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LAND REFORM AND CHANGING AGRARIAN LABOUR PROCESSES IN ZIMBABWE

Walter Spear Simbarashe Chambati

A thesis submitted to the Faculty of Commerce, Law and Management, University of Witwatersrand in partial fulfillment of the requirements for the of Master of Management by Research and Dissertation

August, 2009

Abstract

This study examines the transformation of the agrarian employment in the former large-scale commercial farming sector (LSCF) after the implementation of the Fast Track Land Reform Programme (FTLRP) by the government of Zimbabwe that redistributed over 80 percent of the farms to mostly landless peasants from the communal areas. The key question posed is whether the transfer of land from the former large-scale commercial farmers has created or inhibited opportunities for rural labour to gain incomes and/or livelihoods through self employment as own agricultural producers or in paid wage work. The study was based on a questionnaire survey administered in newly resettled households in Zvimba District and secondary data sources. Various statistical tools were utilised to answer the study's research questions. Firstly, descriptive statistics were used to characterise the forms of labour that have emerged in the newly resettled areas. Secondly, the Analysis of Variance (ANOVA) test was used to examine the differences in the labour utilisation across the different farm sizes allocated under the FTLRP. Lastly the Chi-Square test was used to relate different factors which were thought to affect the utilisation of labour in newly resettled areas. The study found that FTLRP has been accompanied by the degree of self employment as own producers among newly resettled households in the former wage labour market, although some hired in labour. Hired labour was dominated by casual workers. In comparison to the past scenario the size of the agricultural employment had increased, but new and former farm workers earned unviable wages and benefits and were thus less protected than those in other LSCF subsectors. There was also underutilisation and loss of skills of former farm workers employed in the former LSCF sector. Larger farms with access to capital equipment such as tractors tended to use more absolute hired labour and permanent workers per unit of cropped area, whilst the smaller farms utilised more family and casual labour per unit of cropped area. Across the small and large farms in newly resettled areas, labour use per unit of cropped area was higher compared to the former LSCF sector. In conclusion the land reform programme has the potential to generate employment and thus solve the growing unemployment problem in Zimbabwe, but the capacity of new farmers has to be enhanced to fully utilise their land which is still below its potential through the resolution of production constraints that include finance, skills, input shortages and extension services.

Declaration

I declare that this report is my own, unaided work. It is submitted in partial fulfillment of the requirements of the degree of Master of Management by Research and Dissertation in the University of Witwatersrand, Johannesburg. It has not been submitted before any degree or examination in any other University.

_____

Walter Spear Simbarashe Chambati
August, 2009

Dedication

To my wife Shelly and son, Munopaishe McDonald.

Acknowledgements

Many people have contributed immensely to the development of this thesis, too numerous to mention by name. I am grateful to Dr. Thomas Mogale for providing supervision throughout the development of this thesis. Professor Sam Moyo's advice and encouragement is also greatly appreciated. I would also like to extend my appreciation to the African Institute for Agrarian Studies (AIAS) for funding my studies and providing the primary data utilised in this study. Acknowledgement is also due to the Council for the Development of Social Science Research in Africa (CODESRIA) for the provision of a small grant to assist me during my studies. The list would be incomplete if l didn't express my gratitude to colleagues at the AIAS who encouraged me all the way and provided invaluable assistance throughout this study. Many thanks also goes to my uncle Shake Chambati and family for hosting me during my stays in South Africa. My gratitude is also due to my parents and all members of our family who have provided much needed inspiration to complete this thesis. Lastly, many thanks to my wife, Shelly and son, Munopaishe who endured long periods of my absence as l developed this thesis. May God Bless you all.

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List of Acronyms

AIAS	African Institute for Agrarian Studies
ALB	Agricultural Labour Bureau
ANOVA	Analysis of Variance
CAs	Communal Areas
CCZ	Consumer Council of Zimbabwe
CFU	Commercial Farmers Union
CSO	Central Statistical Office
ESAP	Economic Structural Adjustment Programme
FCTZ	Farm Community Trust of Zimbabwe
FEWSNET	Famine Early Warning System Network
FTLRP	Fast Track Land Reform Programme
GAPWUZ	General Agricultural and Plantation Workers Union of Zimbabwe
GoZ	Government of Zimbabwe
ICAs	Intensive Conservation Areas
ILO	International Labour Organisation of the United Nations
IMF	International Monetary Fund
LARP	Land and Agrarian Reform Project
LRAD	Land Redistribution for Agricultural Development
LSCF	Large Scale Commercial Farm(ers) (ing)
MAEMI	Ministry of Agricultural Engineering, Mechanisation and Irrigation
MDC	Movement for Democratic Change
MP	Marginal Product
MPSL&SW	Ministry of Public Service, Labour and Social Welfare
NCA	National Constitutional Assembly
NECAIZ	National Employment Council of the Agricultural Industry in Zimbabwe
NGO	Non Governmental Organisation
NR	Natural Region
NSSA	National Social Security Authority
PDL	Poverty Datum Line
PLAS	Proactive Land Acquisition Strategy
PLRC	Presidential Land Review Committee
SAP	Structural Adjustment Programme
SLAG	Settlement/Land Acquisition Grant
SSCF	Small Scale Commercial Farm
TNC	Transnational Corporation
UNDP	United Nations Development Programme
VMP	Value Marginal Product
ZANU PF	Zimbabwe African National Union Patriotic Front
ZCTU	Zimbabwe Congress of Trade Unions
ZIMVAC	Zimbabwe Vulnerability Assessment Committee
ZHDR	Zimbabwe Human Development Report

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CHAPTER ONE

INTRODUCTION, BACKGROUND AND RESEARCH QUESTIONS

1.1 Introduction

This study examines the transformation of the agrarian employment in the former large-scale commercial farms (LSCF) after implementation of extensive land reforms by the government of Zimbabwe (GoZ) that redistributed over 80% of the commercial farms to mostly landless peasants from the communal areas. Until 2000, numerous studies had been done prior to the implementation of the Fast Track Land Reform Programme (FTLRP) on the character of large scale commercial farms and the social and economic conditions of farm workers employed in these areas (see Arrighi, 1970; Clarke, 1977; Loewenson, 1992; Amanor-Wilks, 1995; McIvor, 1995; Rutherford, 1996; Moyo et.al., 2000).

The key question posed is whether the transfer of land from the former large scale commercial farmers to mostly landless peasants has created or inhibited opportunities for rural labour to gain incomes and/or livelihoods through self employment as own agricultural producers or in paid wage work. This chapter traces the historical transformation of the agrarian sector leading to the implementation of the FTLRP in 2000, in order to provide the context and framework upon which to evaluate the impacts of land reform on agrarian employment in the former LSCF sector.

1.2 Background: Pre-Land Reform Situation in Zimbabwe

At the time of independence in 1980, Zimbabwe inherited a dual agrarian structure characterized by skewed land ownership and white minority control over the country's land and water resources. This agrarian structure was characterised by a lack of social justice and problems of inefficiency (Moyo, 1995). The LSCF sector was composed of about 4,500 farmers occupying some 11.2 million hectares of land, with 34% of this land being located in the high potential Natural Regions I[1] and II, 21.5% in III and 43.9% in IV and V, whilst communal areas consisted of a population of about one million households or six million blacks on 16.4 million hectares, with 74.2% of this land in marginal areas of Natural Regions IV and V (Moyo, 1995).

