put by IP actors to educate communal farmers on the importance of conserving the environment. Our organisation has always argued that the only way of sustaining productive agriculture is to conserve the

environment. Soils, forests, and water bodies need to be conserved by farmers in communal areas. We are therefore happy that these are the same teachings being given through conservation farming. Though we currently don't have the capacity and need to be full time members of the set IPs, we are utilising the structures that have been promoted by IPs to champion our cause of environmental conservation (Key Informant Interview with EMA representative, August 2014).

A sensitive issue with respect to agriculture is the use of fertilisers and I have already noted the involvement of NICO ORGO in trying to enhance soil fertility. Conservation agriculture in Hwedza was implemented with significant attention given to the soil. More specifically, there occurred the use of (purchased) inorganic fertilisers for the better-resourced farmers and leaf litter, animal manure and anthills for the less-resourced farmers in Hwedza. In this way, CA sought to offer an affordable technology to increase productivity of crops depending on the wealth status of the farmer. Overall, though, Hwedza farmers view inorganic chemical fertilisers as having negative implications for their soil and regard organic fertilisers as better equipped to deal with the changing weather conditions. They claimed that chemical fertiliser applications add to moisture stress during long mid-season dry spells and believed that organic fertilisers were less harsh on the soil. The IPs were though all practising mulching and basins which cushioned the farmers against mid-season dry spells and also prolonged moisture retention and, as a result, improved agricultural productivity. This perception about inorganic fertilisers, and the importance of more organic applications, is consistent with the life-world of small-scale farmers and a life-world to which they have subscribed over a long period of time. There was the potential for clashes in the knowledge-practices held by farmers and those held and propagated by other IP actors with the latter sometimes encouraging the farmers to make an effort to acquire inorganic fertilisers to increase productivity.

4.10 Conclusion

This chapter has provided an initial introduction to the agricultural innovation platforms in Hwedza, particularly in relation to the establishment and formative stages of the innovation platforms and the commonalities which had to be forged in order to ensure a reasonably coherent and stable process moving forward. A range of themes pertinent to the platforms was also brought

to the fore, including questions around knowledge dissemination as well as monitoring and evaluation. It is clear that the platforms in Hwedza involved, from the start, a degree of consensus which facilitated active engagement between the various IP stakeholders, though many important actors remained aloof from the process. At the same time, it was also shown that tension and conflict became manifested at different times on different issues and amongst different actors, and that small-scale farmers in Hwedza engaged with the IP process on a cooperative but critical basis. In the next chapter, I examine more fully the kinds of social interactions and relationships embedded in the agricultural innovation platforms in Hwedza.

CHAPTER FIVE: INTERACTION OF KEY INNOVATION PLATFORM ACTORS: EXTENSION OFFICERS, RESEARCH ACTIVITIES AND FARMER-TO-FARMER RELATIONSHIPS

5.1 Introduction

The establishment of IPs in Hwedza involved the establishment of new relationships but also the alteration or consolidation of pre-existing relationships. Thus, agricultural innovation platforms are embedded within and take shape in the context of what already exists and may also reshape what exists in the process of being formed. Because of this, the trajectory of any particular innovation platform, including in Hwedza, is context-specific. In this particular chapter, I focus on the relationship between farmers and agricultural extension officers in terms of the dissemination of agricultural knowledge and, in doing so, I bring to the fore the pre-existing knowledge of farmers as well as their historical relationship to these government officers. I also examine the involvement of the Hwedza farmers in the research activities of the IPs and critically analyse the relationship between the lead NGOs and the farmers in this regard. Despite certain ongoing problems with the roles of the extension officers and lead NGOs, farmers have favourable views of them as least when compared to other IP stakeholders. Additionally, I consider the ways in which farmers interact amongst themselves at local level in both agricultural and non-agricultural activities (including with reference to village politics) and how these activities both bring together and at times distance farmers, with corresponding consequences for networking within the IPs.

5.2 Farmer Accessibility to Agricultural Extension Services

Smallholder farmers in Zimbabwe rely heavily on the technical information that they receive from agricultural extension workers, as a way of building their knowledge base. Of course, these farmers do have long-standing agricultural knowledge of their own, as outlined previously. However, in order to improve agricultural production in farming communities such as Hwedza, access to agricultural information from outside (for example, from agricultural officers) is regularly seen as critical, at least by those who propagate and sponsor agricultural interventions. This is particularly pertinent to small-scale farmers who in the main do not possess formal agricultural training and, unlike large-scale commercial farmers, they do not have the resources to hire in agricultural technical assistance.

Agricultural extension agents are the main link between farmers and agricultural researchers. This link is seen as desirable because it ensures innovation and improvement in farming methods, and particularly given the significant climate change and variation which currently and increasingly exists. Usually extension officers obtain agricultural information from researchers and unpack it into a language and format that ordinary farmers can understand. Extension agents also often try to contextualise the information locally to suit the communities in which they operate. As a feedback mechanism, extension workers additionally pass information from the farmers back to the researchers. Researchers need this feedback from the farmers in order to make their research more relevant to the needs of farmers. Continuous research without feedback from farmer is not beneficial to both the farmers and the researchers as (in most cases) it creates a rift between theory and practice. The farmer-extension officer-researcher nexus is not without its problems though (including logistical problems) such that what has been described here represents the expected or ideal arrangement. And, in the case of agricultural innovation platforms in Hwedza, government agricultural extension officers are seen by CIAT and CIMMYT as fundamental in knowledge dissemination as well as in forging and cementing relationships with small-scale farmers. Hence it becomes important to discuss their actual activities in understanding the form and extent of linkages within the platforms.

In interviewing extension workers operating in Hwedza communal areas, there is a clear understanding of their role as extension workers. In having undertaken formal agricultural training, they recognise that their mandate is to improve knowledge access to and for small-scale farmers and thereby ensure appropriate agricultural methodologies amongst the Hwedza farmers. However, especially before the inception of IPs in Hwedza, issues of agricultural extension incapacity to reach out to small-scale farmers emerged in a stark manner during the interviews. This is demonstrated by the following remarks of two extension workers:

We are trained to help farmers and this we know is our mandate. However, there are issues of capacity that we always lament here. We wish if we could be motivated enough to carry out our job happily. Personally, I am excited to be partnering stakeholders like CIAT and CIMMYT in our areas of jurisdiction. The partners have contributed to the building of

capacity in our department especially now when the government is struggling to capacitate us (Interview with an Extension Worker in Hwedza, April 2014).

Before the inception of IPs in Hwedza, extension workers were operating in the area but because of the issues of limited capacity, extension services were ineffective because of lack of transport to reach villages. The coming in of NGOs with the intervention of IPs in Hwedza has created some capacity in our department. There is now a clear difference between the period before IPs and after their implementation. CIAT and other NGOs working on the IP intervention have been providing transport to the extension workers and this has improved our mobility (In-depth Interview with an Extension Officer, August 2014).

5.2.1 The Gendered Nature of Extension Accessibility by Farmers

Despite the increased capacity of extension services, this does not necessarily imply easy access for all farmers. In this respect, it is important to note that households are represented by their heads in dealings with extension officers and heads are expected to share the acquired agricultural information with the other members of the household. It became evident that gender differences were of some significance, with the existence of both male-headed and female-headed households in the sampled Hwedza households (See Table 4.3 in Chapter 4). Another emerging household trend in Hwedza is the child-headed household. Access to extension services was evaluated in terms of the extent to which male- and female-headed households indicated that they accessed extension services at different times before, during and after the farming season. A large majority of male household heads (80%) indicated they accessed extension services on a regular basis.

Most male farmers indicated that the introduction of innovation platforms had opened up and deepened channels linking the farmers with their extension workers and that they were exploiting these opportunities. Despite many male farmers indicating that they had their own knowledge-set concerning farming, they seemed to embrace the help that they were receiving from the extension workers under the IPs. Some of the farmers had the following to say concerning this issue:

A good farmer is that one who is open to new ideas. I rely on the support that we get from extension workers. These people help us a lot. They stay in our communities and they

understand our situations clearly (Interview with Mr. Jereko – Male Farmer and Head of Household, April 2014).

Extension workers are the base of our agriculture. The rainfall patterns are now very unreliable and we have to change our farming methods and crops that we put in. Despite the fact that there are not many of these extension workers in our community, I find an improvement of their visibility after the coming in of IPs (Interview with Mr Rukunda – Male farmer and Head of Household, April 2014).

Contrary to this, female-headed households recorded a relatively low percentage (20%) of those who accessed reasonably continuous extension services. Closer investigation showed that there were certain cultural constraints concerning women's inability to access extension services. The process for a farmer to access extension services included walking long distances to arranged meetings where extension workers would address farmers. This was problematic for women because of their gendered social reproduction roles which made it imperative that they remain constantly in and around the homestead. The researcher also acknowledges that the lower percentage of female small scale farmers who accessed extension services was attributed as well to their lower participation in the IPs. Further, being away often from the homestead may lead to rumours that the female head, if simply a de facto head with the husband away for extended periods, is engaged in some sort of adulterous relationship. Interviews with some female farmers indicated as well that they had acquired their farming knowledge from their husbands (in the case of widows) and they were content with what they knew. The following were some of the sentiments shared by female farmers:

A woman who does not stay at home most of the times is normally labelled an irresponsible woman. I have the role to make sure that the home is taken care of. This includes caring for children and cooking for the family. Any activities that involve me walking long distances away from the home are thus less likely to attract women unless they are funerals or church functions (In-depth Interview with Mai Jeke, female farmer and Head of Household from Samundera Village, July 2014).

My husband is based in Harare and I am here in the village taking care of our children and home. If I attend these meetings frequently, people may start gossiping that maybe I

am already cheating on my husband. Remember that most of these meetings are attended by men. This discourages us female farmers. However, this does not mean I don't attend any of such meetings. I attend them but not all the times (In-depth Interview with Mai Ruva, female farmer and Head of Household from Chidora Village, July 2014).

Overall, the willingness and ability of female farmers to learn was less than their male counterparts because the agricultural extension meetings involved travelling long distances.

Fieldwork evidence showed that the distance to the venues of IP-related agricultural extension meetings was a determining factor in the success of community interactions around agricultural extension. In rural areas, people admittedly often walk long distances to obtain different services (such as health facilities) but particularly long distances normally discourage travelling. In this regard, I compiled the various distances that each farmer had to cover in order to reach the meeting venues. It emerged that farmers walked distances that ranged from 1 kilometre to a maximum of 4 kilometres. The distance was generally said by the farmers not to be a deterrent factor. Even women concurred on this point as they argued that they sometimes cover long or longer distances fetching firewood. The organisers of the IP meetings in fact made sure that they chose central venues that would in most cases be convenient to the majority of farmers. The meetings also changed venues in order to accommodate different farmers. Nevertheless, for the reasons noted above, women were far less likely to attend the extension meetings.

5.2.2 Frequency of Receiving Extension Services

Access to extension services should also be understood in terms of the number of times that a farmer engages with the extension system. For this reason, it was necessary to establish the periods in which farmers needed extension services over the agricultural season and how frequently they accessed these services during these periods. In all of the villages investigated, it emerged that farmers accessed extension services throughout the year but that the key phases can be categorised as the pre-farming season, farming season and the harvest period.

During the pre-farming season, the majority of the farmers in the innovation platforms had considerable down-time in terms of agricultural activities, and hence there was almost maximum attendance at meetings called for by the extension workers. Despite the fact that farmers were

involved in land preparation for the next season, the work schedules for farmers were not that hectic and intense as compared to other periods. During this time, farmers received significant amounts of information pertinent to improving farming methods. For the farming season proper, the attendance at meetings by Hwedza farmers became marginal. A busy schedule of working in the fields, and monitoring hired labour, occupied farmers throughout the farming season. Some responses by the farmers follow:

We rely on family labour to work in the fields. We cannot afford to hire labour because of the limited resources that we have. This explains why we have to work on all the working days in order to maximise available labour. As a result, it becomes difficult for us to attend meetings called for by extension workers (In-depth Interview with a farmer from Nyamutsika village, July 2014).

Though we rely on family labour primarily, we sometimes hire labour from the village. The labour that we hire we use last year's maize stocks to pay for it. Sometimes we use commodities such as soap, sugar and cooking oil to pay. One of our eldest sons works in Harare and he is the one who brings these commodities for paying off hired labour. Despite this, we also have to be present to monitor these people hired to work in the fields. If they are left unattended, then they will not do a proper job (In-depth Interview with a farmer from Chidora village, June 2014).

The farming season is very busy for us farmers because we need to do a lot of work within a short space of time. Even the extension workers themselves know that farmers are committed during the farming season so they give us all the information that we need during the pre-farming season. People in the village do not waste time because if one does so, then it means hunger in the home (In-depth Interview with a farmer from Wagoneka village, May 2014).

During the harvest period, farmer access to extension services was even less than during the pre-farming season. An increase in field activities such as preparations for harvesting and the actual harvesting of the crops was attributed by the farmers to this decline. Throughout all three periods, the frequency of access to extension services had a clear gender dimension, with more male-headed households accessing extension services than their female counterparts. Another critical point

about the extension meetings, according to the Hwedza farmers, was the degree of interaction and quality of exchange at the meetings. More specifically, though extension workers were using innovation platforms meetings to share agricultural methodologies with farmers, farmers were expected to interact with other IP stakeholders during these meetings and hence the farmer-extension officer interaction and exchange was limited accordingly.

At the same time, some extension workers would randomly visit farmers at their homesteads to ascertain that farmers were pursuing proper farming techniques, and this could also be a basis for measuring accessibility to extension services. But these visits were very infrequent. Farmers interviewed indicated that they seldom received visits from extension services mainly because of the limited number of extension workers and ongoing transport problems. One extension worker had the following to say concerning this issue:

An extension worker should be having a motor bike in order to visit farmers. He should also have fuel to use for the same purpose. But if you look at us here, we do not have those things to use. Instead, what do we have here? We have bicycles. Honestly do you think that I can cycle a bicycle to visit all the farmers? The answer is no. This is the problem that we are facing. Our government is not supporting us enough to do our job hence these problems (Key Informant Interview with an Extension Worker, May 2014).

Thus extension officers could not visit many farmers, or visited farmers infrequently, in their area of jurisdiction. To circumvent this problem, extension officers interviewed indicated that they relied on group consultations where small-scale farmers would gather at an agreed place like a school and invite the extension officer to address them. This problem existed even during the innovation platform process.

Extension workers sought to gather farmers occasionally at demonstration fields of identified farmers in the villages where they would use the opportunity to demonstrate effective farming methods. The identified demonstration fields were those of successful farmers in the village. Hwedza farmers bemoaned the criteria (based on agricultural success) used to choose demonstration farms as most of them thought that it would helpful to choose struggling farmers'

plots as this would provide these farmers with a clearer understanding of how to enhance their agricultural productivity. This is indicated from the following quotes:

Sometimes it is disappointing to note that successful farmers are the ones who are mainly chosen to provide demonstration plots. These are farmers who are already doing well and honestly going to their fields is more of depriving struggling farmers of the opportunity to be taught on their farms (In-depth Interview with a farmer from Nhukarume village, April 2014).

Some of our farmers in the villages pay extension workers so that their fields can be chosen as demonstration plots. These people want to show off to the rest of the village that they are better farmers. This should be stopped because instead of learning, we end up being discouraged because of the excessive attention given to successful farmers (In-depth Interview with a farmer from Wagoneka village, May 2014).

These responses show that many Hwedza farmers were disgruntled by the attention given to successful farmers by extension workers and, further, that the struggling farmers may decide not to attend such demonstrations or to not pay rapt attention to the proceedings if they did attend. And the second quotation speaks, at least implicitly, to the possibility of elite capture of the IP process, particularly given the key role given to agricultural extension officers by the lead NGOs of the innovation platforms. Another possibility was the emergence of tension and conflict between small-scale farmers.

In this context, it is important to note the existence of socio-economic differentiation amongst the farmers and, as such, they are not a homogeneous group as they vary in class and status (as well as gender). There was an elite farming class which had at least four-roomed houses under asbestos/zinc metal, a herd of cattle in excess of 20, at least one scotch cart, general farming equipment, the ability to hire labour during the peak period of farming, a solar system at the homestead for lighting as well as for powering entertainment systems, and the financial capacity to buy inputs such as fertilisers and hybrid seeds. These farmers had elitist sentiments and embraced the IPs in Hwedza. One 'elite' communal farmer had the following to say:

IPs are very good for our village because they give an opportunity to those less privileged farmers to learn important skills about farming. People in the village here are different in terms of their economic status. Some farmers can afford to buy inputs without external support like myself. Some cannot afford that and these can benefit even more from IPs. Then comes those farmers who have been producing more even before the coming in of IPs. These farmers need viable markets to sell their crops and IPs connect them to such markets. So, one can see that both privileged and less privileged farmers benefit from IPs (In-depth Interview with a communal farmer from Nhukarume Village, July 2014).

This claim, about benefits for all farmers from innovation platforms, is not a central focus of the thesis. For now, it is important to make two points. First of all, different communal farmers enter and endorse IPs for varying reasons depending on their specific conditions of existence, and thus there is some variation in expectations placed on the IP process. Secondly, and related to the first point, IPs may have differentiated impacts on farmers depending on their position within the local agrarian hierarchy in the Hwedza villages and may deepen or entrench this hierarchy.

5.2.3 Information that Farmers receive from Extension Services

The kind of information or the type of agricultural knowledge acquired through interaction with extension officers is also of significance. It emerged that farmers in general received knowledge in relation to livestock production and crop production technologies. As noted previously, small-scale farmers in Hwedza have their own sets of agricultural knowledge acquired independent of extension officers. Their interaction with extension officers therefore entailed an interface between different knowledge-sets (that of the farmers and that of the extension workers).

Fieldwork evidence showed that, in terms of crop production, farmers were producing different crops depending mainly on their capacity and household needs. The following are some of the remarks made by farmers responding to the question on choice of crops:

My primary focus is to produce maize for my family to consume. We also produce groundnuts, cow peas and round nuts primarily for domestic consumption. In the years that we produce a surplus, then we can have an opportunity to sell. Even though we know that cash crops pay more than the crops we produce, we lack the capacity to produce them.

Maybe one year we are going to produce cash crops (In-depth Interview with a communal farmer from Chidora Village, June 2014).

My child who is in Harare has been generous with me because he buys me inputs to produce sugar beans for sale. Even though I also produce maize for consumption, my main crop is sugar beans because I can get more money from selling sugar beans. Cash crops are capital and labour intensive and I get much of my support from my child in Harare who normally helps me with inputs such as fertilisers and seed (In-depth Interview with a communal farmer from Wagoneka Village, September 2014).

The proportion of Hwedza farmers who proactively sought extension services and support on crop production significantly varied depending on the crop type that the farmer was producing. Farmers who were (in addition to food crops) producing cash crops such as sugar beans, soya beans, cotton and paprika sought out extension services significantly, certainly in comparison to their counterparts who were producing mainly food crops. From the views of the farmers, this was because cash crops required a deep appreciation of the appropriate chemical applications as well as the different stages in the life of the crop. Additionally, a small number of the respondents indicated that they were new in producing cash crops hence they needed support from extension services.

Those who were producing food crops indicated that they had sufficient knowledge concerning the production of crops such as maize, sorghum, groundnuts, round nuts and many others. After all, food crops were the main crops that each household in Hwedza produced historically, year after year, because of the centrality of food crops to food security at household level. The following are responses obtained from farmers:

I have been producing maize and sorghum for my whole life time. Now I am 68 years old and my whole life has been based on farming. I have accumulated lots of knowledge over the years on how to produce such crops. However, in the past, we were not using chemicals and these modern fertilisers. Things have changed with the coming in of hybrid seeds as well as the changing rainfall patterns. Even though we still need to appreciate the new chemicals and the new climate, our knowledge on food crops is invaluable (In-depth Interview with a communal farmer from Chidora Village, June 2014).

Farming used to be for subsistence in the past and any surplus would be exchanged through barter trade with other farmers. However, in this monetised economy, we are forced to produce cash crops such as tobacco, cotton, sugar beans and paprika. These are relatively new crops to us and we have not amassed enough knowledge about them. As a result, we need maximum support from extension workers. If one does not get maximum technical support, then it becomes difficult to produce such crops because of the limited knowledge. Many farmers in the villages seek extension services more when they produce cash crops (In-depth Interview with a communal farmer from Nhukarume Village, May 2014).

These comments highlight the greater importance of extension services for cash crops but also the interplay between sets of agricultural knowledge. In the case specifically of food crop production, farmers in Hwedza do not simply take in what they are told by extension officers, but continue to respect and follow time-tested crop production techniques and methodologies.

Hwedza is an area that is conducive for livestock production. The livestock that small-scale farmers keep include cattle, goats, sheep, chicken, pigs and donkeys. The findings showed that fewer farmers are currently accessing extension services for livestock production. This does not discount the importance of livestock to Hwedza farmers but can be attributed to different factors. The number of specialised veterinary workers designated to work in the villages investigated was very low, and this is combined with the lower prevalence of livestock diseases in the area which makes it less important for farmers to look for extension services for their livestock.

5.3 Farmer Participation in Research Activities in their Villages

The whole idea behind the innovation platform concept, and the implementation of it, is inclusion of all actors/stakeholders involved in the life cycle of a crop or livestock. For my purposes, a research activity is a practical activity which is undertaken with the deliberate intention to address an agricultural need of farmers for the ultimate goal of improving their farming. Such activities would include both livestock and crop based procedures. To establish the existence of research activities, I asked farmers questions around their practical involvement in collective investigative procedures in their villages. This is crucial, as IPs (in Hwedza and elsewhere) are expected to prioritise the involvement of farmers in processes of innovation. In this regard, it became important

to unravel the levels of participation by farmers as well as the specific roles they play in research activities.

All small-scale farmers in the Hwedza villages indicated that they had participated at least once in research activities in their villages. The main research activity focused on demonstration plots where different crops and farming methods were tried. Such demonstration plots are the ones which were used for research activities as mentioned earlier in the chapter. Some respondents indicated that they participated in the demonstration of irrigation technologies in their village. It also emerged that there were post-harvest technologies that were shown in the villages and some farmers participated in the demonstration of these technologies.

As a way of determining the level of participation by farmers in the research activities in the villages, I identified and categorised different levels (or forms) of participation. The first level was the initiation level where farmers would take an active role in initiating a research activity drawing specifically from the problems they faced on-the-ground. It became clear that, in general, farmers did not initiate, formulate or design a research activity. So, despite the fact that farmers were facing a multiplicity of challenges in their everyday farming, identifying specific problems for purposes of research activities was not easy on the part of the farmers. From my interaction with the IP members, I noticed that the lead NGOs did not adequately encourage the farmers to initiate the research activities. This was despite the fact that the lead NGOs requested the farmers to identify the challenges that they were facing. I therefore concluded that translating farmers' problems into researchable areas was a challenge for the farmers and hence the lead NGOs felt compelled to intervene at this level. In terms of deep participatory methodologies, this form of participation (involving conceptualisation of activities) would presumably be prioritised, so it is instructive that even in innovation platforms (at least in Hwedza) it was absent.

The second level was that of active support of the research activity by providing labour and operational assistance to the research activity. This supporting level meant that farmers would come and work in the demonstration plots at the request and guidance of the lead researchers, and carry out routine maintenance activities. The majority of the farmers interviewed were involved in

this form of participation i.e. at the implementation level. Farmers indicated that by working in demonstration plots, they were acquiring different skills that they hoped to use in their own fields. The following were some of the feedback from the farmers involved:

Working in demonstration plots gives an opportunity to farmers to interact and share important information. In these routine interactions, we can share information on the cheap sources of inputs, effective ways of combating weeds and diseases, effective ways of handling crops after harvesting and fertiliser application ratios (In-depth Interview with a farmer from Wagoneka village, May 2014).

To me, the platform that is created by demonstration plots is beneficial to many people in the village. It reinforces the social intimacy that is fast being eroded in our villages. I would equate this to a social club where people socialise and share. The social bond is what sustains villages. Despite the farming benefits that are clear, I also see social cohesion through the interaction in such research activities (In-depth Interview with a farmer from Chidora village, July 2014).

The third and last level of participation identified was the gathering of findings from the demonstration plots where the results of the research activity would be harvested and conclusions made. The majority of farmers played a passive and ancillary role at this level as the lead researchers were mainly driving this stage of research. Farmers were there to play a supporting role to the researchers. However, this is not to say that farmers were withdrawn (or withdrew) completely from research activities at this level but they certainly played a peripheral role. As was indicated by one lead researcher from CIAT:

Data gathering and analysis is normally a technical activity that is normally done by researchers. However, this is not to say that farmers were cut out from this process. IPs are all about inclusivity and this meant that farmers were involved in the data gathering even though the process was led by researchers. Involving farmers is advantageous because they tend to associate more with the research activity. This would mean that even the dissemination of the findings becomes easy (Key Informant Interview with a CIAT official, July 2014).

Despite the claim by the CIAT official of the need for participation by farmers in research-based analysis, it appears that the lead NGOs saw this form of participation as entailing expertise which was beyond the capacity of the small-scale farmers in Hwedza. Given that farmers were in large part primarily involved in operational activities, the research activity process tended to be top-down and hierarchical.

It was also pertinent to understand the composition of actors in different research activities and how these actors were invited to take part. It emerged that different research activities had different stakeholder compositions depending on the character and scope of the activity. All research activities had farmers involved but, as indicated above, their participation primarily entailed implementation activities. Research activities were largely initiated by the following organisations: CIAT, COMTECA, CIMMYT and AREX.

CIAT and CIMMYT were the actors at the forefront of the IPs implemented in Hwedza and they advocated for the adoption of CA technologies in the intervention villages investigated. Their research focus entailed investigating the effects of adopting CA technologies on agricultural production through a multi-stakeholder approach encapsulated as IPs. COMTECA, as an irrigation technology company involved in the IPs, initiated research activities to promote the adoption of innovative low-cost irrigation technology by the communal farmers. AREX officers, as agricultural experts working with Hwedza farmers, engaged in research activities in the demonstration plots in Hwedza which were supposed to be ongoing had they been fully capacitated. As noted though, their capacity was significantly increased under the regime of the IPs. Their involvement in research activities bolstered the efforts of other actors as they brought in a wealth of experience gained through their working with communal farmers.

One key element that characterised all the research activities was the attempted inclusive form of the initiatives, as per the spirit of the innovation platforms. All organisations (as named above) made a deliberate attempt to incorporate any and all relevant organisations in the research activity they initiated and promoted, and this included formal invitations. This, according to the research findings, was also out of the realisation that different organisations working in the Hwedza area

had different strengths and hence had a unique way of contributing to the success of the research activity. As for the farmers, invitations were made through the village structures, from the village head to the farmers. Farmers indicated that this was an effective way of relaying information to them but, as outlined above, it meant that farmers were simply invited to participate in research activities conceptualised and organised by external organisations.

As for the worthiness of the research activities to the farmers, the latter unanimously agreed that their participation in the research activities in their villages had bolstered their expertise in farming. The key benefits which they harvested from the researches included: choosing a suitable seed variety for their area, fertiliser application, weed control, moisture conservation, preservation of harvest crops, use of chemicals and pest control. The following are some of the responses given by the communal farmers on the issue:

Some of us used to think that all certified seeds are the same. We were just buying the available seed in the store. However, this changed after participating in research activities that were hosted by CIMMYT in our village. I now know that maize has different varieties that vary in terms of length of season, output per unit area as well as resistance to diseases. This knowledge has helped me significantly as I am able to plan accordingly before the start of each season (Interview with a communal farmer from Nhukarume Village, September 2014).

These research activities brought into our villages by different actors have helped us enormously. Sometimes it is difficult to be taught about something and to actually participate in demonstration plots. Things that are just taught without practical experience are easily forgotten. I appreciate greatly the knowledge that I have acquired from these research activities. I must say I have deepened my knowledge about farming specifically on chemical use to control weeds and pests (Interview with a communal farmer from Chidora Village, August 2014).

Despite the fact that farmers indicated they had their own historical knowledge on the issues that were being researched upon, they generally found their participation of some worth in terms of enhancing and refining their agricultural knowledge as well as in – as the earlier interview extract from the Chidora farmer states – reinforcing ‘social intimacy’ amongst Hwedza farmers.

5.4 Interactions with other Farmers and Farmer Groups

Interactions between farmers, and between farmers and farmer groups, are important because they allow information to be shared and thereby possibly build up a broad-based and solid agricultural knowledge base. The levels of agricultural competencies varied among Hwedza farmers and hence there was a need for farmers to interact among themselves to share specific competencies. This is not however to say that innovation platforms are only about farmer interaction because their very rationale involves interactions between local farmers and external actors who bring unique competencies to the farmers' agricultural repertoire. But, because innovation platforms are centred on small-scale farmers, understanding the kinds of interaction amongst the farmers themselves in Hwedza becomes crucial in understanding the social relationships underpinning the IPs.

In all the villages in Hwedza there were varied development activities as well as self-help activities that existed in different forms. The IPs did not suddenly introduce these activities into IP-intervention villages, as they existed prior to the coming in of IPs (including within non-intervention villages). Their significance for this thesis is how the social interactions embedded in the development and self-help activities were adapted by the IP system to achieve the goals of IPs. I observed first-hand these activities and noticed that farmers engaged at times in conversations, exchanging notes as it were on issues about agricultural production and income generation, and that such conversations in fact led to visits between farmers. The implementers of IPs acknowledged the existence and importance of such activities as expressed in the following quotation:

It is important to acknowledge that the villages that we chose to pilot IPs in Hwedza have a history that we do not intend to change. This cultural and social history is so important to the people of Hwedza and we hope to actually benefit from the socio-cultural system of the area. This means that we are building our intervention on the already existing networks that communal farmers have been enjoying. It would be difficult to start something completely new in Hwedza (Key Informant Interview with a CIAT official, March 2014).

Such already-existing social activities included the following: community gardening, sharing of labour between households (*humwe*), community road maintenance involving food-for-work schemes and agricultural prize-giving shows within villages. These activities were directly linked

to agriculture but there were other various activities such as funeral ceremonies, village rituals and traditional ceremonies that provided a platform for farmers to interact in their communities.

Given the focus of the thesis, I consider mainly some of the activities directly linked to agriculture. Fieldwork evidence showed that all farmers interviewed indicated that they participated in self-help activities such as sharing of labour. This was a community-initiated activity that is aimed at especially bailing-out so to speak the less fortunate members of the village such as widows. On the basis of community solidarity, villagers would pool their resources together and devote a day to work in the fields of one villager. I attended a few of these arrangements which allowed me to gain an appreciation of the solidarity displayed by farming households in Hwedza, as well as to understand their motivations for this practice. Interestingly, the joint involvement of many farmers in working the field of another provided a channel for sharing agricultural knowledge amongst themselves for the benefit of all. One village head outlined the significance of *humwe* in the following way:

It has been always part of culture in the village that we help each other through humwe. There are two ways through which humwe can be called. The first one is that a person can prepare traditional beer, slaughter a goat and call other villagers to come and help in the fields. The invited guests have the responsibility to bring the tools for use. After a long day of working, all people are then treated to a feast by the host household. The second scenario is when the village head identifies vulnerable members of the villages such as widows and the elderly. After identifying such people, the village head mobilises people to come and work in such people's fields on a specified day. In both scenarios, the purpose is to help fellow villagers and to avoid hunger. Naturally, people cooperate in such activities because of the social bond between villagers (Interview with a village head in Nhukarume, February 2014).

In terms of the introduction of IPs in such communities, it was clear that the existing social arrangements (including relationships of solidarity) among farmers played a solid role as a precursor to the implementation of the IPs. The IPs actually adapted the already collegial relationships that tended to exist in the villages and thereby broadened and strengthened farmer

interactions. As was indicated by the village head in the interview above, a strong social bond between villagers played a catalytic role in allowing IPs to be implemented in Hwedza.

Another form of activity that respondents participated in was development initiatives such as food-for-work programmes. These were optional and thus villagers participated depending on need. Fieldwork evidence showed that even though food-for-work programmes existed as government initiatives before the introduction of IPs, their existence facilitated the pursuit of IP objectives as they constituted a platform in which farmers interacted socially. During the IP era, there were some NGOs offering different goods to farmers (ranging from food, seed, fertilisers and chemicals) in exchange for working in local development projects such as repairing damaged roads as well as rehabilitating damaged infrastructure like schools, hospitals and dip tanks. Involvement in these projects cemented village-based social relations and reinforced a spirit of solidarity among villagers. In this way, such projects at village level created a platform for farmers to interact together, and hence they acted as a lubricant that reinforced the social bonds between villagers such that, when the IPs were introduced, farmer-to-farmer cooperation was not new to them.

Hwedza farmers also indicated that the formation of IPs led them into establishing different farmer groups to support their farming activities. The notable farmer groups identified were based on the nature of crops farmers produced, geographical location as well as the gender of members. For example, there was a soya beans farmer group in Wagoneka village that was comprised of farmers who produced this crop. There was a market gardening farmer group which was mainly composed of women in Nhukarume village. Members who were interviewed claimed that they formed these farmer groups to help each other with ideas, technology and practices for effective farming. In this context, the following comments were made by specific farmers:

As communal farmers, we have always relied on close links between villages. Everything we do we do it as groups. Thus it was not difficult for us to form a farmer group of communal farmers who are producing soya beans. It is in such groups that we help each other with resources and knowledge (Interview with a communal farmer from Wagoneka Village, August 2014).

I would say we formed this farmer group because we come from the same village. We are more of a family in this village and working together is not a problem. Even before the coming in of IPs, we were working as a family in this village. The fact that we come from the same village means that our interests are more or less the same. Our farmer group supports its members with labour and the general sharing of knowledge among farmers. This works efficiently for us in our village (Interview with a communal farmer from Chidora Village, September 2014).

These groups, initiated by villagers, would sometimes invite external actors for further education on various issues.