Farm sizes in the LSCF sector averaged over 2 000 hectares for owner operated farms, which accounted for close to 30 percent of the total farms, while company owned and plantation estates and wildlife ranches in excess of 10 000 hectares per unit accounted for the remainder (Muir, 1994). Plantation estates were mainly owned by large transnational corporations (TNCs) such as Anglo American (the Hippo Valley Estates in the Chiredzi area) and were concentrated in the sugar and forestry sub-sectors. Production in the LSCF sector was diversified and included sugar, cotton, wheat, horticultural products, tea, dairy and beef, utilising high levels of modern technologies alongside capital intensive production systems (Loewenson, 1992; Rukuni et al, 1994; Muir, 1994). Smallholder

[1] Zimbabwe is classified into five distinct agro-ecological regions based primarily on the rainfall patterns (Vincent and Thomas, 1962). Rainfall received ranges from above 1000mm in natural region I to below 450mm in natural region V.

farmers were involved in subsistence food production on small pieces of land ranging between one and two hectares, in the drier regions, with partial integration to the markets (Moyo, 1995; Moyo, 2001). Commercialisation in smallholder farming areas was prevalent in prime potential Natural Regions I and II.

After independence, the new government adopted the "socialist development model" with a heavy state intervention in all social and economic facets aimed at redressing colonial inequities (GoZ, 1982). The government of Zimbabwe (GoZ) initiated gradualistic land reforms from 1980 up to 1996 redistributing land to the black majority population through a combination of state-led and market based land reform and resettlement, but these efforts had substantially stalled by the late 1980s. Between 1980 and 1997, the government acquired an estimated 3 million hectares of commercial farmland on which it resettled over 60,000 households (GoZ, 2001). Close to 40% of this land was acquired in the first three years of independence (GoZ, 2001). The Lancaster House Agreement of 1979 that brought independence to Zimbabwe imposed restrictions on the transfer of commercial farmland in the first ten years. Land transfers from the mainly white large-scale commercial farmers to the government for resettlement could only take place through the "willing buyer, willing seller" model and at competitive market prices with an option to be paid in foreign currency (Masoka, 1994; Moyo, 1995). This constitutional restriction, coupled to the lack of political will, unsuitability of land offered by large-scale commercial farmers for resettlement, costs of infrastructural development for resettlement beneficiaries and restrictive market prices of farms among

other reasons have largely been attributed to slow progress of land reform during this period (World Bank, 1991; Roth, 1994; Moyo, 1995).

Since the expiry of the restrictions imposed by the Lancaster House Constitution on land acquisition for resettlement in 1990, the government initiated a process of constitutional and legislation amendments to ease land acquisition. These processes commenced with the amendment of section 16 of the Constitution through the *Constitution Amendment Bill No. 11 of 1990* which eased among other things the price paid for farms from market determination to a "fair" price determined by the government and, method and period of payment. In addition the constitutional amendment empowered the government to designate any commercial farmland suitable for resettlement rather than just under-utilised land as enshrined in the Lancaster House Constitution. In line with the constitutional amendments the government repealed the *Land Acquisition Act of 1985* and replaced with *Land Acquisition Act of 1992* which incorporated the changes made to section 16 of the supreme law. Despite these changes to the legislation, the process of land acquisition remained costly and cumbersome and progress remained slow (GoZ, 2001).

The expiry of the Lancaster House agreements coincided with a major shift in economic policy in Zimbabwe in 1991, with the introduction of the Economic Structural Adjustment Programme (ESAP) imposed by the Breton Woods Institutions (IMF and World Bank). This programme was aimed at replacing the 'state interventionist' model with the 'free market' model of economic management (GoZ, 1991). The development

paradigm changed from being inward looking towards export led growth through integration into regional and global markets. Economic reforms reinforced the role of the market in the redistribution of land on a "willing buyer, willing seller" model.

The economic policy adjustment was heavily resisted by the labour movement through their apex body, the Zimbabwe Congress of Trade Unions (ZCTU) and strained their relationship with the state and ruling party Zimbabwe African Nation Union Patriotic Front (ZANU PF) and produced a document (*Beyond ESAP: a Long Term Development Strategy for Zimbabwe*) that criticised the reforms and proposed a long term development strategy (ZCTU, 1996). It is during this period that the labour movement completely severed its links to the ruling party and the state. The massive job retrenchments meaning rising unemployment and increased poverty levels among workers characterised by rising food prices and low wages propelled the labour movement into a "national debate on the larger macroeconomy and political issues of governance and state accountability" (Tandon, 2001, p. 235). With its increased confrontational stance that included the organisations of national work stay aways and food riots (in which farm workers participated) with government on its failed policies, the labour movement gained national prominence and international acclaim (see Yeros, 2001).

In time ZCTU was joined by urban based forces that included human rights and democracy civil society groups with increased external support, middle class elements, white capital (including commercial farmers) that weakened their alliance with rural workers culminating in the formation of an opposition political party, the Movement for

Democratic Change (MDC) that split the workers from the ruling ZANU (PF) party (Tandon, 2001). This process increased urban based demands for land and occupations (Moyo, 2000; Yeros, 2002)

On the other side of the divide, amid economic decline there were growing calls from the liberation movement and landless peasants for the fulfillment of one the key objectives of the struggle, land redistribution. In 1998, the Government of Zimbabwe sought to reaccelerate the land reform and resettlement program through a joint government-donor initiative facilitated by the United Nations Development Programme (UNDP). Donors committed to funding this second phase of the Land Reform and Resettlement Programme aimed at acquiring 5 million hectares of land and settling 91,000 families (UNDP, 2002). But this initiative collapsed after donors were not prepared to fund[2] an Inception Phase over a two year period and government's reluctance to comply with conditions set under this initiative (UNDP, 2002). There were "spontaneous" land occupations on large scale commercial farms by landless peasants in 1998 during and after the failed Land Donors Conference (Moyo, 2000). This period was also accompanied by growing calls for constitutional reform from a coalition of oppositional forces led by the National Constitutional Assembly (NCA) which in itself had roots from the ZCTU, which the government acceded to in 1999 (Tandon, 2001, Yeros, 2002).

To cater for the growing demand for land from landless peasants and war veterans of the liberation struggle and increase the speed in the process of land acquisition the

[2] Only a paltry 5 million United States Dollars were made available by the World Bank for pilot testing on a small scale that resettled 4,697 families on 145,000 hectares (UNDP, 2002).

government inserted a clause which enabled it to compulsorily acquire land without any compensation for the land itself in draft constitution that was set to undergo a national referendum in 2000. This together with earlier amendments of the *Land Acquisition Act* sought to remove the constraints embedded in the Lancaster House constitution which required the government to pay compensation for land at the market price. This process set the stage for a confrontation between white farmers and the government.

On their part white farmers generously funded the new opposition party, MDC and the NCA to campaign for a "NO VOTE" of the draft constitution to thwart radical land reform. The concerns of the MDC and NCA in the new constitution were that it entrenched powers in the executive and that inputs of the people were manipulated in constitutional reform process. White farmers, in addition mobilised their workers to rally behind this cause. Interestingly, white farmers who had a bad record of worker mistreatment since the colonial period that is well documented in literature (see Clarke, 1977; Amanor-Wilks, 1995; McIvor, 1995; Moyo et. al., 2000; Rutherford; 2001) advocated higher wages for farm workers and improvement in housing facilities through the Agricultural Labour Bureau (ALB).[3]

With the success of the NO VOTE in the constitutional referendum in February 2000, focus shifted to the electoral contest pitting the ruling ZANU (PF) and MDC and other fringe political parties later that year in the fifth parliamentary elections since independence. White farmers continued to pour funding into the MDC and coerced their

[3] The Agricultural Labour Bureau is an arm of the Commercial Farmers Union that was dedicated to dealing with labour issues in the commercial farms including being their representative to the National Employment Council for the Agricultural Industry.

workers to support this new party in return for their job security, as farms would not be acquired if it won the general elections (Sadomba, 2008). War veterans, ZANU (PF) and peasants viewed these developments as a tactic to derail one of the key goals of the liberation struggle. The government proceeded to further amend the *Land Acquisition Act of 1992* through the *Land Acquisition Amendment Act of 2000*, which removed its obligations to compensate for the land itself but only for improvements made to the land. War veterans mobilized peasants, farm workers and unemployed urban workers for the massive land occupations of the white farms just after the national constitutional referendum that paved the way for the implementation of the radical FTLRP in polarized environment.

As enunciated in a government policy document, the objectives of the second phase of the Land Reform and Resettlement Programme were as follows:

- To restore racial balance in land ownership by removing the racial inequities created by colonialism;
- To decongest the over-crowded communal areas whose economic and environmental value continues to decline precipitously;
- To tackle rural poverty and improve food security at national and household levels;
- To broaden and diversify its agricultural production base by ensuring greater and wider access to, greater efficiency and utilization of, the finite land resource; [and]
- To develop commercial agriculture within the indigenous community. (GoZ, 2001a; pp 6-7).

In addition to the objectives, the government increased the targets for both the land to be redistributed and beneficiaries to 9 million hectares to cover 160,000 (A1 model - peasants) and 51,000 (A2 model – small to medium and large commercial farmers) (UNDP, 2002).

Rural Employment prior to Fast Track Land Reform Programme

Rural employment was composed of wage and non-wage labour forms, mostly employed in agriculture. Self employed communal area farmers constituted the bulk of non-wage agricultural employment, while farm workers employed in the LSCF sector were the majority of the wage workers. In 1999, the total agricultural labour force was composed of 2 018 808 people, of whom 84 percent and 16 percent were non-wage self employed communal area workers, and wage workers respectively (CSO, 2000; 2001).

Table 1.1 Disaggregation of Wage Employment in the LSCF Sector, 1983-1999

Year	Permanent Employees		Casual Employees		Total No. of Employees
	No.	% of total no of workers	No.	% of total no of workers	
1983	166 411	76.3	51 761	27.3	218 172
1996	167 911	50.2	162 670	49.8	334 521
1997	172 926	51.0	166 086	49.0	339 012
1998	171 491	52.9	152 798	47.1	324 289
1999	169 257	52.5	153 423	47.5	322 680

Source: CSO (1984; 2001)

The wage labour market was composed of over 320 000 full and part time workers in the 1990s, of whom 52.5 percent were full time employees (CSO, 2001; Table 1.1) employed on an estimated 6,000 farms.

There are no disaggregated data on the gender composition of the agricultural labour force in the self employed, communal sector but some empirical studies have shown that women provide the bulk of the labour for both agricultural production and social reproduction in communal area households (see e.g. Muchena, 1994; Potts, 2000). This then suggests that the bulk of the self employed communal area farmers were women. In wage employment, the proportion of women averaged around 30 percent of the total wage agricultural labour in the late 1990s (Table 1.2). Women were underrepresented in

the permanent workers category, accounting for less than 10 percent in the 1990s, but constituted the majority of those in less secure, casual labour.

Table 1.2 Agricultural Wage Employment by Sex, Zimbabwe 1996-1999

Year	Total				Permanent				Casual			
	Male		**Female**		**Male**		Female		Male		Female	
	No.	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
1996	**234 685**	70	**99 836**	30	**154 233**	92	**13 618**	8	**80 452**	48	**86 218**	52
1997	**236 103**	70	**102 909**	30	**157 828**	91	**15 098**	9	**78 275**	47	**87 811**	53
1998	**226 544**	70	**97 745**	30	**155 519**	91	**15 972**	9	**71 025**	46	**81 773**	54
1999	**221 838**	69	**100 842**	31	**152 788**	90	**16 469**	10	**69 050**	45	**84 373**	55
2000	**216 630**	69	**97 789**	31	**150 322**	90	**17 137**	10	**66 308**	45	**80 652**	55

Source: CSO (2001)

A significant proportion of paid agricultural workers can trace their origins in Malawi, Mozambique and Zambia (Clarke, 1977). Because of the way they had been displaced off their land by colonialists, Zimbabweans shunned working in the LSCFs (Clarke, 1977). As a result the foreign labour recruitment policy adopted by the Rhodesian government brought in Malawians, Mozambicans and Zambians as cheap non-permanent labour to work in the farms and mines, and they accounted for 50% of the total wage agricultural labour force in the 1950s (Clarke, 1977). As land alienation took its toll coupled with introduction of hut and poll taxes, peasants from the overcrowded native areas were forced to join the migrant proletariats in the wage labour market in the farms and urban industries (Clarke, 1977; Amanor-Wilks, 1995; Rubert, 1997) such that the share of migrant workers declined from 60% in 1956 to 43% in 1969 (Clarke, 1977). But by 1974 the share of migrant workers employed had decreased to 34% and more recently to between 10 and 30 percent (FCTZ, 2000; MPSL & SW, 1998; Magaramombe, 2002; Sachikonye, 2003). Foreign farm workers that remain on LSCFs are now second or third

generation Zimbabweans, although most do not posses official documentation to qualify them as such (Magaramombe, 2001).

1.3 Context: Post Fast Track Land Reform Situation in Zimbabwe

The extensive redistribution of land under the FTLRP opened up a new framework of land and labour relations where there were 4 500 farmers (approximately 5 000 farm units) socially reproducing on 11.2 million hectares, mostly on the basis of export focused commercial agriculture, there is now a relatively more equal, tri-modal agrarian structure comprising small, medium and large farms with an estimated 150 000 family farms (Moyo, 2004; Moyo and Yeros, 2005; Moyo, 2006; Moyo and Yeros, 2007).

Table 1.3: Government Proposed Farm Sizes for Resettlement Models

Agro-ecological zone/Natural Region[4]	**A1 (ha)**	**A2**			
		Small-scale (hectares)	**Medium-scale (hectares)**	**Large-scale (hectares)**	**Peri-urban (hectares)**
I	12	20	100	250	2 to 50
IIa	15	30	200	350	
IIb	20	40	250	400	
III	30	60	300	500	
IV	50	120	700	1500	
V	70	240	1000	2000	

Source: GoZ (2001b)

In some academic circles the FTLRP has been dismissed as a chaotic processes marred by violence meant to buttress the rule of ZANU (PF) as a result of the land occupations prior to land acquisitions and allocations by the government (see Marongwe, 2003;

[4] Zimbabwe is classified into five distinct agro-ecological regions based primarily on the rainfall patterns (Vincent and Thomas, 1962). Rainfall received decreases as you move from natural region I to V.

Masiiwa and Chipungu, 2004; Sachikonye, 2004; Davies, 2004) rather than a socio-economic process aimed at redressing past injustices and inefficiencies.

Under the FTLRP, redistribution occurred under two models, with recommended farm sizes depending on the potential of the agro-ecological region, These were the A1 smallholder scheme, granting an average of 12 to 70 hectares per family, and the A2 commercial farm settlement scheme, with farm sizes of 20 to 2 000 hectares (GoZ, 2001; Table 1.3).