Some of these farmer groups though were initiated by different NGOs (some not exclusively as part of the IP process) working in Hwedza broadly and in the villages specifically investigated. The farmers interviewed emphasised that external support was easy to mobilise if farmers were in groups rather than acting alone as individual farmers. Under the auspices of IPs in Hwedza, fieldwork evidence also showed that NGOs (as well as government departments) likewise preferred farmers to form groups as a way of enriching their knowledge. Overall, farmers involved in farmer groups found their interactions highly valuable. Of particular importance was practical knowledge from each other and from the NGOs and agriculturally-related government departments. This knowledge was related to sourcing agricultural inputs, farming practices, farming technologies and market-related information. Organisations such as CIAT were actively involved in supporting farmer groups through offering training on conservation farming. Additionally, the farmer groups benefited immensely from the resources that were sourced by external actors and provided to them. The other benefits which farmers spoke about were the inspiration received from more successful farmers and the moral support between the farmers.

5.5 Social Connections and Local Politics in Hwedza

Besides the existence of agriculturally-related groups and activities amongst farmers in Hwedza, there were non-agriculturally based social connections which facilitated the consolidation of networks at village level. In this respect, the fieldwork evidence highlighted that villagers in large part trusted each other and that this trust was based on sets of social relations (co-habitation, intermarriages, resource sharing and so forth) formed over time. It was also based on the belief

that totems signify the existence of a relationship between people in the village. Among the Shona-speaking people, there are several cultural markers that are used to identify a person and these markers normally speak to the origins of a person. One such cultural marker is a totem (*mutupo*) which is normally in the form of an animal such as an antelope (*mhara*). Totems among the Shona shape peoples' relations in their communities. Intermarriages between village households also meant that relations between villagers were solidified. However, this does not mean that all villagers trusted each other, as signs of suspicion were evident from my interactions with the villagers. Sources of suspicion were mainly political differences and witchcraft accusations. Cohabitation among villagers however meant that such suspicions were always kept at bay for the betterment of the community. The same trend existed when it came to people living in different villages. As the distance between location of habitation increased, suspicion and resentment likewise grew. The other reason why villagers remained united, at least at face value, was the common resources that they shared like rivers, grazing lands and water wells. The sharing of these resources meant that villagers would routinely meet to discuss the management of such common resources. It was from such meetings and common interests that people built trust.

Another important social arrangement which existed before the IPs, and which villagers joined, is the burial society which assists farmers' households when a member dies. All Hwedza villagers were active members of burial societies because of the certainty of death and they frequently interacted (and continue to interact) at burial society meetings. As a show of commitment to a burial society in Hwedza, all members contributed specific amounts of money on a regular basis (depending on the burial society) into a central pool which would then be drawn upon by a member for funding funeral expenses. Burial societies relate to the pronounced social capital existing in the Hwedza villages, as predicated on relationships of solidarity and reciprocity. Though it might be tempting to see burial societies as unconnected to farming and farming associations, they do have indirect linkages to agriculture. The interactions of farmers in non-agricultural spheres of life and in important stages in the life-cycle (including death) build trust between farmers and this trust is then translated into existing farming associations and even into forming such associations or groups.

Credit groups were also another social group through which farmers interacted in Hwedza and served a similar function to burial societies. The only two existing credit groups encountered though were in Nhukarume village. These were formed by villagers who mobilised their financial resources to bail each other out in times of extreme difficulty. The contributions which each farmer made ranged from \$5(US) to \$20(US) dollars. These credit schemes created a platform on which farmers interacted and built social bonds that became important in sustaining the innovation platforms, at least in Nhukarume. Religious or spiritual groups were also visible in the Hwedza villages which were investigated and these existed well before the establishment of IPs. Churches organise meetings between specific members of the congregation, including men-only meetings where even advice around agricultural activities would be shared. Cultural groups where people meet to perform different rituals in the villages were also common. One notable cultural group was the rain-making group where people converge at the onset of the rainy season to call for the ancestors to bring adequate rain. This practice is called *mukwewerere* in the local Shona language and is performed by the traditional leaders as well as by the village elders. All the village members are asked to contribute grain which is then used to brew beer for the rain-making ceremony. This was a platform of interaction for the villagers and clearly has a direct relevance to farming.

Besides these diverse kinds of social arrangements, of significance to the relationships between farmers within the Hwedza villages were local politics (as a manifestation of national politics). Likewise, local politics had implications for farming activities and social interaction including within the innovation platforms. Hwedza as a district is dominated by ZANU-PF with village-based ZANU-PF structures (or party cell structures) in place. All interviewed farmers were part of ZANU-PF cell structures as evidenced in part by the party membership cards that they possessed. However, closer interaction with the villagers showed that membership was a formality which was tactically pursued by local farmers as it protected them from the perceived imminent victimisation that came with any association with the opposition party, the Movement for Democratic Change (now split into factions). In effect, anyone who did not join a ZANU-PF cell was viewed as a supporter of the MDC. Farmers thus bought ZANU-PF membership cards though it remained a personal secret whether they genuinely supported ZANU-PF. Though ZANU-PF as a political

party was not part of the IP structure and process, the significance of joining the party was summed up by one farmer as follows:

It is safe to always openly appear to be supporting ZANU-PF by buying membership cards and attending cell group meetings because when inputs from the President's Input Scheme as well as GMB [Grain Marketing Board] inputs come, you are assured to get them (In-depth Interview with a farmer from Wagoneka village, May 2014).

Even though the President's Input Scheme was also not part of the innovation platform, it mattered significantly to the Hwedza communal farmers because it provided an avenue through which communal farmers accessed inputs. The GMB however was part of the IP but it was heavily controlled by political interests linked to the ruling party. Thus access to GMB inputs would often be conditional on open support for ZANU-PF. This demonstrates the relevance of the deployment of political capital in achieving the goal of acquiring free inputs. Whether specific villagers in fact supported ZANU-PF remained, as mentioned, unclear.

Hwedza, as with other rural areas in Zimbabwe, has suffered from deep political polarisation for a number of years. The political turbulence that engulfed Zimbabwe particularly before and after the 2008 harmonised national elections further polarised Zimbabwean society based on allegiance to the ruling party or the opposition MDC. There was political acrimony, including intimidation and violence, between supporters of the two main competing political parties. Hwedza was not spurred from this political spate. The events leading to the runoff elections in 2008 (for the presidency) created significant tension among villagers themselves. In one of the villages investigated, there was a political activist perceived to be supporting MDC who was murdered by political rivals, with enmity arising between the relatives of the deceased and ZANU-PF villagers. This enmity cascaded to involve the supporters of the rival political parties in all the villages. This meant that cooperation and genuine interaction between farmers receded drastically as farmers became increasingly suspicious of one another. An extract from one farmer interview clearly highlights the political animosity in one of the villages:

Politics has divided our community in so many ways. My nephew was murdered by ZANU-PF thugs because he had refused to do a ZANU-PF slogan. As a result of that, I will never want to involve myself in any village activity that involves ZANU-PF supporters, because

they are my enemies. Who knows, maybe they can also poison you. People here were beaten because of their relation to perceived MDC supporters. I had to flee to the city where I sought refuge at my children's houses. The social bond that used to exist in our village has broken down because of the overzealousness of some misguided youths in this village. I don't want anything to do with village groups that have ZANU-PF supporters because these people tormented us (In-depth Interview with a farmer from Nyamutsika village, August 2014).

This political upheaval thus had negative implications for the village-level social cohesion that IPs drew upon, including the farmer groups discussed earlier.

With the worsening of the political situation in Zimbabwe dating back from the year 2000 when the war veterans led occupations of white commercial farms, the ZANU-PF government has waged – as indicated previously – a scathing ideological attack on ‘the West’. This has meant that all NGOs with a Western origin (or with Western donors) operating in the country were viewed with suspicion of driving a regime change agenda. The ZANU-PF government was determined to undermine the influence of NGOs well before the IPs were introduced, especially in rural areas where it enjoys a wide support base (Hwedza included). Allowing freely for NGOs to carry out developmental support and relief support was perceived by ZANU-PF politicians to be augmenting the claims by the opposition that the government was failing to cater for the needs of all citizens. This had a ripple effect on the many NGOs which were operating in the Hwedza villages. Due to the wide-ranging claims made by ZANU-PF about the role of NGOs in pushing for regime change, communal area farmers became reluctant to openly embrace and work with the NGOs without the approval of the local ZANU-PF political elites. In fact, the participation of external actors in development and other activities in the Hwedza villages was heavily curtailed by the political polarisation that existed in these villages. This led to some complications in the running of the innovation platform meetings. One respondent lamented the situation as follows:

NGOs such as CIAT are driving the innovation platforms because they have the technical knowhow on how to set up and manage these things. They have taken the initiative to engage other relevant stakeholders who have also brought in different expertise on board. What it means therefore is that if CIAT is removed from the equation, other stakeholders

will simply pull out. The political situation in the area has brought in some complications in the way external actors interact with local farmers. In some cases, there were attempts to hijack meetings by politicians who then intended to use it as a platform for campaigning despite the fact that they were not part of the IP establishment. All NGOs do not want political interference of whatever nature. As a result of this, we have witnessed a depressed interest from NGOs and various other external actors (In-depth Interview with an Extension Officer, September 2014).

Another key informant from CIMMYT had the following to say:

As NGOs we are always suspected of ulterior motives by the state. It is therefore difficult to start a project because the NGO has to be cleared at so many levels. Sometimes the projects are disturbed by political interests which we cannot avoid (Key Informant Interview with an official from CIMMYT, August 2014).

Such interference is inevitable because it constitutes the socio-political context within which innovation platforms are operating, and the success of IPs in part at least depends upon tackling the challenges arising from this context.

Even years after the peak of the political instability, farmers in Hwedza were still reliving the pain and horror of the political nemesis that they went through in 2008. The interaction that is central to the success of innovation platforms was greatly threatened by the tension caused by this political polarisation. But it seems that the majority of the farmers who were interviewed had closed this dark patch in their history as they had decided to once again work with their political rivals when it came to agricultural activities. Despite the amends that most villagers have made, it was also evident that there are some villagers who had failed to make peace with the political nemesis they had suffered. Because of this, ongoing political suspicions among some farmers stifled a steady sharing of information and ideas between villagers. One villager had this to say:

The problem in this village is that, each time we approach elections, there are some people who forget that elections come and pass. Such people harass other villagers as if they are the ones who are to occupy the political offices. When elections have passed, they want to come back to be normal people and they expect their victims to just pretend as if nothing happened (In-depth Interview with a farmer from Nhukarume village, September 2014).

5.6 Farmer Evaluation of the IP Interactions

Clearly, small-scale farmers in Hwedza have different kinds of social interaction in and through the innovation platforms. In this regard, I discussed the significance of agricultural extension officers in terms of knowledge dissemination and the involvement of the farmers in research activities, as these are issues central to the constitution of the platforms. I also examined relationships between farmers in terms of both agricultural and non-agricultural arrangements, including local politics. The cultural history of the Hwedza farmers (including their long-standing agricultural knowledge and practices) and the broader contemporary context in which the villages are located (involving for instance political conflict) all shape in some way the make-up of the platforms. The Hwedza farmers clearly recognise benefits from engaging in the platforms. But the evidence presented in this chapter tends to indicate a mixed review of the platforms in Hwedza in terms of generating the kinds of linkages and participatory modes of engagement propagated and pursued by the lead NGOs.

Given this, in the Hwedza fieldwork I sought to identify farmers' understanding and evaluation of the interactions they had with different IP actors as well as the approaches that were being used by each actor. The categories of actors identified for analysis are as follows: researchers, government agencies, financiers, input suppliers, agricultural produce buyers, and trainers of farmers. However, some organisations (or actors) fit into more than one category, such as GMB which is both an input supplier and a buyer of grain crops. In this section, I briefly discuss farmers' conceptions of some of the other IP stakeholders.

COTTCO, which is a private cotton company and is put primarily in the category of financiers, was evaluated by farmers as extending expensive loans to them. Despite the fact that many farmers were desperate to receive loans, those farmers who received loans from COTTCO only did so once and did not apply in the future because of the unaffordable repayment terms. One farmer thus said that:

Getting loans from COTTCO is the same as working for free for the whole season (In-depth Interview with a farmer from Nyamutsika village, July 2014).

A similar evaluation was given of OLAM which was giving loans to small-scale farmers in the villages investigated. Paprika Zimbabwe and BANWAX were input suppliers in the Hwedza

villages. With regard to Paprika Zimbabwe, farmers lamented the unfair nature in which inputs were distributed. They argued that the criteria used to distribute inputs leaved much to be desired as that there was considerable favouritism involved. Input contracts given by BANWAX were said to be leading to the exploitation of farmers as the inputs were mostly overpriced.

GMB which, as indicated, is both an input supplier and a buyer, was negatively evaluated by almost all farmers interviewed. Farmers argued that they had received inadequate inputs from GMB despite earlier assurance that inputs were readily available. One respondent bluntly put it as follows, with regard to inputs:

GMB is full of lies; everything they tell us has never come to be true. They tell you they are delivering inputs, but they don't come and if they come, it will be 10% of what they would have promised. Everyone in this community is now fed up with GMB such that people are now operating like GMB does not exist (In-depth Interview with a farmer from Nyamutsika village, August 2014).

The opening up of the grain market to private companies under structural adjustment in the 1990s and then the post-2000 attempt to resuscitate the GMB became hugely problematic. The downsizing of the Zimbabwean national economy over the past fifteen years has in fact left many government parastatals including GMB crippled. The unreliability of the GMB is thus reflective of the broader unreliability and incapacity of the government in meeting its obligations. This, coupled with the rampant corruption in parastatals (GMB included), has led to service delivery reaching deplorable levels. Further, the close links between the ruling party and the state bureaucracy (such as in GMB) has led to political elites taking advantage of state resources and, in the case of GMB, distributing inputs on the basis of political allegiance. Those with political capital (notably large-scale A2 farmers under fast track) tend to access cheap inputs while the intended recipients (small-scale farmers) are vastly undersupplied.

Local and central government politicians, as state-linked actors, were differentiated by villagers and treated differently on this basis. Local officials were generally viewed as part of the community and hence villagers had significant trust at least compared to their central government counterparts. Politicians such as councilors were highly respected and they constituted a genuine local leadership

in villages they were representing, from the perspective of farmers. However, there was clear suspicion around central government politicians such as the Members of Parliament and Senators and these were all described as elusive by villagers. Villagers thus spoke out strongly about the absence and inaccessibility of their Members of Parliament and Senators. One respondent indicated that:

The only time you see the MPs [Members of Parliament] and Senators is when they are looking for votes. Their presence in most cases is to hijack different projects that are initiated by NGOs and use such projects for political expedience (In-depth Interview with a farmer from Chidora village, May 2014).

CIAT and AREX, which together collaborated in offering training sessions to farmers on new farming methods, were hailed by the farmers. Other organisations, notably COMTECA and CIMMYT, also provided training. In meeting the expectations of the farmers, these actors (and particularly CIAT) were said to be providing relevant training to the farmers and they were reliable. Many farmers in fact attributed any success of the innovation platforms to the determination and commitment of CIAT. The core work of CIAT was to train farmers on the benefits of adopting conservation farming. It would seem then that Hwedza farmers deeply appreciated in particular the work of agricultural extension officers and the lead NGOs in the innovation platforms, but that other stakeholders were seen as unworthy of a positive evaluation by failing to properly support the farmers.

5.7 Conclusion

This chapter has discussed findings from the fieldwork on key issues and interactions between actors and the significance of these to the agricultural innovation platforms in Hwedza. The centrality of agricultural extension services to small-scale farmers in the platform process was shown, but certain problems with regard to capacity and access were raised in this regard. As well, the significance of research activities and the ways in which small-scale farmers were (and importantly, were not) involved in key stages in the research process were brought to the fore. Further, the chapter examined how the platforms were implemented in the context of existing social and political dynamics at local level. This included discussing the farmer-to-farmer relationships which exist in Hwedza (even before the platforms were established) and the

importance of these local forms of association for facilitating and enabling the pursuit of innovation platforms, as the latter builds upon existing social arrangements. Finally, local politics (as a manifestation of broader national politics) and how this complicates the work of NGOs and leads to tensions between Hwedza villages, was also crucial in capturing the fact that platforms are not implemented in a social and political vacuum. In the face of all these and other challenges, small-scale farmers seemed to have very selective assessments of the different actors in the agricultural innovation platforms in Hwedza.