Table 1.4 New Agrarian Structure in Zimbabwe

Farm Class	Land Tenure	Farms/Households		Area		
		Numbers	% of Total	Hectares (million)	% of Total	Farm Size(ha)
Smallholder	Communal	1 100 000		16.400		15
	Old Resettlement	72 000		3.700		51
	A1	130 438		4.200		32
	Sub-total	*1 303 000*	*97.9*	*24.300*	*72.9*	*19*
Small to Medium Scale Commercial	Old SSCF	8 000		1.400		175
	Small A2	11 056		1.300		87
	Sub-total	*22 900*	*1.7*	*2.700*	*8.1*	*118*
Large Scale Commercial	Medium-LargeA2	1 500		0.900		600
	Black LSCF	1 440		0.900		625
	White LSCF	1 377		1.200		871
	Sub-total	*4 317*	*0.3*	*3.000*	*9.0*	*695*
Corporate Estates	Company	743		1.400		1 884
	Church	64		0.041		641
	Parastatal	153		0.600		3 922
	Sub-total	*960*	*0.1*	*2.041*	*6.1*	*2 126*
Transitional	Unallocated			1.300		
Total		**1 331 177**		**33.300**		

Source: Moyo and Yeros (2005)

However, the sizes of the plot subdivisions vary across the provinces and the natural regions due to differences in interpretation of the farm size policy and the circumstances within the specific areas such as the overwhelming demand for land which led to the

reduction of farm sizes to accommodate more beneficiaries (Presidential Land Review Committee [PLRC], 2003; Sukume, Matondi and Moyo, 2003). The new trimodal farm structure has been established on the 10 million hectares formerly occupied by 4 500 mainly white, large scale commercial farmers (Table 1.4; Moyo, 2004; Moyo and Yeros, 2005; Moyo, 2006; Moyo and Yeros, 2007).

The small scale established under the FTLRP is composed of about 140 000 farm units of below 50 hectares each (including A1 and small A2 holdings). The medium scale category is made up of a range of farm units of an average of 700 hectares each, while the large scale sector is comprised of more than 300 units of over 1 500 hectares (including some of more than 3 000 hectares). There is a variety of types of landownership that includes family farms, companies, parastatals and other institutions (church, NGOs etc.).

Under the A1 model land was distributed under two sub-models: villagised and the self contained models. In the villagised model, beneficiaries have a separate piece of arable land for crop production which is usually adjacent to the homestead and have access to grazing land that is communally shared by beneficiaries within the same former large-scale commercial farm. Whilst, on the self contained plots both the arable and grazing land; and homestead are located within the same subdivision.

In the A2 model, sub models can be categorized as follows: large-scale; medium scale; small scale; and peri-urban. The categorization is based on the size of the plot subdivision except peri-urban land allocations. The large-scale sub model is composed of two categories: (1) remaining white large-scale farmers who retained a portion of their "wholesome" farm and (2) beneficiaries who were allocated "wholesome" farms which were not subject to any subdivision process. Again the size of the portions retained by the remaining white large-scale commercial farmers also varies across the provinces. The peri-urban A2 plots are those located within (+/- 40km) from a major urban centre.

After the implementation of the land reform programme, the government dismantled the freehold property rights system in the former LSCF sector on all land compulsorily acquired in favour of state ownership as enshrined in *Constitutional Amendment No. 17 of 2006*. Large scale commercial farms not compulsorily acquired by the government for land reform still remain under freehold guaranteed by title deeds registered in the Deeds Registry. The beneficiaries of the land reform programme derive their rights through the state in the form of permit tenure or "use rights" and 99 year legally enforceable leases for A1 and A2 households respectively. Land beneficiaries were initially offered temporary land "offer letter" before the issuance of the permits and 99 year leases. Since 2006, the government has begun to issue the 99 year leases to recommended A2 farmers who got former large-scale commercial farms that were not subdivided and thus requiring no further land surveys on the basis of the current agricultural production profiles with close to 7% issued to date (Moyo, 2007).[5]

[5]Delays to issuance of the leases has been attributed to legal impediments of land acquisition prior to *Constitutional Amendment No. 17 of 2006* which disqualified the courts to entertain any contest of

Thus, redistributive land reforms in Zimbabwe have shifted the character of farms and opened a new framework in which labour reproduces itself in the newly resettled areas in a differentiated landholding structure with a broad base of beneficiaries from different class backgrounds. The purpose of this study is to examine how the land reform has affected the reproduction of labour, and in what forms, in the newly resettled areas and the 'benefits' arising from its reproduction. The assessment of the impacts of land reform on how labour reproduces itself are critical as it forms the core of the livelihood strategies (employment and incomes) of the majority of asset poor, rural people, as well as playing a major role in determining the production of agricultural commodities beyond the needs of rural households to generate surplus for sale in local, domestic and export markets, thereby contributing to broader social and economic development.

1.4 Problem Statement

Redistributive land reform in the former settler colonies of Southern Africa raises peculiar problems regarding who benefits from land and its associated opportunities, due to the nature of existing agrarian and landholding systems and the broad based character of demand for land. Unlike the feudal and tenancy systems elsewhere, the landholding and agrarian systems in Southern Africa, with minority control of large tracts of agricultural land, created a peculiar form of labour management system. Such labour

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compulsory land acquisition, in addition to the time consuming land offer verification and capacity constraints for land surveys within the state institutions (Moyo, 2007).

lived on small portions of the large-scale commercial farms in farm compounds providing full time labour and, in some cases, with access to land for minor production for own sustenance, and accommodated temporary workers from surrounding communal and other areas. Large groups of agricultural workers lived in the farm compounds at the mercy of landowners with insecure agricultural and residential tenure rights that were linked to employment on the farm, an arrangement that disadvantaged workers and entrenched the "totality of employer control over the workers" (Clarke, 1977; p. 28).

Thus, labour reproduction on the large scale capitalist farms was mostly defined by the sale of labour on either a full or part time basis by rural workers. Large scale, capitalist farms were predominantly involved in export agriculture, with few farmers producing commodities for local or domestic markets. Rural workers earned wages that were normally below their subsistence needs and thus endured precarious livelihoods in the commercial farm labour market (Loewenson, 1992; Amanor-Wilks, 1995; McIvor, 1995). While, large scale, capitalist farmers earned huge rewards from export agriculture, these were not transferred to the workers who toiled to achieve this success (Tandon, 2001). There existed a stark contrast between the livelihood patterns of agricultural workers and landowners in the large scale commercial farming sector. Large scale commercial farmers had total control of freehold land and its associated natural resources, to the exclusion of agricultural workers and their families, and surrounding communal area residents.

With the transfer of land from the landed class to mostly landless peasants in a redistributive reform, a key question posed is what are the effects of this process on labour reproduction and accompanying livelihoods in the formerly predominantly wage labour market of the large capitalist farms. Specifically, it can be asked whether land redistribution has created opportunities for rural labour to gain incomes and consumption through self employment as own producers or in paid work. Much of the debate on the effects of redistributive land reforms has been narrowly focused on job losses incurred by farm workers formerly employed in the LSCF sector, ignoring the other opportunities created for labour to reproduce itself among the beneficiaries and new workers. Although, some former farm workers benefitted from land access under the FTLRP, redistribution mostly involved the relocation of peasants from the communal areas and beneficiaries from among the urban working and middle classes. Specific questions regarding how the transformation of the agrarian structure through land redistribution and its accompanying processes affect the reproduction of labour are outlined in the next section.

1.5 Purpose of the Study

Thus, the purpose of this study is to assess the impacts of the agrarian transformations brought about by the new land ownership structure and production relations on the agrarian labour processes in Zimbabwe. The study assess the changes in agrarian labour processes with specific reference to the situation obtaining in the former large-scale

commercial farms before the land redistribution and is guided by the following research questions:

(i) What changes have occurred in the forms of labour mobilised and structure of employment in the agrarian rural labour market since the land reform?