CHAPTER SIX: AGRICULTURAL PRODUCTION SYSTEMS OF SMALL-SCALE FARMERS IN HWEDZA IN THE CONTEXT OF INNOVATION PLATFORMS

6.1 Introduction

The chapter focuses on the organisation of production systems under the auspices of innovation platforms in Hwedza, including the constraints and challenges faced by the small-scale farmers face. The point of the chapter is not to seek an understanding of agricultural production systems in Hwedza per se and to assess forms and levels of agricultural productivity possibly arising from the IPs. Rather, I seek to unpack key dimensions of the production system (including input and output markets, cropping methodologies and post-harvest technologies) and examine the ways in which these are located within – and shaped by – the prevailing agricultural innovation platforms. This allows me for instance to consider non-compliance and contestation of farmers around these dimensions, and the ways in which certain aspects of the IP intervention simply reinforces and elaborates upon existing systems of agricultural knowledge and practices amongst the farmers. In doing so, and also in the context of the previous two empirical chapters, it becomes increasingly clear that the networks constituting the IPs in Hwedza are somewhat fragmented and disjointed and that the overall agricultural innovation platform (as an agricultural interface) in Hwedza is complex and convoluted and certainly subject to ongoing negotiation and change. This is a point I address more fully in the concluding chapter to the thesis.

6.2 Production Constraints Faced by Farmers

Despite the efforts made by farmers as well as other IP actors to improve small-scale farming in Hwedza, there was a complex myriad of challenges that were militating against the success of small-scale farmers. Broadly, these challenges acted as constraints and can be categorised into crop-related and livestock-related constraints despite their interwoven and overlapping nature.

The major predicament that small-scale farmers faced was ingrained in the colonial legacy that marginalised small-scale farmers despite their important role in making the nation food secure. During the colonial period, communal farmers were subordinated and marginalised and successive white regimes heavily supported white commercial farming. The ignoring of communal farming was also deliberately pursued to incapacitate small-scale farming and effectively coercive rural

black people into the labour market, whether on commercial farms or in urban centres and on the mines. There was never any coherent policy on small-scale farmers in then Rhodesia to enhance their agricultural production and productivity. The Zimbabwean government, from the early 1980s, sought to fill this policy vacuum but the challenges to this day remain glaringly clear.

In Hwedza, the small-scale farmers who were interviewed corroborated this viewpoint by articulating a range of challenges that they were facing. Chief among these challenges was the sheer lack of state funding and support for their farming activities. Farmers lamented the absence of consistent funding from the central government for making available farming inputs. If such inputs were provided, it was sporadic and the mechanisms of distribution were flawed by favouritism. State institutions that were mandated to rescue small-scale farmers, such as the GMB, were seen by Hwedza farmers as incapacitated in ensuring inputs to farmers. But the absence of support went wider than the state fiscus. Hwedza farmers, like all communal farmers in Zimbabwe, do not have title deeds to their land and thus do not have any form of collateral for purposes of accessing loans from banks. Thus, the probability of loans from financial institutions was heavily compromised. Additionally, the introduction of the multi-currency system in Zimbabwe in 2009 meant that financial institutions were prudently exercising high levels of frugality when it came to the disbursements of loans. All this translated of course into the relative lack of for example inputs for small-scale farmers, which diminished their capacity to adequately produce crops and an often consequent reliance on government aid support or NGO relief support for food.

The membership of Hwedza farmers in innovation platforms seemed to be of near minimal benefit in alleviating this challenge of lack of funding. Farmers indicated that their IPs had failed to attract committed financiers who were willing to offer loans to support small-scale farming. Key informant interviews with potential financiers, who had been approached to become actors in the IPs in Hwedza, revealed that financiers had their own specific fears when it came to funding small-scale farmers. And, indeed, a key issue was lack of title deeds to the land, hence making it impossible to use the land as collateral. Another reason was the perceived high risk associated with dry land farming which was predominantly practised by small-scale farmers. This was buttressed by increasing climate change and variability which was making un-irrigated farming ever more

uncertain hence increasing the risk of funding such farmers in terms of repayments. The use of livestock as collateral was not acceptable to financiers because all the livestock owned by Hwedza farmers were not insured, hence making it impossible to use them as collateral against loans. As a CIAT official highlighted:

Linking the IPs to financial houses was a challenge as IP actors indicated. In Hwedza, the intervention villages set up their own savings clubs based on the once practised community savings clubs [mukando]. COMMUTEK was taking a pivotal role in training farmers in the IPs on how to maintain records of their savings, formulate viable constitutions, and revolve their funds sustainably. (Key Informant Interview with a CIAT official, October 2014).

Farmers also lamented the high cost of inputs that was impacting negatively on their farming activities. Self-funded agriculture (by the farmers) was in fact the prevailing pattern of funding in the Hwedza villages, and this related to both crop production and livestock production. All farmers indicated that they were buying, with their own funds, crop inputs such as seeds, fertilisers and chemicals while a few indicated that they were also buying livestock feeds, veterinary services and related drugs. I also noted that companies providing inputs were invited to the IP meetings resulting in more input supply outlets being made available in close proximity. For instance, NICO ORGO caters for small-scale farmers by providing small 5kg packs of organic fertiliser that are affordable and easy to carry. It also partnered with MASHCO (an agro-dealer) which has been re-established in Hwedza to make the fertiliser easily accessible.

The lack of funds was given though as a key reason for the minimum use of livestock drugs and livestock feeds despite farmers' knowledge of the importance and use of such inputs. As an alternative, the bulk of Hwedza farmers indicated that they relied on indigenous knowledge systems to cure their livestock. To curb livestock losses during droughts, farmers stocked crop residues after harvesting and they would use this to feed their livestock under the strain of diminishing pastures. In relation to such livestock-related problems, farmers expressed concerns about the diminishing quality of pastures in their areas due also to the sheer increase in the livestock population, such that the quality and health of their animals was declining. The lack of

grazing land arose as well from the increasing crop farming activities in the villages investigated. Because the primary land rights are possessed by mainly males in all the Hwedza villages, land has continued to be subdivided to cater for young adult men who wish to start their own families, and cropping land for these new families has increasingly encroached onto and taken over grazing land. Farmers believed that their only hope was to embrace conservation farming as a way of increasing yield per hectare hence putting a halt on the downsizing of grazing areas.

In bringing to the fore the expansion of the population in the Hwedza villages, farmers highlighted an additional constraint, namely, the deteriorating fertility of the soil that they were farming on. They were facing a situation in which they needed to apply even more fertilisers to realise the same yield. As a result, farmers were now spending more money on inputs because of the declining condition of their land. Additionally, farmers clearly realised that climate change was impacting negatively on the quality of land for crops, with rainfall now unreliable and constantly threatening to bring about lower than expected yields.

6.2.1 Food Security Concerns

Given the production constraints present in Hwedza, undoubtedly food security would be an important issue for the small-scale farmers. Food security in general refers to the availability and accessibility of adequate food at household and community level on an ongoing basis, and household food production systems greatly contribute to the overall food security situation of rural households. This necessitated the need to evaluate how food production at household level influences the overall food security situation of households in Hwedza. A crucial and ultimate goal behind capacitating small-scale farmers through the implementation of IPs in Hwedza was to make them food secure. Selling any surplus or any produced cash crops may be secondary because the main problem that small-scale farmers grapple with is that of meeting basic subsistence needs. With this in mind, I investigated farming systems in Hwedza, and in particular the prioritising of food and/or cash crops, in terms of their implications for food security as understood by the farmers themselves.

As noted earlier, all Hwedza farmers surveyed indicated that their primary crop was maize. This demonstrates that their farming was primarily driven by the desire to produce food for household

consumption. The second most popular legume crop was groundnut, also for domestic consumption as it is an important source of protein and fat. Farmers regularly processed groundnuts to make peanut butter which was widely used for cooking and mixing with relish. Cash crops were also important and specifically for generating cash income, notably soya beans, cow peas, sunflowers and sugar beans. One farmer in Wagoneka Village noted that he was producing soya beans mainly to generate income to pay for school fees for his children but also to purchase basic foodstuffs such as cooking oil, sugar and salt. Other farmers argued that they would prefer to grow maize on a larger piece of their land and reduce significant dependency on cash crops citing the high risks and high costs associated with the production of cash crops. Farmers' sentiments on this were captured as follows:

It is clear that cash crops fetch high prices on the market but we don't have the money to pay for the high inputs needed to produce them. Apart from the high input costs, there is high risk again considering that we rely on rain for farming. But in the event that we get full support to produce these cash crops such as soya beans, we are willing to commit ourselves (In-depth Interview with a farmer from Wagoneka Village, October 2014).

Producing cash crops is very attractive because of the high returns. But I would rather personally concentrate more on maize because cash crops need a lot of labour. My next door [neighbour] ventured into soya bean production in 2010 and it was a disaster. He was affected by little rains received during that year. He ended up struggling to feed his family because he had concentrated on soya beans at the expense of maize hoping to use the money he was anticipating to buy maize (In-depth Interview with a farmer from Nhukarume Village, October 2014).

The above sentiments from the farmers show that cash crops do have great potential value, but they would rather concentrate more on food crops to sustain their households. Sometimes the risks of producing cash crops far outweighed the perceived benefits. The participation of Hwedza farmers in IPs seemed to have had only minimal impact on changing the priorities of farmers in terms of their commitment to the production of food crops, though (as indicated later) there is some evidence of enhanced food security subsequent to the establishment of IPs in Hwedza.

In the following sections, I elaborate on some of the points raised in Section 6.2, as well as other critical agricultural issues for the Hwedza farmers.

6.3 Access to Inputs and Farming Implements

The centrality of inputs for successful farming practices amongst small-scale farmers in Hwedza cannot be overemphasised. I would argue that, despite other important variables such as the climate, access to inputs is pivotal for any successful farming venture especially in the communal areas. It therefore follows that any inadequacies in inputs become a major constraint not only for small-scale farming in Hwedza but for all the communal areas in the country. Farmers in Hwedza may have all the necessary knowledge to produce (including that disseminated through the IPs) as well as the land to work but, without inputs, all is in vain. In this regard, farmers interviewed in Hwedza vividly described their dire situation as follows:

Our current problems revolve around lack of inputs such as fertilisers, seeds and chemicals for use. The rural economy has suffered a lot especially after the adoption of US dollars in 2009. Money is not reaching the village and we are expected to buy inputs. One wonders with which money we should buy inputs (In-depth Interview with Mr Gara, local communal farmer from Chidora Village, August 2014).

Some of us we deliver our maize to GMB and it takes two years [for GMB] to pay. Where then should we get the inputs for use in the next seasons? Our situation is a sorry one indeed. Sometimes we end up using the previous year's harvest to plant for the current farming season because we cannot afford seeds. The other thing is that we are facing diminishing nutrients in the soils and this means we need to apply a lot of fertilisers. But they are very expensive. We cannot afford the fertilisers (In-depth Interview with Mr Muunza, local farmer from Chidora Village, August 2014).

Our children who used to buy inputs for us have all been retrenched from [employment in] Harare and they have since joined us in the village. We have no other sources of inputs except some donations from the government or from NGOs. We need inputs to feed ourselves. If we don't get inputs on time, then we will always face food shortages (In-depth Interview with Mr Muunza, local farmer from Wagoneka Village, September 2014).

These quotations raise a number of issues inhibiting the sourcing of inputs, including the failure of GMB to pay for the previous year's crops and the retrenchment of family members from

employment given the downturn in the national economy. Under such conditions, cash for seeds, fertilisers and other inputs is simply not available.

The Zimbabwean government has been oscillating over the past decade between offering and not offering agricultural subsidies to small-scale farmers. The agricultural subsidies have come in terms of consumables such as seeds and fertilisers while non-consumables have come in the form of agricultural equipment or implements such as ploughs, scotch carts, planters and tractors. The issuing of these non-consumable subsidies has come through the mechanisation programme. The mechanisation programme, which was spearheaded by the Reserve Bank of Zimbabwe (RBZ) in 2007 and 2008, effectively signified the importance for the state of offering agricultural subsidies. But, with the adoption of the multicurrency arrangement in 2009, the government moved towards cost recovery tendencies by scrapping such subsidies. The following extract from *The Financial Gazette* sums up this movement:

The equipment, which included tractors, combine harvesters, ploughs and disc harrows, was rolled out [under government subsidies] in four phases starting in 2007 and benefited communal, A1 and A2 farmers countrywide, including government ministers. The RBZ expects to realise more than US\$1 billion from the debt recovery process, which may, however, trigger repossessions if the 2009/10 agricultural season disappoints as predicted. Gono [RBZ Governor] is on record as saying the RBZ would use the receipts to recapitalise the institution, which remains short of operational capital to perform its key functions, especially its role of lender of last resort (*The Financial Gazette* 5th of February 2010).

Hwedza communal areas did receive some ploughs, scotch carts, ox drawn harrows and ox drawn cultivators as part of the subsidisation programme. This type of farming equipment, or implement, is particularly suitable for communal farmers in Hwedza and elsewhere because of their heavy reliance on draught power. However, evidence gathered during the fieldwork showed that all of the Hwedza farmers who benefited from the subsidy scheme had not made any repayments to the RBZ and were in fact unable to pay their debts.

Hwedza communal farmers claimed that the government was responsible for their incapacity to service their debt for implements received. The following remark from a farmer reiterates a point made earlier about their incapacity to purchase inputs:

We produce maize as the main crop in Hwedza. In good years, we have been delivering our surplus to GMB but the problem has been that GMB does not pay in time. This becomes a disadvantage to us communal farmers. If only the government could provide us with efficient buyers of our crops, then our situation can be improved (Interview with a communal farmer from Samundera Village, September 2014).

This claim was part of a broader concern amongst Hwedza farmers that government was not fully sensitive to the sheer depth of their agricultural plight.

What became evident, up until at least the period of my fieldwork (in 2014), was the squeezing of the national fiscus in Zimbabwe as well as intra-state contestations over the allocation of diminishing state resources, which led to the government suspending meaningful subsidies to small-scale farmers as well as any sustained attempt to provide inputs and farming implements to them. At the same time, however, a Presidential Input Scheme was introduced in 2008 and crafted as de facto government policy on agriculture and specifically supporting small-scale farmers. There was a deliberate (and some would say sinister) reason behind the naming of such an initiative, primarily in seeking to enhance the political capital of the ZANU-PF led government. It was based in particular around the purported benevolence of President Robert Mugabe but drawing funding from the overburdened fiscus.

Even when state institutions (notably the GMB) have been involved in providing inputs to communal farmers on a subsidised basis, the supply of these subsidised inputs was invariably intermittent. In the main, the inputs were distributed directly to the farmers through the use of traditional village structures. Farmers indicated though that subsidised inputs are highly unreliable and inadequate to meet their needs. As one farmer indicated:

This talk of free inputs makes us angry in the village. Imagine a village with 150 households being given a single tonne of maize seed. What it means is that an average household will get just 5kgs of seed or even less. Remember there are some who take more than others

because they are [considered] more important than others (In-depth Interview with a farmer from Chidora Village, August 2014).

The bulk of the farmers interviewed dismissed the Presidential Input Scheme, as well as input arrangements through the GMB, as ineffective and in practice as a pipe-dream. In the light of these misgivings and challenges around access to inputs, the introduction of contract farming in Hwedza under the IP arrangement has been welcomed by a number of farmers. In effect, though, these Hwedza farmers are simply compelled (and without other viable options) to enter into contract farming in order to receive inputs, even when the contractual agreement regularly favours the contracting company. As well, for many Hwedza farmers, the main source of inputs by farmers is personal savings. Some farmers indicated that they still had children in the city and relied on their support either in terms of purchasing inputs for them or providing cash for the farmers to do so directly. Compared to own income or savings, support through inputs and farming loans from the IP actors was seemingly marginal and minimal. It was clear from the investigations that Hwedza IPs had no active financing partners except those companies which were offering contract farming.

It is clear then that, overall, access to inputs and farming implements for small-scale farmers during the IP processes in Hwedza remained problematic, and that the ongoing challenges intrinsic to the broader political economy of the country were significant contributing factors in this regard. This tended to work against farmers' commitment to – and engagement in – the agricultural innovation platforms.

6.4 Use of Cropping Methodologies by Farmers

Central to any transformative initiative which aims at improving agriculture for small-scale farmers are new agricultural methodologies involving technological improvements to crop production, or cropping methodologies. Any possible changes in these methodologies are rooted in past and present social arrangements and world-views (notably of the farmers), as there may be an unwillingness or incapacity to engage with these changes.

In all the five villages where innovation platforms were being implemented, there was significant evidence of water management strategies employed by farmers. On water management technologies, the awareness and practices of the following technologies was assessed: mulching,

trenches and terraces, water harvesting, irrigation (bucket, treadle pump and drip) and conservation farming more broadly. The following responses were captured to illustrate what was taking place:

It has always been a tradition in our village that all people are supposed to dig trenches along their fields [contour ridges]. This is done not only to protect one's field, but everyone's fields in our local areas. However, practices such as terracing have not been very common in our area because we were not aware of the real reasons why this is done. The coming in of IPs in our village helped us to understand that terraces protect our fields from being washed away and that ploughing in between ridges help to conserve moisture (Interview with a communal farmer from Nyamutseka Village, July 2014).

In my small garden I do practice mulching as a way of conserving moisture. However, I had not done the same in my field mainly due to lack of knowledge on the benefits. My participation in the IPs has taught me that mulching greatly helps in conserving moisture and it also improves yields. So I have taken it upon myself that I am going to apply mulching as far as I can. This is important especially during these times of unreliable rainfall (Interview with a communal farmer from Chidora Village, April 2014).