(ii) What factors affect the demand for farm labour in the new resettlement areas?

(iii) What are the incomes and benefits derived from labour reproduction in the new resettlement areas?

(iv) What are the labour policy implications arising from the implementation of the land reform programme?

1.6 Organisation of the study

This study is organised into seven chapters. Chapter two reviews theoretical literature on labour markets and international experiences of land reform and their outcomes on agrarian employment in Africa, Asia and Latin America. Chapter three details the research methods and methodology utilised in this study. The next three chapters present the findings and analysis of the transformation of agrarian employment after the implementation of the FTLRP. The final chapter provides a conclusion and policy implications arising from the findings of this study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter provides a review of theoretical and empirical literature on agricultural labour markets. Firstly, this chapter reviews the theoretical framework adopted to assess the impacts of land reform on agrarian labour processes in Zimbabwe's former large-scale commercial farms. Secondly, the chapter reviews the empirical literature on the different outcomes land reforms have had on agrarian labour process in countries where they have been implemented internationally and regionally. Lastly, the chapter traces the transformation of the agricultural labour policy framework leading to the FTLRP and their implications for the new reformed agrarian structure in Zimbabwe.

2.2 Theoretical Framework: Neoclassical theory of labour markets

This study adopts the neoclassical theory of labour markets to examine the impacts of land reform on the agricultural labour market in Zimbabwe. Labour market studies tend to be demand or supply oriented (see Bardhan, 1979; Rosenzweig, 1980; Evenson and Binswanger, 1984; Skoufias, 1993; Frohberg, 1994; Lindbeck and Snower, 1994; McReynolds, 1998; Vienneau, 2005). It is not the purpose of this study to break this trend and as such the study focuses on the demand for agricultural labour after the land reform in Zimbabwe. Theoretically farm household agricultural labour demand can be located within the neoclassical economic theory of labour markets.

Neoclassical economic theory posits that the demand for agricultural inputs is determined by the demand of the final product and hence it is termed "derived demand" (Coleman and Young, 1989; McConnell and Brue, 1989; Ehrenberg and Smith, 1991). The key underlying assumption in the theory of derived demand is that farmers are motivated by the goal of profit maximization, i.e. a farm household will employ a factor of production (labour) until its contribution to total revenue is less than its respective contribution to total costs. In the short run, this occurs at the point where the Value Marginal Product of labour (VMP_L) is equal to the wage rate or price of labour (W or P_L) under competitive conditions:

$$VMP_L = (W)P_L$$

Where the $$VMP_L = MP_L \times P_Y$$

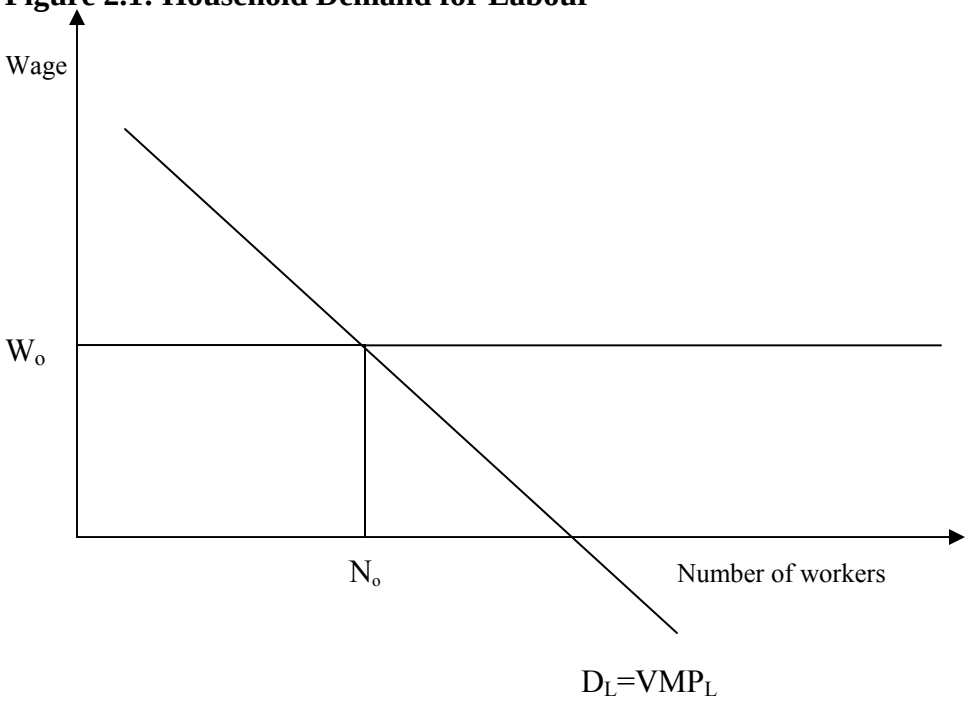
- MP_L is the Marginal Product of Labour (the additional increase total output as result of an unit of labour added to the production process);
- P_Y is the price of the final product

The demand for labour is derived from its marginal product and is represented by the VMP_L curve ((Coleman and Young, 1989; McConnell and Brue, 1989; Ehrenberg and Smith, 1991). The equilibrium can be represented graphically as shown in figure 2.1. The farm household will employ labour until VMP_L (demand for labour = D_L) is equal to the market wage rate (W_o). At that point the farm household employs N_o workers.

Under competitive market conditions, the farm household is a price taker i.e. it only employs an insignificant proportion of the total labour supply thus has no influence on the price of wages. Theoretically at the farm household level the demand curve for labour

(single variable input [labour], single fixed input [capital]) is represented by the VMP_L curve and is affected price of labour (wage), final product price, and technological change (Coleman and Young, 1989). There is an inverse relationship between the demand for labour (VMP) and the wage rate under competitive market conditions (i.e. demand curve is downward sloping, see figure 2.1). This is because of the diminishing marginal productivity. The diminishing marginal productivity is a derivative of the law of diminishing marginal returns which states that: "as successive units of a variable resource (labour) are added to a fixed resource (capital), a level of total product is reached beyond which the marginal physical product of that variable input declines (McConnell and Brue, 1989; p. 116).

Figure 2.1: Household Demand for Labour



In the long run, the farm household can vary both labour and capital. The profit maximization is now not only affected by varying the level of labour employed, but also by the level of resources employed in the production process. In order to maximize profits, the cost of employing the last unit of labour should yield the same increment to revenue as the cost of employing the last unit of capital. Put differently, to maximize profits farm households must employ combinations of capital and labour in the production process until a point where their relative marginal productivities are equal to their relative costs or when the VMP of both capital and labour are equal (Flanagan et. al, 1984; Coleman and Young, 1989; McConnell and Brue, 1989; Ellis, 1993 etc.)