Farmers demonstrated an enhanced and reasonably intimate knowledge on conservation farming owing to the awareness training that they had received from actors such as CIAT.

In this respect, CIAT had initiated demonstration plots close to each intervention village to encourage farmers to learn more about conservation farming. Farmers in all the intervention sites had embraced conservation farming, and they spoke about positive results in terms of agricultural yields arising from conservation farming. Further, they indicated that they would continue practicing it. However, as the above quotations indicate, conservation-type technologies were not new to the Hwedza farmers. What they were seemingly lacking was consistent use of such technologies due to only a partial understanding of conservation farming benefits. I would say then that IPs brought about a more systematic utilisation of such technologies by small-scale communal farmers in Hwedza.

One of the critical challenges that farmers highlighted, particularly in the context of climate change and variability, was water availability. To illustrate this challenge, I quote the desperation experienced by one farmer:

I really feel that the government should do more in setting up small scale irrigation schemes near our village. The rainfall has become highly unreliable and this has been negatively affecting our farming. We might prepare for the farming season but if rainfall is unreliable, then it's likely that we come up with nothing. If only the government could construct some irrigation schemes in our area (Interview with a communal farmer from Nhukarume Village, August 2014).

Farmers noted for example that they received considerable rainfall normally within a short period of time and that this concentrated rainfall period was not particularly advantageous for the crops. It may lead to excessive runoff or excessive moisture, or even come when crops are drying in the field.

As a result of interactions during the IP meetings, farmers from Chidora Village adopted water harvesting strategies after receiving training from COMMUTECH, which is a company specialising in irrigation. Other notable stories came from Nyamutsika and Wagoneka villages where IP farmers successfully adopted mulching as a water conservation strategy after receiving appropriate training from IP actors. However, farmers from Chidora village lamented the inadequacy of the technical support that they were receiving from the technical partners in the IP. Like Hwedza farmers in the other villages, they were prepared to adopt fully-functioning irrigation schemes with new technologies if only the IP process would offer greater support.

The villages involved in the IPs had moderately fertile soils which needed additional application of nutrients for improved yields. Historically, and before the introduction of IPs, the farmers had their own ways of managing the fertility of the soil by adding domestically-produced manure such as cow dung to their fields. Interviews with the farmers also showed that farmers would apply manure that they harvested from the forests to boost the soil fertility. One of the farmers had the following to say:

We have over the years adopted a number of ways to enrich our fields. One of the widely used ways is to dig the soil from an anthill. The soil is naturally fertile. This soil is then spread over the rest of the field to enrich the soil. After the farming season, it will be clear that the portions of the field that has been applied with anthill soil will produce more yields (In-depth Interview with a farmer from Wagoneka Village, August 2014).

However, the coming in of innovation platforms augmented these traditional practices. Conservation farming training that was spearheaded by CIAT and CYMMYT did not only teach farmers about conserving moisture, but also about simultaneously conserving nutrients. All farmers who were part of the IPs were exposed to the practice of conserving soil nutrients as integral to conservation farming.

This practice, according to a CIAT officer, involved ensuring minimum disturbances to the soil. Farmers were encouraged to dig a one square meter wide hole which is also one meter deep. This hole would be filled with fertile soil that is mixed with tree leaves to conserve moisture over a number of years. Interviews with Hwedza farmers showed that they appreciated the positive effect this had on their farming activities. Further training from IP actors, including from agricultural extension officers, brought in other ways to conserve soil fertility such as crop rotation, covering of crops, efficient application of fertilisers, Rhizobium inoculation and intercropping.

However, interviews with farmers indicated that they had adopted some strategies more than others, or that they were hesitant at times of using the new technologies because of long-term familiarity with traditional practices: This was highlighted by a number of communal farmers:

When one goes through learning it is always difficult to master and adopt all the things taught. People have different needs for example and as farmers we also need to learn different things depending on one's strengths and weaknesses. I for one was not consistently practicing crop rotation. After going through many sessions with IPs, I have since decided to practice planned crop rotation as a way of improving yield and protecting my fields. Some teachings proved to be too complicated for me such as the use of Rhizobium and for now I am not ready to use such methods (Interview with a communal farmer from Nhukarume Village June 2014).

I personally appreciated conservation farming and the benefits it can give to the farmer. I am going to practice CA because I have realised that it is good for me as a farmer and my family as well. However, I also have some reservations with intercropping. I am just not too sure of the method. Sometimes maybe it is because we are used to the old methods we grew up with (Interview with a communal farmer from Wagoneka Village August 2014). The cost of fertilisers is a major hindrance to our farming in the village. However, some of the farmers do not realise the full value in applying fertilisers in their fields because of lack of knowledge. I was one such farmer who would apply fertiliser just for the sake of it and I ended up failing to realise any improvement in yields. My participation in the IP has taught me some efficient ways of fertiliser application and these are going to be part of my farming now (Interview with a communal farmer from Nyamutsika Village, July 2014).

Thus, despite some farmers showing favourable attitudes to CA, there was also some reluctance by farmers in Hwedza in adopting specific agricultural methodologies like intercropping and Rhizobium inoculation as well as covering crops, as they showed satisfaction with the methods they had been using historically. Some farmers, especially in Nhukarume village, claimed that they had not received adequate training pertaining to certain methods of conserving soil fertility and this was echoed by the farmers in Wagoneka village as well. The reluctance by farmers entailed resistance to change in the light of exposure to new agricultural technologies in the IP process and this undoubtedly entails a form of protection of the world-view held by small-scale farmers.

All of the Hwedza farmers involved in the IP process noted that they had adopted improved varieties of seeds to optimise their yields, particularly considering that the length and quality of farming seasons were increasingly becoming unreliable. Actors such as CIMMYT trained farmers on improved maize seed varieties which matured within a relatively short season while producing higher yields. Such seed varieties were also said to be more resilient in relation to moisture strain. Key informant interviews with CIMMYT showed that the organisation had engaged in significant work in intervention villages in Hwedza to train farmers on improved seeds. CIMMYT officers claimed that most farmers were simply planting the available seed variety without considering the maturity period and yields. However, after their interaction with CIMMYT, there was improved awareness by farmers that they have a choice when it came to seed varieties. CIMMYT was also

running demonstration plots in Hwedza to show farmers the merits and demerits of different seed varieties. After the setting up of IPs in the selected Hwedza villages, farmers were actively seeking advice concerning different seed varieties. The following was said by a CIMMYT officer:

Many farmers thought that all high yield varieties are suitable in any area. They would just buy the next available seed variety without the knowledge of its specifications. Through a marathon of training, we explained to the farmers that these varieties were produced for specific areas with specific climates. This knowledge proved to be vital because the farmers are now making informed decisions on seed varieties (Key Informant Interview with an official from CIMMYT, September 2014).

Hwedza farmers were asked specifically if they were aware of any crop management practices in their farming and the responses were varied. Row planting was one crop management activity that farmers showed clear knowledge of in all villages. But this was a long-standing practice by local farmers, such that the IP arrangement simply buttressed an existing practice but, additionally, stressed the importance of proper spacing along the rows. The chief reasons for the practice, as cited by farmers, were efficient moisture management, easy application of fertilisers and easy management of weeds. On plant spacing, interviews with agricultural extension workers brought to the fore that farmers were significantly aware of the required spacing for different crops but that it was difficult at times to implement this in practice. Farmers, it was argued, lacked the requisite technologies to enable them to follow the spacing requirements for different crops as they relied on unsuitable manual estimations. To enable proper spacing, there was a need for farmers to have planters, but farmers did not have the capacity to buy or even hire such equipment. But, according to the extension officers, farmers were not very far off the mark in spacing as they used their experience to estimate the correct spacing requirements. All farmers recounted receiving training on spacing requirements for different crops such as maize, soya beans and sugar beans but they were reluctantly persuaded to follow these. Indeed, according to the Hwedza farmers, their long-term practice was very similar to the prescribed spacing requirements as taught in the IP process.

Finally, it was clear that farmers were aware of both organic and inorganic pesticides. However, knowledge of inorganic pesticides was registered as very low by farmers and mainly, once again, because of the inadequate nature of the training they received.

The engagement of the Hwedza farmers with the CA cropping methodologies was uneven, and for a variety of reasons. Of particular significance though is the fact that farmers sought to defend and respect their own well-established methodologies and, indeed, appeared to downplay the innovativeness of the methodologies implemented through the agricultural platforms. This relates back to the way in which the research activity processes embedded in the IPs have tended to be top-down (as discussed in chapter four) without adequate input from the Hwedza farmers, with farmers mainly involved at the implementation stage of the research processes and tensions then arising at this stage.

6.5 Post-Harvest Crop Handling by Farmers

A focus on improving the yields of small-scale farmers alone does not necessarily guarantee food security for these farmers let alone the possibility of producing surplus for output markets. The tragedy that many small-scale farmers continue to face is the lack of preparedness in handling any improved yield that they achieve, such that a substantial portion of their harvest may be lost. In this regard, post-harvest technologies, as pursued by the farmers in the IP intervention villages, become important. Hwedza farmers were certainly aware of the traditional method of drying crops using the sun without adopting any new technologies. Drying crops using the sun was indeed preferred by farmers because of the low cost of the method as well as its effectiveness. Farmers would also identify an extensive open area (called *ruware*) either at their homesteads or in their fields where they would put their crops for drying (such as sunflowers, soya beans and groundnuts). Many farmers indicated though that, when they are drying their crops, they have to be guarding them in order to chase away birds and livestock. The quality of the crop was determined as well by the way it would have been dried. All the Hwedza farmers indicated that they are always careful when drying crops especially maize because if livestock such as cattle and goats eat the dry maize, the animals will die. All this then called for vigilance particularly when drying maize using the sun. It was also evident that there were different ways of drying different crops. Further, some farmers would leave their crop to completely dry in the fields while some

would harvest it, shell it and dry it as grains. Threshing was another method which Hwedza farmers used especially for crops such as cowpeas and small grains (for example, sorghum which was produced by few farmers). It is important to note that there were more successful farmers who enjoyed a large harvest especially of small grains and these would normally call for *humwe* for purposes of community assistance in harvesting (i.e. cooperation of village members to work in one's fields without payment).

Further, it was evident that all farmers interviewed graded their harvest after drying and threshing or shelling. Grading was done because Hwedza farmers felt that it was important to package their harvest according to quality. For those who were producing cash crops, grading was mandatory because this was a requirement for the market. For soya beans, as an example, the buyers would pay for the crop according to its quality. Farmers hence were careful not to mix low quality soya beans with high quality ones as this would generally lower the grade of their crop and minimise farmer earnings. For food crops such as maize, grading was important not only for the market but also for different consumption uses. Normally, low grade maize was not used for domestic consumption by people but rather it was used for small livestock such as chickens. This at least would be the norm during the years of a good harvest but the lower grade maize might be consumed during less bountiful years. Some Hwedza farmers pointed out that they undertake grading because they sometimes use high grade crops as seed in the coming year to supplement hybrid varieties. In this regard, the fieldwork evidence established that, for all the farmers interviewed, none had been buying certified seeds for groundnuts, sorghum and sunflowers though the IP did not insist to farmers that they should do so. This underscored the importance of grading for farmers. The following remarks were made by one farmer:

Here in the village we only buy certified seeds for maize. Crops such as sorghum, cowpeas, groundnuts, round nuts and pumpkins we don't buy. It is actually surprising to us to hear that there are certified seeds for such crops. This is the reason why we do grading of crops after harvesting. We will be selecting planting seeds for the coming year (In-depth Interview with a farmer from Nhukarume Village, September 2014).

The study established the nature of storage facilities that farmers had and any improvements that they were adopting. With the advent of cash crops such as soya beans and cowpeas within Hwedza, small-scale farmers were frantically investing in storage facilities which would minimise the risk of pests and diseases to their crops. Different storage facilities that farmers used were noticed during the fieldwork. The most common one was a pole and fence granary referred to as *ngarani*. Farmers would erect poles which are supported by meshed fence and such a facility was used for maize before it was shelled. The bulk of the farmers also indicated that they stored packed crops in sacks mainly in their houses. A few Hwedza farmers had built pole and dagga structures specifically meant for storing their harvest. One farmer described how they stored crops for use as seed in the coming year as follows:

The best chemical for storing seed from the field harvest is to utilise the smoke that comes from the hut. We identify quality maize cobs in the field then we remove them with their husks. We tie them on the cross beams in the hut. The smoke that is generated from the cooking in the hut is an excellent treatment of the maize. The maize grains will be protected from any pesticides and it's preserved until the next farming season (In-depth Interview with a farmer from Wagoneka Village, October 2014).

What emerged though from the observations of the facilities used by small-scale farmers was the lack of any training meant to improve storage of harvested crops. The stakeholders who provided key informant interviews also indicated that there was no clear training which targeted storage of crops after harvesting.

Despite the existence of post-harvest crop facilities and related processes, farmers battled with pests and diseases on their crops before consumption or selling. For a crop to last for more than six months, it needed to be preserved with specifically-designed chemicals. All Hwedza farmers were aware of the different chemicals that they needed to use in order to preserve their crops. Farmers had received training on crop preservation from agricultural extension workers as well as by different stakeholders who were part of the IPs. Furthermore, farmers were aware that pests could cause significant deterioration in the quality of their crops hence affecting what they would receive in sales from the market. Even in terms of domestic consumption, the nutrients diminish from pest attacks. Key informant interviews stressed that extension workers were working with

IP-linked researchers to develop and implement organic methods of treating crops. Such methods include the readily-available resources such as cow dung and domestic herbs. Though the methods had not been finalised and fully adopted by farmers, this was the direction in which crop preservation was going. One key respondent from CIAT had the following to say:

We are currently working with researchers from a local university who are experimenting on the usability and effectiveness of locally available treatments to preserve crops after harvesting. Researches had shown that goat droppings could be used to preserve maize from being affected by pesticides. There are also plans to scale up the dissemination of such knowledge to the farmers who are resource poor. The locally available treatments would be ideal for them because they lack adequate funds to buy pesticides (Key Informant Interview with an official from CIAT, October 2014).

It was clear that much of the knowledge that Hwedza farmers had concerning post-harvest handling of their crops had come mainly from their cultural repertoire passed on from one generation to another. And there was notable reluctance by farmers when it came to proactively seeking further information on post-harvest handling of crops. The farmers interviewed indicated that they were content with the methods that they were traditionally using and they implored IP actors to bring about different technologies that would possibly challenge the effectiveness of their time-tested methods. This is not to suggest that farmers were not appreciative of the training that they were receiving from the IP actors on the use of chemicals to preserve their crops. What emerged was that farmers mainly needed long-term preservations of harvests with specific reference to food crops, as they normally sold cash crops immediately after the harvest hence eliminating the need for targeted chemicals. The importance of farmer groups and farmer interactions also emerged as Hwedza farmers indicated that they had learnt different methods of preserving their crops from each other, either on a formal or informal basis.

6.6 Marketing of Agricultural Produce

A central objective of IPs is to link farmers to goods markets in order for them to realise the economic value emanating from their harvests. Lack of knowledge about markets, and failure to access them, on the part of small-scale farmers in Hwedza has led to many of these farmers being unable to add value to their crops through market sales. The competition that Hwedza communal

farmers face from their more commercially-orientated counterparts also means that the former are in large part sidelined from mainstream markets. This gap in terms of market access is an issue that IPs are meant to close by mobilising relevant actors to become members of the IP and to work together with the farmers to improve their market capacity. And this is a matter which the Hwedza farmers in the intervention sites constantly highlighted as a major challenge, not only with reference to inaccessibility to viable markets but the consequent exploitation by middlemen in facilitating market access. A key informant from CIAT stressed the importance and role of IPs in linking Hwedza farmers to markets:

In terms of outputs markets, IPs put in place mechanisms for linking farmers to markets for maize, tomatoes and beans. Some of the farmers in Hwedza are benefiting from the close interaction of Grain Marketing Board with the IP and are managing to sell their maize in exchange for fertilisers, seed and money. However, this is not to say the system is very efficient; farmers still expect more especially from GMB. With time, we hope that things will smoothen (Key Informant Interview with a CIAT official, October 2014).

Farmers in Hwedza produced a range of food crops (for example, maize, sorghum, millet, groundnuts and vegetables) and cash crops (for instance, sunflowers, soya beans, sugar beans and cowpeas). Maize was their main crop which they produced for both domestic consumption and selling of any surplus. Farmers expressed disappointment in the way that the GMB was handling its monopoly to buy maize as it was failing to pay for delivered maize on time. One farmer had the following to say:

We do not have anywhere to sell our produce. GMB is as good as nonexistent for us small farmers. We have learnt from our fellow farmers who delivered maize two years ago and up-to now they have not yet received any payment. So farmers from our area are no longer delivering any maize to GMB. These people are crooks and they do not care about us (In-depth Interview with a farmer from Chidora Village, October 2014).

Farmers bemoaned this late or non-payment of their maize and indicated that they were mainly falling into the hands of unscrupulous maize dealers who would buy their maize privately at very low prices. Farmers were often giving in to these buyers because they were desperate to dispose of their maize in order to buy foodstuffs needed in the home as well as other immediate needs

requiring cash payment. Hwedza farmers referred to middlemen as *makoronyera* which, translated literally into English means ‘thieves’.

Overall, farmers said that they played no role whatsoever in determining prices for the crops they sold, as the buyers set the prices. Farmers felt that this entailed exploitation as it hindered them from making a reasonable profit on their crops or no profit at all. The following was said by one farmer:

Buyers just come with their prices to us without consulting us. We have some limitations in terms of transporting our crops to the market and this is what these middlemen [makoronyera) exploit. The other thing is that us as small scale farmers, we sell our crops at the same time and this floods the market and lowers the prices (In-depth Interview with a farmer from Chidora Village, October 2014).

Hence, besides unscrupulous dealers, Hwedza farmers also faced transport difficulties to markets and saturation of the market for certain goods at specific times. The latter problem in part related to the absence of long-term storage facilities for cash crops such as soya beans. This absence pressurised farmers into selling their harvest all at the same time and they ended up being affected adversely by the laws of supply and demand. And, because farmers relied exclusively on dry land farming, this meant that they harvested their crops simultaneously and, without storage facilities, entered the market in competition with each other. The transport challenge arose because of the poor state of the rural roads in Hwedza district such that buyers were in the first place very reluctant to come to the villages with their vehicles and have them damaged in the process. For those buyers who made the sacrifice to come and buy the crops in villages, they offered low prices to compensate for any damage to their vehicles and the resultant repair expenses incurred.

It was also evident that farmers in all villages investigated would sometimes exchange food crops among themselves in the villages either as barter trade or as payment for different commodities. The bulk of the farmers expressed that this local market arrangement was efficient and of value as it met crucial and pressing needs of the village households. One farmer had the following to say:

We need commodities such as sugar, soap, tea leaves, salt, clothes to name but a few. These can only be bought by money. So if we produce our crops, it means that we are expecting

to generate money to meet other requirements. The situation obtaining in the village is that other people are bringing these commodities to exchange with maize and other crops through barter trade (In-depth Interview with a farmer from Chidora Village, October 2014).

Another farmer in Nhukarume village indicated that he had since stopped selling maize to the GMB because of its unreliability in making payments. This farmer indicated that he was using the maize to pay off labour that he hires in the production of other crops, notably soya beans. There are some market linkages with local schools in an effort to ease the burden of unreliable markets for the IP farmers, and these schools have sought to link the farmers to other boarding schools. At times, as well, surplus tomatoes and beans are sold to Interfresh in Harare.

Crops like soya beans and cowpeas in fact had a readily-available market. Farmers who produced these crops did so regularly under contract, or under the auspices of contract farming, such that they were obliged to sell these crops to the relevant contractor. However, it was evident that Hwedza farmers needed new market opportunities so that they could graduate away from contract farming and the relationship of dependency that it created. In fact, despite being informed about the advantages of contract farming (such as guaranteed seeds and output markets), farmers wished to move beyond contract farming. One notable concern raised by the farmers in this respect was that cash crops had no immediate use value to the farmers and they were forced to sell their crops to the contractor even if they were not satisfied with the price. Unlike maize, which forms the staple food in Hwedza households, a cash crop like soya beans was not the preferred food for the farmers. Hence they had no option but to sell it, even below what the farmers considered as a fair market price.

The involvement of IPs in Hwedza with reference to connecting farmers to viable markets was not particularly of great significance to the farmers. The market linkages for farmers were in fact quite weak. Companies such as National Foods and Olivine were reluctant in committing themselves to provide a market for small-scale farmers and their crops such as sunflower, soya beans and maize. The major reason that was given by the potential buyers was lack of irrigation by farmers which

therefore meant that regular and reliable levels of harvests were not guaranteed considering the fluctuations in rainfall.

Besides crops, farmers sold livestock products but they did so mainly to fellow villagers. The levels and forms of livestock marketing were minimal compared to crop marketing, in large part because livestock production (such as cattle, goats, sheep and chickens) did not feature as significantly as crop production in Hwedza. Because of this, the innovation platforms in the villages focused primarily on crops and enhancing crop production and marketing. Since livestock did not take a central role in the deliberations of IPs, including in pursuing access to markets, barter trade dominated livestock marketing. Sometimes, cash was included in the transactions and sometimes farmers, as desperation sales, would sell livestock to buy crop inputs.

Hwedza farmers also spoke negatively about middlemen as ‘ripping them off’ in relation to their livestock sales. The main market for livestock was between farmers within Hwedza but, when it came specifically to selling cattle which needed a greater cash outlay, farmers would normally turn to the middlemen as they had ready cash. One farmer in Samundera Village noted that particular middlemen specialised in buying and selling of cattle. Such buyers were said to have established linkages with butcheries located in Hwedza and beyond. These middlemen were not part of the IPs. In this regard, I interviewed one cattle middleman who emphasised that he had no interest in being part of the local IP because he felt the IPs were focusing more on crops than on livestock and hence IPs did not serve his business interests. Hence, the IP process in this case failed to incorporate actors who could, at least potentially, add some value to the marketing dimension of Hwedza farmers’ agricultural activities.

Despite all these challenges with marketing, there was one success story in Chidora village. The IP operating in Chidora village identified a common crop which was sunflowers and the platform managed to incorporate critical actors such as National Foods. National Foods produces a variety of foodstuffs that include animal feeds and it uses sunflowers as a critical raw material for these feeds. Farmers in this village organised themselves into a farming group of twenty farmers who dedicated themselves to produce sunflowers at the request of National Foods. In the farming season

of 2012-2013, they obtained a good harvest and they managed to sell as a group to National Foods. It emerged that National Foods has a minimum number of tonnes that it buys and hence Chidora farmers managed to meet this minimum tonnage.

The Chidora group marketing strategy shows that, if farmers come together and agree on a crop and focus all their energies on that agreed crop, then it is possible to access markets. Interviews with representatives of National Foods showed that its membership in the Chidora IP was beneficial because the company was able to obtain reasonably large quantities of sunflowers. At the same time, because National Foods was providing technical support to the farmers and broadly overseeing the production process, the company received soya beans from the Chidora farmers of good quality. It became clear that potential buyers of any significance for Hwedza farmers were large companies and that access to such a market called on farmers to engage in group marketing (like the Chidora farmers) as large companies operated on the basis of economies of scale.

Clearly, involvement in the IP provided the Chidora farmers with market information and ultimately facilitated access, for now at least, to a regular market. Thus networking within the innovation platform was of some significance. At times, with reference to marketing, this also involved interaction between Hwedza farmers across villages and across village IPs. One farmer from Wagoneka village spoke about networking with farmers (and others) in the Chidora village IP where they had managed to successfully break into the market of National Foods through selling sunflowers. Undoubtedly, though, organisations such as CIAT and CIMMYT played a pivotal role in courting potential buyers for the IPs as well as advising farmers on how best they could market their crops.

The Chidora success story did not take away the fact that Hwedza farmers, in the face of the many marketing constraints, evaluated the marketing support they received from the IPs as inadequate. Though there were a range of marketing actors involved in the IPs, including the GMB, the marketing services in place remained well below farmer expectations. Key informant interviews with a crucial actor in the IPs, namely CIAT, highlighted that all the IPs had not reached what was called the ‘maturity stage’ in the IP process as they were still in their early years of operation.

CIAT claimed that bringing different actors together under innovation platforms takes considerable time and it was not always easy to attract and incorporate all key potential stakeholders at once or over a short duration. With specific reference to marketing, it was further indicated that it takes time for farmers themselves to be organised to such an extent that they can attract reputable buyers. Most buyers only engage with farmers when they themselves are organised, as was the case with Chidora. Thus the stage of maturity of an IP determined its attractiveness when it came to luring other serious actors such as financiers and buyers into the IP process.

6.7 Agricultural Success Stories in Hwedza

The adoption of conservation agriculture on which innovation platforms are based in the southern Africa region has generated many stories of success as told by small-scale farmers and other key stakeholders in innovation platforms. Farming communities at times proudly show the benefits in terms of increased productivity and income, and the lead agencies speak about the agricultural breakthroughs made in and through the IP methodologies. In the case of Hwedza IPs, there are key categories of evidence which can be considered in assessing any form or level of success, and these categories relate to key pillars of the innovation platforms, including productivity and market access. At the same time, IPs intended to improve networking and collective action among actors, including amongst the farmers. This implies that the fragmented interventions that were meant to benefit small-scale communal farmers were now supposedly enhanced by the enabling environment that was created by the IP methodologies. It is the latter (social networks and interaction) which this thesis is particular concerned about, but I end the empirical chapters by briefly referring to successes with reference to agricultural productivity in the context of IPs.

Evidence from farmers' fields shows that they realised certain benefits as a result of their participation in IPs and subsequent adoption of conservation farming. The case study (in Box 1) narrates how a female farmer doubled her yield as a result of adopting CA technologies, though this story emanates from the Murehwa IPs. It should be emphasised that this story, presumably authentic, comes from one of the lead NGOs (CIAT) as it seeks to present publicly its rendition of the outcomes of IP processes in Zimbabwe.

Box 1: Mbuya Francisca Bango (Murehwa IP)

Mbuya is a member of Murehwa IP. In the long rainy season of 2011/12 she managed to harvest 30 bags of 50kg maize each from her one acre plot. She narrates that she is happy that during this particular farming year her two main objectives in farming were achieved. She had enough maize for food security at household level and for sale, as she envisaged selling 15bags and maintaining the other 15 for her household food consumption. Asked about her perceptions about the CA technologies she has been practicing in her field, she said she viewed CA as the most ideal way of farming for people like her. She is old and does not have enough cattle for draught power which means that every season she has to wait for her neighbours to finish with their cattle first before she can plough her small piece of land. However thanks to CA she no longer has to wait as she can begin slowly preparing for the next season by digging her basins as soon as she finishes harvesting and clearing her field; and, at the same time, still realise a good harvest from a small piece of land that allows her to have food and make money. She also thinks that CA is better than conventional tillage and realises better yield. Ultimately, she expressed her gratitude to the IPs for bringing different actors closer to her from whom she learnt a lot about CA.



Mbuya Francisca Bango proudly showing off her yield from her one acre plot of maize

Source: CIAT 2013 Evaluation Report.

A central objective of the IPs was to increase productivity of maize, beans and other high value crops like tomato. The adoption of CA by farmers in Hwedza has made an impact on productivity and cases similar to that of Mbuya Francisca were recorded in all the IPs. Farmers who implemented CA in their fields benefited from improved productivity and food security, and thus the reasonably wide adoption of CA by farmers. Farmers managed for instance to buy basic amenities such as cell phones, bicycles and paying school fees after their tomato sales. Another story relating to this is from my Hwedza fieldwork though it comes from an inputs supplier. Muvishi is the proprietor of *Nzara Yaperu* that supplies inputs to farmers in Hwedza district. During an IP meeting, he narrated the success story of his fellow IP members. According to him, farmers have really benefited since the formation of the IP. He narrates that:

People do not copy [or adopt] where there is no progress. Measurements for progress in farming in Hwedza district are good houses and an improved well being. As you can see we used to be a dirty lot but if you look around you now see we are all clean, wearing clean clothes because we have progressed and that's what inspires people - signs of progress! The farmers need to take IPs seriously and deal with the stumps [matenhere] I have observed in some of their fields before anyone can take their efforts seriously. Good farm management is also required for any success of any farming. My mother always used to say, "kuti ivhu rikupe, ripewo" [For the soil to give you, you need to give it first]. Soil conservation is an integral part of agriculture. I learnt that from Aaron, the extension worker, in 1994 when I first learnt to do contour ridges with him and he helped me peg my field. If the IP continues to be in existence, we will even do better than now.

At the same time, the evidence from Hwedza is that there is marked socio-economic differentiation within the Hwedza villages and that not all farmers have benefitted equally from the innovation platforms in terms of enhanced agricultural productivity as well as access to goods markets.

6.8 Conclusion

The chapter has elaborated upon how small scale-farmers in Hwedza organise their production in the context of IPs. It has emerged that farmers are not passive recipients of ideas from external actors as they have their own historically-established knowledge systems and agricultural practices when it comes to crop and livestock production. Despite their active participation in IPs, farmers have guarded their knowledge systems of production which they have refined over a period of time. What this chapter has shown then is an accommodation of knowledge systems between that of farmers and the ideals of Conservation Agriculture propagated by the lead NGOs in the innovation platforms. The interface between different actors in Hwedza has created a platform of knowledge sharing between actors, but small-scale farmers still defend their life-world, as shown by examining the different stages in the agricultural cycle, namely, pre-season, farming season and post-harvest handling of crops. Despite different challenges that were highlighted by the farmers, IPs were said to have improved the yields by the bulk of the farmers who adopted CA.

CHAPTER SEVEN: CONCLUSION OF THE THESIS

7.1 Introduction

My participation in the lives of the small-scale farmers in Hwedza for a period in excess of a year provided me with a deep appreciation of the lived realities as experienced by the small-scale farmers. A combination of factors including political, economic, social and environmental interacted to create a compound of challenges that militated against the success of the Hwedza communal farmers in terms of agricultural productivity. Amidst such challenges, I also witnessed many opportunities that are available to farmers to turn their agricultural fortunes around. My fieldwork involvement in the life-cycle of agricultural innovation platforms in Hwedza taught me invaluable lessons about the problems and prospects for these farmers.

This concluding chapter provides an aerial view of the entire thesis by revisiting the objectives of the thesis and relating them both to the analytical framework adopted and the fieldwork evidence collected. I thus examine the agricultural innovation platforms in Hwedza in terms of the analytical insights of the interface perspective and – in doing so – I seek to show the contributions of my thesis to the prevailing academic literature. At the same time, there are limitations to my study and hence it is important to identify areas for further research.

7.2 Addressing the Thesis Objectives

To remind the reader, the main goal of the thesis was to identify, understand and analyse the complex social relations embodied in the agricultural innovation platform pursued and implemented amongst small-scale communal farmers in Hwedza, Zimbabwe. The subsidiary goals were to:

- Identify and examine through thick descriptions the varied patterns of interactions among the small-scale farmers and stakeholders;
- Pinpoint and highlight the social interactions which entail negotiation, cooperation, contestation and conflict;
- Analyse the agricultural innovation platform with respect to decision-making and thus engaging with the vexing question of an authentic partnership; and

- Examine the specific forms and organisation of production under the auspices of agricultural innovation platforms.

In chapter two, it was noted that innovation platforms, with regard to agricultural interventions, are themselves seen by their proponents as innovative in the sense of providing an alternative and more participatory-based form of intervention compared to the more centralised and linear models of agricultural intervention. However, as with the mantra of participatory development more broadly, the idea that agricultural innovation platforms necessarily entail meaningful participation in practice needs to be subject to scrutiny. In other words, are agricultural innovation platforms really some kind of magic bullet for facilitating and ensuring agricultural productivity for small-scale farmers because of some ingrained participatory logic? In effect, the four subsidiary objectives and the main objective of the thesis seek to address this critical question. With reference to the subsidiary objectives, then: Are the interactions between small-scale farmers and other actors in the platforms top-down or horizontal? Are the social relationships based exclusively on voluntary and unproblematic cooperation or is there also tension and contestation between small-scale farmers and the stakeholders? What forms of decision-making are apparent in the platforms in terms for instance of who generates knowledge and who develops new agricultural methodologies? And, finally, is the organisation of production practiced by small-scale farmers simply imposed upon them by other platform actors? Overall, in terms of the main objective, in what way should the social relationships embedded in the agricultural innovation platforms be characterised?

The three empirical chapters have already provided tantalising suggestions about the appropriate answers to these questions, and these suggestions indicate no straightforward answers and more of a mixed review so to speak of the agricultural innovation platforms in Hwedza. Together, the three empirical chapters highlight the kinds of social interaction embedded in the agricultural innovation platform interface in Hwedza.

The lead NGOs, in introducing the innovation platforms in Hwedza, sought to respect local forms of governance (such as traditional authorities) and work through existing (often) informal social

networks amongst farmers, so as to build upon these bases and to minimise disruptions within prevailing community and village arrangements. In fact, the platform arrangements further facilitated knowledge sharing amongst farmers. Once established, there was differential engagement by different stakeholders in the platform with many government agencies becoming heavily involved from the start because the resources made available through the platform made up in part for the shortfall in state capacity arising from the downturn in the political economy since the early 1990s. Other stakeholders, including private corporations but also some state agencies (such as the Environmental Management Agency) adopted a more aloof and wait-and-see-attitude because the rationale for the platform – from their partial perspective – did not seem immediately apparent. At times, it seems that they were cajoled into engaging with the platform.