$(W/C) = (MP_L/MP_K)$

Where

- W is the wage rate
- C is the cost of capital
- MP_K is the marginal product of capital

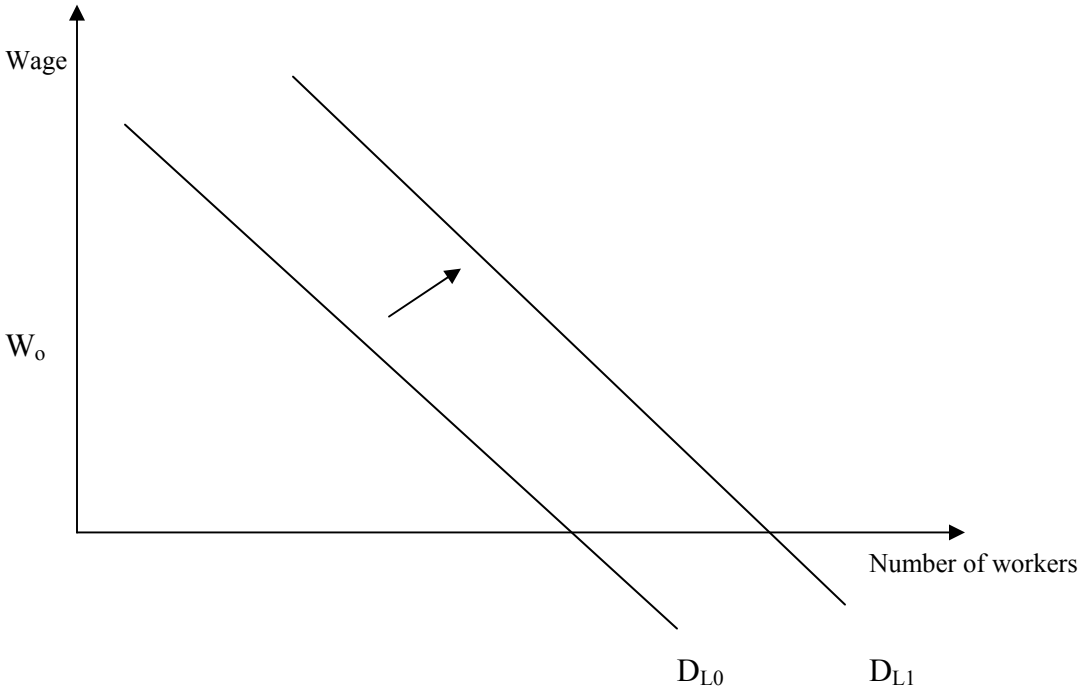
Thus depending on the incentives, the farm household will substitute between the two factors of production (factor substitution) until the point of equilibrium is reached. But since the production process involves more than two inputs (capital and labour) other factors that need to be taken into consideration in the estimation of the demand function include prices of other factors of production and the quantities of fixed assets (e.g. land). Further extensions to the micro-economic theory of labour demand are thus required. In a multi-input production process the equilibrium is achieved at the point where the VMP of all inputs employed in the production process are equal. Thus changes in the prices of other inputs employed by the firm affect the quantity of labour employed. In addition it is

important to note that the labour input itself is not homogenous and there might be different categories which can be differentiated by age, sex, education, occupation etc. (Flanagan et. al., 1989). The demand for labour within the farm household is not only a function of its wage rate but also of wage rates of other categories of labour employed by it and prices of other factors of production.

In addition to those already highlighted, other major determinants of affecting the quantity of labour demanded by the household are product (output) demand; productivity; and number of employers (McConnell and Brue, 1989). *Ceteris paribus*, a change in the demand for an output will shift the demand curve of labour in the same direction. For instance, an increase in the demand for a product is accompanied by an increase in the demand for labour that can be represented by a shift in the demand curve to the right (from D_{L0} to D_{L1}, see figure 2.2). Similarly, a change in the marginal product of labour will also shift the demand curve in the same direction. Then the number of employers affects the demand for labour at the market level. The market demand for labour is the horizontal summation of all individual household labour demand curves (Coleman and Young, 1989; McConnell and Brue, 1989; Ellis, 1993 etc.). A change in the number of employers, *ceteris paribus*, will shift the demand for labour in the same direction. On the effect of the prices of other resources employed in the production process it depends on their relationship with labour, whether they are substitutes or complements of labour. For complements, when the price changes the demand of labour also changes in the same direction. The reverse is true for substitutes. A change in all the determinants of labour

demand except for its own wage results in a shift of the demand curve. A change in its own wage results in a movement along the same labour demand curve.

Figure 2.2: Shift in the Labour Demand Curve



Equally important to highlight in this discussion of neoclassical economic theory of labour demand is the extent to which the quantity of labour demanded by the household responds to changes in the wage rate and other determinants i.e. the elasticity of labour demand. The elasticity of labour demand can be decomposed into own wage elasticity of labour demand and the cross wage elasticity of labour demand. The own wage elasticity relates to the responsiveness of the quantity of labour demanded to a change in the wage rate whereas the cross wage elasticity measures the responsiveness to change in the prices

of other determinants. The responsiveness of the quantity of labour demanded is determined by four factors identified in the Hicks-Marshall law (Flanagan et. al., 1984; McConnell and Brue, 1989; Watchel, 1992):

(1) Elasticity of product demand: since the demand for labour is a derived demand, if the demand for the final product is elastic then it follows that demand for labour is also elastic as well;
(2) Ratio of labour costs to total costs (Proportion of labour costs in relation to total costs): the higher the proportion of labour costs in the total costs, the higher the elasticity of demand for labour;
(3) Substitutability of other inputs: the higher the substitutability of other inputs for labour, the higher the elasticity of demand; and
(4) Supply elasticity of other inputs: the elasticity of demand for labour will be higher if other factors of production are abundantly available thus making them relatively cheaper and can substitute labour more readily when there is an increase in the price of labour.

In addition, Watchel (1992) alludes to an additional factor that affects the responsiveness of demand for labour which is termed the "fixed cost" of labour (p. 44). Under this scenario the demand for labour tends to be inelastic, the higher the investment to employee training that is specific to that particular firm by an employer.

It might be argued that neoclassical economic theory is invalid in assessing labour response in peasant households since profit maximization is not their main goal. The fact that the majority of peasants are not motivated by the goal of profit maximisation rather by the need to meet household subsistence requirements is common in development literature. But the "efficient but poor" peasant hypothesis espoused by Schultz (1964) justifies the suitability of the profit maximising assumptions to the peasant sector as explained by Ellis (1993). Frank Ellis contends that the "efficient but poor" hypothesis conforms to the goal of profit maximisation since "…. efficiency and profit maximisation are two sides of the same coin at the level of the individual [household] production unit, you cannot have one without the other" (p. 63). As already highlighted this theory requires competitive market conditions; further clarifications are required as peasants usually operate under imperfect market conditions and tend to be partially integrated into the economy. Ellis (1993) highlights three points that require clarification:

> "First the profit maximising hypothesis does not require the existence of profit in the form of a sum of money. What it requires is for there to be adjustment of inputs or outputs which would give the household a higher net income whether measured in money or physical terms, and this equally applies to a near subsistence household as to a fully monetised one. ……. Secondly, profit maximisation has both a behavioural content (motivation of the household) and technical-economic content (farm economic performance as a business enterprise)……. It is therefore concerned less with the way the farm household reaches its decision than with the outcome of those decisions for the efficiency of the farm as firm. …..Third, even if the nature of the peasant economy inhibits the attainment of efficiency in its strict neoclassical sense, this does not mean that a strong element of economic calculation cannot exist in the context of multiple goals and constraints of the farm household. The existence of such an element is infact, virtually an axiom of most agricultural policy and planning in developing countries. Thus, partial or constrained profit maximisation may exist even if strict efficiency is not observed." (p. 64)

In general, labour studies have also been dominated by economists for whom agrarian labour relations lack the social phenomena that corresponds to the usual definitions of 'employment' (Leavy and White, n.d). In the neoclassical models, 'labour' tends to be

rigidly classified as earning a wage in return for its services sold in productive activities. Thus, regardless of the role of unpaid labour in rural areas – as self employed workers engaged in productive activities for both own consumption and surplus for sale in local and domestic markets – tends to be ignored. Furthermore, labour in rural areas is involved in multiple activities in the agricultural sector and other non-farm income sources that contribute to the households' social reproduction mix.