Besides the lead NGOs as well as of course the small-scale farmers, the most engaged stakeholder was the agricultural extension officers and they played a critical role in transmitting and demonstrating conservation farming methodologies. The farmers though had their own historically- and culturally-established agricultural methodologies and they selectively chose which CA methodologies to adopt in line with their agricultural life-world, even against the ongoing advice of extension officers and lead NGOs. The intimate social arrangements and solidarities between the Hwedza farmers at village level, which prevailed before the IP process began and continued thereafter, provided a strong basis for farmers to act against agricultural change which went contrary to their agricultural rationalities. Any recasting of their agricultural dispositions was therefore only partial, at least at the time of my fieldwork. Thus, though on the surface it may appear that the farmers endorsed the platform by embracing some of the conservation agriculture techniques, there was also evidence of resistance and contestation on their part.

The lead NGOs (such as CIAT) invested considerable effort over an extended period in seeking to develop and consolidate the agricultural platforms in Hwedza, and they did so for instance by introducing a range of procedures including ground rules as a basis for interaction between stakeholders. In doing so, they sought in effect to construct a binding and interlocking interface which would sustain the platforms over time. But, overall, the agricultural interface in Hwedza

was more jagged than smooth, with partial buy-ins by some actors, full buy-ins by others and even no buy-in whatsoever by even others. As well, the commitment to the platform was subject to ebbs and flows by different stakeholders. Innovation platform meetings, which were meant to bring critical stakeholders together, were affected by poor attendance, non-representation of key actors (such as financiers) or even sometimes impatience and inadequate commitment by attending actors. Some actors felt that their counterparts were short-changing them as they showed total commitment only when they stood to benefit from the meeting but not when they would be required to make some sacrifices for the overall smooth functioning of the platform. It emerged that excuses would normally be given over inadequate staff, resources and even time. Further to this, as indicated, small-scale farmers both cooperated with the platform and contested it. In this sense, the agricultural interface was marked by fluidity. While fluidity is undoubtedly a characteristic of all interfaces, particular kinds of fluidity may destabilise an agricultural interface particularly when there is no evidence that the interface has reached any form of consolidation. In the case of the agricultural innovation platform in Hwedza, it seems clear it remains wholly dependent on the lead NGOs such that, if they were to pull out, the platform likely might simply disintegrate.

This raises the question of relationships of domination internal to these platforms. Despite all the involvement of different stakeholders in the Hwedza platform, its very existence arises from and is dependent upon external actors. Of course, the very notion of agricultural innovation platforms as an agricultural intervention by necessity implies this. That in-and-of-itself may not lead to relationships of domination but it does lean in that direction. This is even more so when the research process, which is supposed to be genuinely participatory, is examined with respect to the Hwedza platform. It is clear from the fieldwork evidence that the distinction between expert knowledge and lay knowledge has not been torn asunder in and through the Hwedza platform. Even more troubling is that these two forms of knowledge are rooted in terms of differential structural locations. More specifically, expert knowledge is seen rooted in (often university) researchers who follow the tenets of scientific knowledge, whereas lay knowledge is knowledge held and used by the small-scale farmers and often based on outdated cultural and historical irrationalities. In fact, researchers with regard to the Hwedza platforms doubted the competency

and motivation of agricultural extension workers. And extension officers, in turn, were tempted to treat small-scale farmers as less knowledgeable because they (the officers) are responsible for helping farmers with advice at many levels. This had the potential of placing small-scale farmers at the bottom of a knowledge hierarchy leading to underestimating farmers' indigenous knowledge and their potential contribution to the knowledge production and dissemination process.

Hence, in the case of the Hwedza platform, conceptualisation and implementation are seen as distinct activities, with innovative agricultural research and the generation of new knowledge linked to outsiders, and operationalising the new knowledge being the task of small-scale farmers (as supported by agricultural extension officers). In this way, the problem marring agricultural productivity in communal areas rests with the small-scale farmers or, more broadly, 'the local'. NGOs, locked into 'the global' development industry, are not the problem but the salvation and thus the local needs to be altered and restructured if the agricultural lives of communal farmers in Hwedza and elsewhere in Zimbabwe are to be enhanced. As Foucault and others argue, knowledge is power and it seems that a relationship of domination is embedded in the agricultural innovation platform interface in Hwedza. In this sense, external interventions seeking to bring about deep forms of participation may be an oxymoron. Or, perhaps, agricultural innovation platforms (like all development interventions) reveal the paradoxical character of any pre-orchestrated intervention which promotes participatory and inclusive modes of engagement.

7.2 Interface Analysis and Agricultural Innovation Platforms in Hwedza

In terms of the theoretical framing for the main and subsidiary objectives of the thesis, I used interface analysis and, in the preceding section, I sought to show the relevance of such an analysis for making sense of the social relationships flowing through the agricultural innovation platform in Hwedza. More explicitly, the choice of interface analysis was motivated by my early recognition that the implementation of innovation platforms entails the construction of an interlocking social interface along which multiple actors interact on the basis of shared meanings and understandings. These shared meanings and understandings though do not arise automatically or unproblematically as any interface invariably emerges and becomes consolidated over time and, even when reasonably well consolidated, there is bound to be tensions and contestations. After all,

innovation platforms involve the coming together of different life-worlds with their own way of being and doing in the world.

In the case of the agricultural innovation platforms in Hwedza, the actors included small-scale farmers, NGOs, government officers, traditional authorities and private corporations. The platforms were pursued in the broader political and economic context of Zimbabwe, as detailed in chapter three, marked by systematic crises in terms of economic decline, state incapacities and heightened political conflict. Further, prior to the establishment and operationalisation of the innovation platforms in Hwedza, small-scale farmers had their own agricultural knowledge and practices, forms of governance and social networks, such that the platforms required sensitivity to these local dynamics if they were to have any chance of being accepted by the small-scale farmers. As well, the actors who came together under the auspices of the agricultural platforms had no previous relationship or interaction with each other, had interaction marked by only sporadic contact, or had reasonably well-established relationships.

All these factors shaped the innovation platform process and served to add complexity to the social relationships which were to emerge through the platforms, a complexity which the interface framework had the potential to understand and analyse. This framework argues that intervention programmes involve different actors with varied backgrounds, mandates, interests, predispositions and worldviews and that their interaction leads to the production of interfaces which are constituted by struggles, negotiations, accommodations and compromises at many layers of interaction. This multiplicity of the kinds of social relationships embodied in agricultural interventions does not however deny the possibility that, ultimately, the interface entails a relationship based on incipient forms of domination and hegemony. As well, to stress, interfaces based on agricultural interventions (like all development interventions) are constructed over time, such that they are always in-process or in a situation of becoming. This means that the kinds of relationships existing along the agricultural interface would likely vary as the process unfolds, as I sought to show in the empirical chapters by examining the platform in Hwedza from the stage of inception or establishment to later stages of development where more actors (such as private corporations) engaged tactically with the platform on the basis of economic rationality.

When examining the agricultural innovation platform interface in Hwedza, it may be argued that it consists of the combination of a number of separate interfaces between sets of specific actors or even of a hierarchy of interfaces with some being more critical than others in pushing forward the innovation process and shaping the character of the overall platform interface. For instance, at the point of inception of the platform, small-scale farmers in Hwedza interfaced significantly with CIAT representatives and government departments (and particularly agricultural extension officers). This, with time, opened up additional interfaces between small-scale farmers and other stakeholders such as the private companies which sought to supply inputs to the farmers or buy the crops produced them. Singular interfaces were built upon preceding ones and, as a result, the course of the overall interface and the kinds of social relationships (such as accommodation and conflict) internal to it altered. The interfaces between small-scale farmers on the one hand, and agricultural extension officers and the lead NGOs (for example CIAT) on the other hand, were the most important singular interfaces and it was these interfaces which ensured that the agricultural innovation platform hung together at all. As well, the interface between the lead NGOs and the extension workers enabled capacity building of the extension services and facilitated access to important farming knowledge by farmers. But it would be deeply problematic to label the agricultural innovation platform interfaces in Hwedza as interlocking in any strong sense of the word. The platforms were much more fragile than the word interlocking implies.

This thesis has demonstrated useful and invaluable insights into the relevance of interface analysis in understanding the social relationships embedded in agricultural innovation platforms, with particular reference to Hwedza. It must be emphasised that the arguments made, in terms of interface analysis, are specific to the platforms in Hwedza and I do not have a strong basis for claiming that all agricultural innovation platforms, in Zimbabwe and beyond, are marked by the same sets of social interaction. In other words, each agricultural innovation platform interface likely has its own particularities. But it is likely that the same general trends appear in the implementation of other agricultural innovation platforms.

Overall, interface analysis provides a systematic and conceptually-sound framework for understanding the weaving together of different life-worlds, predispositions and rationalities of

actors involved in innovation platforms, no matter how many stitches remain loose or dangling. But, in order to allow for this, it is critical to go beyond a consensual model of society which is often seen in interface analysis. In other words, it is highly unlikely that agricultural innovation platforms as located within global neoliberal restructuring will construct social arrangements which somehow resolve any latent and overt tension and conflict between platform actors. While social arrangements may be held together in part by bridging relationships and mechanisms of accommodation, these arrangements are also constituted by relationships of domination which cannot simply be resolved through ground rules and negotiations. These relationships may be handled and managed such that hegemony (as a form of rule by consensus) arises but this does not do away with antagonistic interests, underlying conflicts and modes of domination. For interface analysis to capture and understand these dynamics, a theory of power (such as the one offered by Foucault) must be incorporated into interface analysis in a significant and meaningful way.

7.4 Areas for Future Research

Though my thesis has made a contribution to existing academic literature on interface analysis and agricultural innovation platforms, there are limitations to it which simultaneously highlight areas for further research around agricultural innovation platforms. First of all, to fully understand agricultural innovation platforms, it is necessary to understand NGOs as an organisational form, given that they are the lead organisations in pursuing the platforms. This would require analysing their dispositions and rationalities and how they are embedded in the global development system, and thus may require – in addition to interface analysis – a theoretical framing which is capable of examining the global political economy. Secondly, considering that land and agriculture in Zimbabwe is highly gendered, with women for instance having secondary rights to land (i.e. through the husband in the case of married women), it would be important to integrate feminist thinking into the interface framework as the latter is gender-insensitive. And, finally, comparative analyses are critical to understanding the constitution of agricultural innovation platforms. It may be that the working out of the agricultural innovation platform in Hwedza is marked by specificities which set it off quite substantially or even dramatically from other agricultural innovation platforms, such that the contingencies of the historical and spatial context are particularly significant in structuring the agricultural innovation platform process.

7.5 Concluding Remarks

As I look back at the journey of my study and all the interactions that I had with the respondents (small-scale farmers and others in Hwedza), there is one thought that keeps on coming back to me, which is a yearning for a situation in which small-scale communal farmers become self-sufficient in all dimensions of their agricultural activities. The enthusiasm that was demonstrated by these farmers for a better life was very pronounced. They showed me that they are willing to listen to everyone who is working to improve their plight, and that they have a deep commitment to invest all their energy and effort in farming. The opportunities opened up by the innovation agricultural platforms in Hwedza seemed to be of some significance and it is hoped that, despite some of the conclusions reached in this thesis, the platforms will afford Hwedza farmers the dignity and respect they deserve and ultimately make some improvement to their agricultural livelihoods. Considering the effort, time and emotions they have already invested in the agricultural innovation platforms, this is the least the farmers deserve.

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APPENDIX 1: INTERVIEW SCHEDULE FOR KEY INFORMANTS

The following are the critical questions to be asked.

1. Stakeholder Involvement in the IP

- a) Name of Key Informant and the Organisation represented
- b) When did you become part of the IP?
- c) At what level are you involved in the IP, (District or Village?)
- d) How would you describe the level of involvement in the IP?

2. Motivation to be part of the IP

- a) What drives you to become part of the IP?
- b) Who sold the idea of IPs to you in the first place?
- c) Were you driven by the need to benefit from IP or to give to the IP?
- d) Would you continue being part of the IP given the opportunity to do so?

3. Stakeholder Interaction with other IP actors

- a) Which community development activities have you participated in?
- b) Do you have activities that you participate in within the context of IP?
- c) Have you initiated any meeting with other stakeholders to learn about agriculture?
- d) Which farmer group(s) are you part of and what benefits do you derive from the group?
- e) What value do you derive from these interactions?

4. Contribution to the IP

- a) What value do you think you are contributing to the IP?
- b) Would you say that you have played a significant role in the sustenance of the IP?
- c) Would you elaborate the contribution that you have brought to the IP (Material or immaterial?)
- d) What do you think you can do differently to maximise your contribution to the IP?

5. Benefits of being part of the IP

- a) What would you say has been the benefits of IP to you?
- b) Would you continue being part of the IP in the next six months?
- c) Are the benefits of IP worthy to you?
- d) Do you think there is room to maximise on the benefits obtained from IPs?

6. Challenges faced

- a) May you highlight the challenges that are faced in the IP.
- b) How do you solve such challenges if there are any?
- c) How would you describe such challenges, are they structural or otherwise?
- d) What is the impact of such challenges to the running of the IP?

7. The future of IP

- a) What would you say is the future of the IP?
- b) Where do you see IPs in Hwedza in the next three years?
- c) Would you think that IPs have a realistic chance of being scaled up in Zimbabwe?

- d) What needs to be done to make IPs self sustainable even after the withdrawal of the external actors?
- e) What is the level of appreciation by the small scale farmers involved in IPs?

APPENDIX 2: HOUSEHOLD QUESTIONNAIRE FOR SMALL SCALE FARMERS

A. IDENTIFYING INFORMATION

1 Name of Enumerator	
2.Date of interview	
3. District	
4.Village	
5. Household No:	
6. Name of head of household	
7. Name of Respondent	
8. Is respondent HH? 1=Yes 0=No	
9. If not, relationship to household head 1=Wife 2=Husband NB: (Interview should only be carried out with the two adult members of the household i.e husband or wife or adult children living at home)	

B. GENERAL HOUSEHOLD INFORMATION

Variable	Response	Codes
----------	----------	-------

Demographic data		
1. Gender of Household head		1=Male 0=Female
2. Age of Household head in years		
3. Marriage status		1=Single, 2=Monogamously married, 3=Polygamous married, 4=Widowed, 5=Separated/Divorced, 6=Other (Specify)
4. If married age of spouse		
5. If married to more than one spouse, age of spouse 2		
6. Education level of household head		1=no formal education, 2=Adult education 3=some primary education, 4=completed primary education, 5=some vocational training, 6=completed vocational training, 7=some secondary education, 8=completed secondary education, 9=College education 10=University education
7. Education level of Spouse 1		
8. Education level of Spouse 2		
9. Highest level of education attained by any family member		
10. Household size		All members of a common decision making unit (usually within one residence) that are sharing income and other resources.
11. How long has the household head been farming?		Number of years

C. LAND OWNERSHIP

In The table below specify units of land holdings here

1. Land Holding in Hectares / Acres (Please specify)

Row	Holdings	(a) Homestead land	(b) Main Upland Land	(c) Wetland (if applicable)	(d) Other	(e) Total
1	Owned					
2	Rented from others					
3	Borrowed					
4	Rented out					
5	Lent out					

1 hectare=2.471 acres 1 acre =0.405 hectares

D. USE OF AGRICULTURAL TECHNOLOGIES

E (1) Use of crop management, soil conservation and other land management options

Row	Technology/Management Practice	(a) Do you know this technology? 1=Yes 0=No	(b) Where did you learn about the technology? (see codes)	(c) Did you pro-actively ask for information? 1=Yes 2=No	(d) Have you ever used this technology in your main fields 1=Yes 0=No	(e) When did you first use this technology	(f) Did you use this technology during the 2007/08 season? 1=Yes 0=No
Soil and Water Management							
1	Mulching						
2	Trenches/terraces						
3	Water harvesting						
4	Irrigation (bucket, treadle pump, drip)						
5	Conservation farming						
6	Other (specify)						
Soil Fertility Management							
1	Animal Manure						
2	Cover crops						
3	Legume cereal rotation						

4	Legume/cereal intercrop						
5	Rhizobia inoculation						
6	Mineral fertilizer						
7	Leaf litter						
8	Crop residue						
Crop management practices							
1	Row planting						
2	Plant Spacing						
3	Organic pesticide						
4	Inorganic pesticide						
5	Dry planting of cereals						
6	Early planting						
7	Late planting						
8	Other, specify						
Improved Varieties							

E) Use of Post Harvest Technologies

Row	Technology	(a) Do you know it? 1=Yes 0=No	(b) Have you ever used it? 1=Yes 0=No	(c) Where did you learn about the technology? (see codes)	(d) Have you received additional knowledge on this technology over the past two years? Yes=1, no=0	(e) If yes from who?	(d) When did you first use it?(Year)	(e) Did you ask for information on it? 1=Yes, 0=No	(f) Did you use this technology during the past season? 1=Yes 0=No	(g) On what crop did you use the technology?
1	Drying									
2	Threshing/shelling equipment									
3	Improved storage facilities									
4	Pest control									
5	Grading									
6	Other (specify)									

Codes for source of information on technologies: 1=Government Extension workers, 3=Farmer Group members, 4=NGO, 5=Other farmers, 6=Radio, 7=Demonstration/research sites,8=Other (specify)

F) General access to inputs

1. How would you rate your access to the following inputs?

Row	Type of inputs	(a) Common source	(b) Distance from house to regular source (km)	(c) Time taken in hours to get to regular source	(d) Averag e cost per unit	(e) Unit	(f) Perceptio n of cost	(g) Other constraints to access
1	Fertilizer (Compound, AN, NPK, Urea, DAP, SSP, Others)							
2	Herbicides							
3	Fungicides							
4	Pesticides							
5	Animal Manure							
6	Certified seed (Improved seed)							
7	Seed dressing							
8	Post harvest insect control							
9	Farm equipments							

10	Water pumps							
11	Livestock supplementary feed							
12	Livestock drugs							
13	lime							

Common source of inputs: 1=purchased from market; 2=purchased from stockists; 3=purchased from other farmers; 4=received from government; 5=received from NGOs; 6=others (specify)...

Perception of cost: 1=Very affordable, 2=Affordable 3=Not affordable

Other constraints to access: 1=Too far from household, 2=Unsuitable packaging (large) 3=No knowledge of how to use 4=No transport, 5=Other(specify)

G. CROP PRODUCTION CONSTRAINTS

1. What are the priority constraints to crop and livestock production?

Row	a) Constraints to crop	(b) Rank the top three constraints (1 being the top most constraint)	Row	(c) Constraints to livestock	(d) Rank the top three constraints (1 being the top most constraint)
1	Marketing		2	Marketing	
1	Low soil fertility		1	Low quality of pasture	
2	Pests and Diseases		2	Pests and Diseases	

3	Lack of improved varieties		3	Lack of improved breeds	
4	Low access to inputs		4	Poor access to inputs (feed, veterinary services, drugs etc)	
5	High cost of inputs		5	High costs of inputs ((feed, veterinary services, drugs etc)	
6	Insecure land tenure		6	Lack of grazing land	
7	Small land holding		7	Rainfall variability (water availability))	
8	Lack of labour during peak season		8	Climate change	
9	Lack of / or agricultural equipment		9	Other(Specify)	
10	Rainfall variability				
11	Climate change				
99	Other (Specify)				

H. MARKETING OF AGRICULTURAL PRODUCE

H (1) Marketing strategies and linkage with agricultural traders

Ask question (a) for all crops before going on to questions b-o

Row	Crop	(a) Did you sell? 1=Yes 0=No	(b) If yes, how much did you sell? Amount sold (kg)	Market 1						Market 2		
				(c) Type of market1	(d) How far is market 1? (km)	(e) Price Per Unit in market 1	(f) Unit code	(g) In what form did you sell?	(h) How did you sell 1=Individually 2=Collectively	(i) Type of market 2	(j) How far is market 2? (km)	(l) Price Per Unit in market 1
	Priority cereal crops											
1	<i>Maize</i>											
2	<i>sorghum</i>											
3	<i>(pearl) millet</i>											
	Priority legume crops											
4	<i>groundnut</i>											
5	<i>cowpea</i>											
6	<i>common bean</i>											
7	<i>Soya bean</i>											
8	Priority fruits and vegetables											
9	<i>Tomato</i>											

10	Mango											
11	sweet potatoe											
12	Other, Specify											

Unit Code 1=Kg 2=50 kg bag 3=90kg bag 5=Bucket 6=Ox cart 7=Pile 8=Bunch 99=Other (specify)

Type of market: 1=on-farm to consumers 2=on-farm to middlemen, 3=on the road side, 4=local/village market, 5=district town, 6=distant market, 7=other (specify)

In what form: 1=as harvested/fresh, 2=shelled, 3=milled/as flour, 4=cooked/baked/conserved, 5=other (specify)

H (3) COLLECTIVE MARKETING AND OTHER GROUP ACTIVITIES

NB: Only for farmers who responded that they have sold collectively above.

If you produce, process or sell your products in **cooperation with other farmers** or have a binding contract with traders, please report the frequency of meetings, your empowerment to make decisions on the group activities and terms and conditions of the contract. Mention at most three groups that members of this household participate in for collective marketing.

Row	Attribute	(a) Group 1	(b) Group 2	(c) Group 3
1	Name of group			
2	Main activity of group			
3	Year this household first participated			
4	# of female family members belonging to this group			

5	# of male family members belonging to this group			
6	Frequency of meetings per year			
7	Who initiated this group?			
8	Who sets the prices?			
9	Do you have a contract between the group and traders? Yes=1 No=0			
10	If yes, what type of contracts? 1 = signed contract 2 = Informal/word of mouth 3 = other (specify)			
11	Perception of empowerment to set terms of the contract with traders			
12	Perception on empowerment to enact laws and regulation of the group			
13	Perception on empowerment to make decisions of group activities			

Main activity: 1 = Production 2 = Processing 3 = Marketing 4 = Production & processing 5 = Production and marketing 6 = Processing and marketing 7 = Production, processing and marketing 8=Other (specify)

Who initiated formation of this group? : 1 = Farmer group 2 = trader group 3 = individual trader 4 = trader group 5 = NGO 6 = CBO 7 = FBO 8 = Government official 9 = Village/local government leaders 10 = Project 11 = Farmer (respondent) 12 = Other farmers/friends/relatives 13=Other (specify)

Who sets prices?: 1=Farmers as a group 2=Traders 3=Farmers in consultation with traders 4=Other (specify)

Perception of Empowerment: 1 = very empowered, 2 = slightly empowered, 3 =not empowered – all decisions are made by other people

H (4): Constraints to marketing

What are the priority constraints to crop and livestock marketing?

Row	a) Constraints to crop Marketing	(b) Rank (1 being the top most constraint)	Row	(c) Constraints to livestock Marketing	(d) Rank (1 being the top most constraint)
1	Low quality of produce		1	Low quality of produce	
2	Low market prices at the time of selling		2	Low market prices at the time of selling	
3	Unavailability of markets		3	Unavailability of markets	
4	Lack of market information		4	Lack of market information	
5	Difficulties in processing		5	Difficulties in processing	
6	Difficulties in storage		6	Difficulties in storage	
7	Transport to the market		7	Transport to the market	
8	Farmers are not organized to market collectively		8	Farmers are not organized to market collectively	
9	Difficulties in setting prices		9	Difficulties in setting prices	
10	Other (specify)		10	Other (specify)	

H (5) Access to market information

1. From whom or from which organization do you primarily obtain market information?

Row	Type of information	(a) Do you receive 1=Yes,0=No	(b) Source of information	(c) How do you use the information
1	Commodity prices in different markets			
2	What commodities are on demand			
3	When commodities are demanded			
4	Supply in different markets			
5	Availability of services e.g transport			

Source of information: 1=Other Farmers 2= Family and friends 3= Radio/TV 4= Farmer organization/cooperative

5= Other non-farmer associations 6= Market place posters/posted bulletin 7= Agricultural traders 8=SMS messages 9=Internet

10=Newspaper 10. Extension officer 99=Other (Specify)

How you use information: How do you use this price and market information? 1= Affect purchasing decisions 2=Affect sales decisions
3= Affect stocking decisions 4=Affect contracting decisions 5=Affect investment decisions 6. Other (specify)

H (6) Membership in farmer associations

1 .Are you or any other member of the household a member of other groups that are not dealing with marketing Yes=1 No=0 If no, go to question 3

2. If yes, which groups and what are their main activities?

Row	(a) Name of group / association	(b) Membership of group	(c) Total membership	(d) Main activity of the group	(e) For how many years have you been a member?	(f) Which household member is the registered member of the group?	(g) Assessment of benefits
1							
2							
3							
4							
5							
6							

Membership of group: 1=Women only group 2=Men only group 3=Mixed group 4=Cooperative society 99=Other (Specify)

Main activity 1 = Production 2 = Processing 3 = Social 4 = Savings and credit 5 = Kinship 99=Other (Specify)

Registered member 1=Husband 2=Wife 3=Both

Assessment of Benefits: 1 = Not beneficial 2= Fairly beneficial 3 =Beneficial 4=Very beneficial

3. If no, why you do not participate in any farmers' organization

1=Lack of time 2=Lack of resources 3=No need for group benefits 4=Other (specify)

(I) ACCESS TO CREDIT SERVICES, INFORMATION, EXTENSION, AND TRAINING

I (1): Access to credit

Do you have access to any of the following sources of credit?

Row	Source of borrowed money	(a) Have you ever borrowed? 1=Yes 0=No	(b) Amount borrowed in the last 12 months	(c) Purpose of borrowing
1	Relative and friends			
2	Informal savings and credit group			
3	Money lender			
4	Government credit schemes			
5	NGO/Church			
6	Bank or micro-finance institution			

Purpose for borrowing: 1=Purchase of food 2=Purpose of household assets 3=Payment of fees 4=Cover medical costs 5=Agricultural production 6=Cover educational costs 7=Other (specify)

I (2) Access to and use of agricultural extension services

1. Did anyone in your household visit an agricultural extension agent or an agricultural extension center during the last 12 months to seek advice or assistance on growing crops? Yes =1 No=0
2. If yes, how many times during the last 12 months did members of your household do this?
3. What kinds of assistance or information were requested? Tick where appropriate

Row1	(a) Crop production	(b) Did you request 1=Yes 0=No	Row2	(c) Livestock production	(d) Did you request 1=Yes 0=No
A	Use of fertilizer		a	Disease management	
B	Use of improved varieties		b	Feed / nutrition	
C	Pest and disease management		c	Insemination services	
D	Soil management		d	Marketing advice	
E	Weather information		e	Credit	
F	Marketing advice		f	General livestock management	
G	Credit		g	Other	
H	General crop production advice		h		
I	Other		i		

4 During the past 12 months, did any agricultural extension agent visit your household? Yes=1 No=0

How many times did any agricultural extension agent visit your household during the last 12 months

I (3) Participation in research activities

1. Have you or any member of this household participated in any agricultural research or extension demonstration plot or research plots? (Yes = 1, No = 0)

2. If yes, complete the following table

Row	Type of technology being demonstrated (If several, mention at most 3)	Respond
1		
2		
3		
4	Distance to research site from homestead (km)	
5	Who decided on the technologies to be researched/ demonstrated	
6	What was your role in the research / demonstration	
7	Perception on usefulness of the research/demonstration	
8	Have you adopted any of the technologies demonstrated? Yes=1 No=0	
9	If no, why not?	

Type of technology: 1 = Crop variety 2 = Soil erosion control structures 3 = Agro-forestry 4 = Soil fertility improvement 5 = Crop protection 6 = Post-harvest handling 7 = Tillage methods 8 = Plant spacing and other management practices 9 = Others (specify)

Who decided: 1: Researchers / Extension officers 2: Researchers / extension in consultation with farmers 3: Researchers, extension and farmers agreed 4=Farmers 5 = Other (specify)

Role in the research / demonstration 1=Just watched and learned 2=Provided labour 3=Provided land 4=Collected data 5=Made decisions on the research 6 = Other (specify)

Usefulness: 1= Not useful, 2= Somehow useful, 3= Useful, 4= Very useful

Reasons for no adoption 1=Lack of planting material, 2=Research not useful 3=Lack of land 4=Lack of inputs 5=Lack of Labour 6=Other (specify)

I (4) Interactions with other farmers and farmer groups

In the last 12 months, how often has a member of your household participated in the following?

Row	Aspect	How would you rate the occurrence?
1	Participated in community development activity	
2	Made financial contribution for community activities or collective problems	
3	Been involved in settling conflicts or disputes among people	
4	Visited other farmers within your community to learn about agriculture	
5	Visited other farmers outside your community to learn about agriculture	
6	Visited a research station to learn about agriculture	
7	Visited an extension office to learn about agriculture	

0=Never happens, 1=Poor 2=Average 3=Very good 4=Excellent

I (5) Most recent interactions

In the last 12 months, who are the persons you have interacted with to exchange agricultural information, trade goods or other information?

Row	Name of person	Sex 1=Male 0=Female	Distance from your home to them (km)	Type of interaction	Frequency of interaction	Perception of strength of interaction	Did you give information 1=Yes 0=No	Did you receive information 1=Yes 0=No	Role of the person
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									

Type of Interaction: 1. information exchange 2=commercial business transactions 3=materials exchange 4= money exchange 5=other specify.....

Frequency of Interaction: 1=daily; 2= weekly; 3=monthly 4= every 6 months 5=annually or less

Perception of strength of interaction: 1=very weak; 2=weak; 3=moderate ; 4=strong; 5=very strong

Role of the person: 1=Fellow farmer 2=Community /group leader 3=Extension agent 4=Researcher 5=Trader 6=NGO staff 7=Other (specify)

I (6). Evaluation of Existing interactions and approaches

1. In your view, how would you rate the methods/approaches of research / advisory / training services that you have received from various service providers in the past two years? (not more than six)

	Perception on						
Row	(a) Which organization have you been receiving agricultural services (information, technologies, training etc) from?	(b) Methods / approaches used ¹	(c) Usefulness of advice/ research ²	(d) Timeliness of service provision ³	(e) Collaboration with extension & research ⁴	(f) Collaboration with farmers ⁴	(g) Frequency of interactions ⁵
1							
2							
3							
4							
5							
6							

¹ Perception on methods: 1=Very Poor, 2=Poor, 3=Good, 4=Very Good

² Perception on usefulness of advice: 1= Not useful, 2= Somehow useful, 3= Useful, 4= Very useful

³ *Timeliness of service provision: 1= Untimely, 2= Always provided late, 3= Not always timely 4= Timely*

⁴ *Collaboration 1 = Very poor 2 = Poor 3 = Good 4 = Very good*

⁵ *Frequency of interaction 1= Very infrequent 2= Occasional 3= Regular 4= Very Regular*

APPENDIX 3: INTERVIEW SCHEDULE FOR SMALL SCALE FARMERS

1. Establishment of IPs

- a) How were IPs established in Hwedza?
- b) How were people chosen to be part of IPs?
- c) Were there any committees established? If yes, how were they constituted?
- d) Which new social relations were established from the interactions through IPs?

2. Running of IPs

- a) Were there any conflicts between members/actors in IPs?
- b) How were such conflicts resolved?
- c) Elaborate on the role of politics in the running of IPs.
- d) What was the role of traditional leaders in IPs?

3. Do farmers have access to and use of agricultural extension services?

- a) Did anyone in your family visit an extension agent in the past 12 months?
- b) Would you elaborate the kind of information that was requested during the visit?
- c) Do extension agents visit your households?
- d) What is the frequency of visit to your household?

4. Do farmers participate in research activities in their communities?

- a) Did anyone from your household participate in any agricultural research or demonstration plot in your village?

- b) What was the role that you played in the activity?
- c) Who participated in the activity?
- d) How were people invited to activity?
- e) What value did you obtain from your participation in the activity?

5. How would you describe your interactions with other farmers and farmer groups?

- a) Which community development activities have you participated in?
- b) Do you have self help activities that you participate in within your village?
- c) Have you visited other farmers to learn about agriculture (both within and outside your community)?
- d) Have you visited a research station to learn about agriculture?
- e) Which farmer group(s) are you part of and what benefits do you derive from the group?
- g) Which external actors are part of your farmer group(s)?
- h) What value do you derive from these interactions?

6. Please, would you elaborate more on your most recent interactions?

- a) What was the distance from your home to them?
- b) What was the type of interaction (Information exchange, business transactions, material exchange, money exchange etc) involved?
- c) What was your perception of strength of interaction?
- d) What was the role of each participant (fellow farmer, community leader, Extension agent, Researcher, Trader, NGO staff) in the interaction?

7. How would you evaluate the existing interactions and approaches used by actors involved?

a) Which organisation have you been receiving agricultural services (information, technology, and training) from?

b) How has been the collaboration with fellow farmers during interactions?

c) What was the frequency of interaction?

d) What is your perception of the usefulness of advice obtained?

8. Farmer connection to other community groups (Social Capital)

a) Of the following Voluntary groups, please indicate which one(s) you are a member:

- Village Committee
- Village NGO or Civic group
- Political group or movement
- Burial Society
- Religious or Spiritual group
- Cultural Group
- Credit Group

b) What is your level of participation in the identified groups and how does your participation enhance your farming?

c) How would you describe your trust in the following groups?

- People from your own village?
- People outside your village?
- Strangers?
- Local government officials?
- Central government officials?
- Agricultural traders?
- Research Institutes?
- NGOs?

9. What is the role of political affiliation in the community interactions?

- a) How does politics affect the way you relate to fellow farmers?
- a) How does politics affect the way you relate to outsiders?

10. Impact of IP in the lives of farmers

- a) Do you have any traditional farming practices in Hwedza that influences your farming e.g rain making rituals?
- b) What really changed in your lives as farmers due to IPs?
- c) How were you farming before and during the IPs?
- d) Which methods of farming were introduced by IPs?
- e) How did IPs help you with the markets?

11. Role of Government

- a) What would you say was the role of Government in the IP?
- b) Would you say the government helped or stifled the IP?

12. Observation Guide

a) As part of interviews with small scale farmers in Hwedza, the researcher observed the following during transect walks:

- Fields and land use patterns
- Grazing lands and pastures
- Forests and vegetation
- Gardens, Rivers, streams and wells (All water sources)
- Livestock and crops
- Interactions between farmers and different actors
- Granaries