In line with neoclassical economic theories of labour markets, most studies (Teal, 1997; Mengistae, 1998a and 1998b; Krishnan et al, 1998; Glick, 1999; Lachaud, 1994; de Geest and van der Hoeven, 1999) on labour in Africa have tended to focus their analysis on urban labour markets. The few studies that have attempted to analyse rural labour relations have concentrated on labour on capitalist farms, where wages were paid, allowing for conformance with neoclassical definitions of labour (Arrighi, 1970; Clarke, 1977; Loewenson, 1992; Amanor-Wilks, 1995 and 2001; McIvor, 1995; Rutherford, 2001; etc.)

In adopting the neoclassical theory of labour markets, this study's approach is to emphasise the importance of labour studies to recognising the presence of both wage and non-wage labour in the rural areas beyond the neoclassical economic definition of what constitutes labour. As suggested by Leavy and White (n.d.) there is a need for the neoclassical theory of labour market models to consider the following variables which tend to be the missing link in models assessing peasant farm household labour decisions: social institutions and networks (reciprocal labour relationships; division of labour and

the endogenous nature of family size) and the nature of agricultural production (seasonality of production; complementarity of inputs and uncertainty related to natural phenomena such as drought). Social networks or connections are critical to employment decisions for both workers and employers in the labour market. For instance, in labour markets, the facilitation of employment and direct hiring of relatives from the extended family is common. Job seekers are more likely to seek work where they have social networks and are more likely to be hired in such cases.

Rather than being preoccupied with rural labour's utilisation in the agricultural sector alone, the study also acknowledges that labour reproduces itself in a multiplicity of activities beyond the farm. For example, "de-agrarianisation" or "de-peasantisation" and livelihoods diversification theories emphasise the need to assess the reproduction of labour beyond farming activities (see Bryceson, 1999). The role of social networks in the agrarian labour relations in the countryside is also taken into account in terms of how these affect the hiring in and out of family labour and the work relations arising from these arrangements.

Before the study moves on to highlight specific empirical examples both regionally and internationally, first some theories are presented here that have been advanced to predict the impacts of land reform on agrarian labour processes.

2.3 Theoretical Impacts of Land Reform on Agrarian Labour

These theories conform to micro-economic theory of labour demand. One dominant set of theories envisage that the transfer of land from the minority landed elites to the majority of peasants and landless workers enhances/increases the utilization of labour (Dorner, 1992; Dorner and Kanel, 1971; Lipton, 1977; Nicholls, 1969; Thiesenhusen and Melmed-Sanjak, 1990). They contend that this results from the inverse relationship between farm size and production per hectare (farm size efficiency hypothesis), or through the related inverse relationship between farm size and the quantity of labour used per unit of area (Ellis, 1993). This so because intensity of land use is higher in small farms compared to large farms, meaning also the low employment of factors of production (including labour) and lower yields as farm size increases (Ellis, 1993), put differently small farmers are more efficient than large farmers at the individual farm level. Newell et. al. (1997) provides an alternative explanation to the inverse relationship between farm size and production per hectare. They argue that since large farms utilise a higher proportion of hired labour than small farms that rely mostly on family labour the inverse relationship results from the fact family members devote more labour effort than hired workers. Hence, more labour will be utilised through the subdivision of large farms into small ones and their subsequent redistribution.

The higher utilization of labour per unit area compared to larger farms was extensively tested by Berry and Cline (1979) as such they conclude that the outcome of land reform is to enhance labour utilization: "….. land redistribution should therefore be expected to

raise total output by combining the underused labour from small farms and the landless workforce with underused land on large farms[6]. Nor is there likely to be a sacrifice of potential efficiency from land redistribution because it is unlikely that there will be significant economies of scale for actual farming operations" (p. 29). In addition, the large-scale capitalist's farms are highly mechanized (or utilise labour saving technologies) and the transfer of land to poor peasants, expensive technology will be substituted for by cheaper labour (Ellis, 1993; Lipton, 1996; McReynolds, 1998). Land reform is thus expected to enhance factor combinations and better allocation of land and labour and increase in the demand for agricultural labour is circumstantial and is likely to differ from country to country (Dorner, 1972).

In line with micro-economic theory of the market demand for labour, literature predicts that the increase in the number of farm households through redistribution has the potential to increase agricultural employment in the reform sector (see McReynolds, 1998). In addition this increase in the number of farm households can create competition for labour amongst reform beneficiaries bidding up wages and benefits for workers resulting in better and sustainable livelihoods for this group.

The debate within the proponents of enhanced labour utilization resulting from land reform focuses on the nature and form of agricultural employment: whether the jobs created or enhancement of labour use will be in the form of family or wage labour? On

[6]Well before the FTLRP only 40% of the gross arable land in the LSCF sector was cultivated in Natural Region I and 36% and 8% in Natural Regions II and III respectively (Roth, 1994; see also World Bank, 1991; Moyo, 1995 and Moyo, 2000 for a discussion on land underutilisation in the LSCF sector in the post independence period in Zimbabwe).

the one side of the debate, since peasants and landless workers who form the majority those employed in the large farms before reform, are potential beneficiaries of land they will devote their time working on the newly acquired lands reducing the incidence of wage employment (Herring, 1983; Paige, 1996; Thiesenhusen, 1989 quoted in McReynolds, 1998) resulting in the growth of family labour utilization in the reform sector. The situation in Zimbabwe is complicated as landless peasants/workers employed in former large scale commercial farms seem to have not largely benefited from the land reform process through allocation of their own personal lands for various reasons (see Chambati and Moyo, 2003; Magaramombe, 2003; PLRC, 2003 etc.). The majority of peasant beneficiaries of the land reform are from the communal areas. Thus, landless workers are likely to remain within the employ of agriculture actively seeking full or part-time wage employment among new beneficiaries and remaining capitalist farms. Whilst on the other hand the peasantry (majority of beneficiaries of land reform) not previously part of the LSCF sector is likely to transfer their modes of production which are reliant of family labour into the newly resettled areas. But with increased land sizes compared to the peasant sector (an average of six times the arable land) the labour requirements might be onerous for the family and might require assistance of part time waged labour during peak periods. Thus, the study envisages a combination of family labour utilization and waged labour among peasant reform beneficiaries.

Others contend an increase in semi-proletarianisation through the availability of more wage job opportunities created by the reform process. Semi-proletarianisation is a phenomenon whereby small land owners combine petty agricultural production with

wage work to sustain their livelihoods (Moyo and Yeros, 2005; see also McReynolds, 1998). Kevane (1994), Reardon (1997), Bryceson (1999) have shown the increasing importance of off-farm rural income (including non-farm and farm wage work) in the developing world and consequently the economic diversification occurring in the rural sector. Thus land reform will tend to increase semi-proletarianisation, as wage work constitutes an important source of income. This is compounded by poor and uncertain returns associated with the agricultural production in Africa as shown by Bryceson (1999) in Tanzania. Case studies in rural Tanzania found that in addition to wage work being a coping strategy to crop failure small land owners tend to migrate to nearby tea estates in search of wage work because the marketing infrastructure in the area poorly developed. Leavy and White (n.d.) sum up the argument in favour of semi proletarianisation: "People [smallholder/peasants] want consumer goods and for that they need cash which is not easily derived from agricultural production which is subject to declining world market prices" (p. 16) It is important to note that semi-proletarianisation is not only a common phenomenon within the rural sector. A study of several trade unions in Zimbabwe (Peta et. al., 1991) quoted in Moyo and Yeros (2005) highlighted that 75% of the households interviewed maintained rural homes where they practiced subsistence or semi-subsistence agriculture in addition to wage work in the urban areas.

So far the study has highlighted theoretical literature predicting an increased demand for labour as one of the outcomes due to improved factor combinations in the reform sector. Most literature highlighting that land reform will not be necessarily accompanied by a growth in agricultural labour demand cites political, institutional and social factors as the

impediments towards achieving this goal. Those who base their predictions on economic theory allude to the "economies of scale" in agriculture (Adams, 2000; see also Lipton, 1996). This is in direct contradiction to the "farm size efficiency" hypothesis and seems to be far-fetched, as the underutilisation of land in large farms is well documented (see footnote 6). More so economies of scale in agriculture have been found to be limited to a few plantation crops (sugar, tea, coffee etc.), yet the majority of smallholders are involved in food crop production (Bryant, 1998; Adams, 2000). Adams (2000) further highlights that economies of scale related to the use of heavy machinery can be eliminated through contract harvesting and ploughing, whilst smallholder outgrower schemes have been successful in plantation crops. They argue that large capital intensive farms are more economically efficient than small farms as diseconomies of scale set in when there is a decrease in size. As such there tends to be low input use (including labour) on small farms.

Whilst others note that if the institutional arrangements in place before land reform that were biased towards capital intensive large scale farms are not adjusted leading to no change in the labour-land and capital-labour ratios then agricultural labour demand will remain stagnant (Dorner, 1972; Eckert, 1996; de Klerk, 1996; Kirsten, 1996). Agreeing with this argument de Janvry (1981a) and Kirby (1973) suggest that land reform with little or no support services (extension, credit, inputs, infrastructure etc.) tends to enlarge the pool of cheap agricultural labour among the reform beneficiaries as the capacity to sustain their livelihoods on their pieces of land is limited. As a result to supplement their incomes small farmers will tend to seek alternative employment elsewhere (see also;

Bryceson, 1999; Reardon, 1997; Newell et. al., 1997; Kevane 1994). This scenario is very likely in Zimbabwe, as post resettlement support has been hampered by several constraints. Although, the government has initiated several support schemes in the form of input subsidies and credit to enable productivity in the peasant and commercial models of the reform sector, these have been hampered by limited financing, shortages on inputs especially fertiliser and have not been able to reach out to the majority of resource poor farmers (World Bank, 2006). Furthermore, private sector farmer support initiatives have also been limited (World Bank, 2006).

2.4 Empirical Evidence: Land Reform and Agrarian Labour

It is critical for the assessment of the impacts on labour utilization (demand) to consider the nature and objectives of the land reform process as such the study begins by highlighting the broad categories of land reforms that have been implemented in the world since the 20th century. Land reforms that have been implemented under capitalist states worldwide fall under two broad categories: (1) those that involve the transformation of feudal or semi-feudal modes of production into capitalist agriculture leading to an agrarian structure dominated by a capitalist landed elite, farmers class or a "free" peasantry, put in another way involve the transition from a pre-capitalist agricultural system utilizing bonded or coerced labour into a capitalist agricultural system using waged labour and modern technologies and (2) those in capitalist agricultural systems that seek or sought to shift property rights from the dominant rural class

(capitalist landed elite) in favour of farmers and landless peasants/workers (de Janvry, 1981b). Socialist land reforms on the other hand have been or are geared towards the replacement of the individualization of land ownership under capitalist agriculture with collective agricultural production systems as well as reforming the precapitalist labour relations in feudal systems (de Janvry, 1981b; Thiesehusen, 1989; Ellis, 1992; Bush, 2002).

The objectives of land reform can be classified into three interrelated categories of economic, social and political (Ellis, 1992). Economic objectives are mainly associated with reduction of poverty in the rural areas and increasing agricultural production, while the main social objective of land reform is redressing inequities in land ownership and access characterizing rural areas. Political objectives range from the weakening of landed elites to the entrenchment of a capitalist or socialist agricultural system. The objectives of land reform vary between and within regions.

The study focuses on the outcome of land reforms implemented in capitalist states. The study reviews both international and regional experiences of land reform as they pertain to agricultural labour utilization or demand.

2.4.1 International Experiences of Land Reform

Latin American Land Reform Experiences

In most of Latin America and some parts of Asia, as well addressing the unequal agrarian structures land reforms were also aimed at the eradication of feudal forms of labour relations existent in the large farms (*haciendas or latifundia*) (de Janvry, 1981a and 1981b; Thiesenhusen, 1989; Ellis, 1992; Adams, 2000; Bush, 2002). The dual agrarian structures were composed of the *latifundia* and *minifundia* (small peasant farms) and characterized by a form of labour tenancy where peasants in return for their labour services were granted access to a small piece of land on the large estates with insecure tenure rights. The *minifundia* were located in marginal areas and poor peasants struggled to eke out a living in these small landholdings thus they had to supplement subsistence agriculture with tenancy on the *latifundias*. Here I review the outcomes of land reform in a few selected countries in Latin America and Asia.

Land reforms in Latin America commenced with the Mexican revolution between 1910 and 1917 and spread between 1950 and 1980 to Chile, Peru, Ecuador, Columbia, El Salvador and Nicaragua (Bush, 2002). Here we highlight two contrasting country case studies (Peru and El Salvador). In Peru two phases of land reform were implemented in (1964 – 1968) and from up 1969 until the late 1970s by two revolutionary governments lend by Belande and Valesco respectively (Lastarria-Cornhiel, 1989). The dual agrarian structure in Peru was composed of a modern and traditional sector. The modern sector was capitalist in nature utilizing advanced technologies, employing waged labour and geared towards export agriculture, and the *minifundia* was involved in both subsistence and cash crop production. Whilst in the traditional sector, the landlord tenant system was predominant where the *latifundia* were characterized by coercive precapitalist labour

provided by poor peasants and landless workers. In both the traditional and modern agricultural sector land was concentrated in minority. Success in the redistribution of land in the first phase was limited due to the impediments that anti-reformers successfully campaigned for in the agrarian reform law and as a result only 384,524 hectares (4% of the potential land that could be redistributed) was redistributed to 14,345 peasants (less than 2% of the potential beneficiaries) (Lastarria-Cornhiel, 1989). The major outcome of this phase of the reform was to replace unpaid labour services in the traditional sector that were outlawed by the agrarian reform legislation with waged labour and their subsequent transformation into the capitalist agricultural system.

The second phase of the reform which began in 1969 after Belande was overthrown by the military were more radical with all land above 150 hectares in modern sector and 15 – 55 hectares in the traditional sector were targeted for expropriation (Lastarria-Cornhiel, 1989). Land expropriated by the state was distributed as follows by 1979, cooperatives (63.9%), individual farming families (4.3%) and peasant groups (31.5%) (Lastarria-Cornhiel, 1989). Although redistribution of land resulted in the creation of new jobs which could not have been created in the absence of reform, it fell short of demand (Lastarria-Cornhiel, 1989; de Janvry, 1981a; Thiesenhusen, 1989). In line with theoretical predictions that if land reform is not accompanied by support to beneficiaries, the impact on agricultural employment is minimal as happened in Peru. The reform sector was neglected by the state as it concentrated on urban development and modernization of the large farms (Lastarri-Cornhiel, 1989). Thus in most cases the majority of peasant beneficiaries joined the pool of cheap labour seeking work in large farms to sustain their

livelihoods in addition to the subsistence agriculture on their acquired pieces of lands. The effect of land reform was to transform peasants into semi-proletariats. The cooperatives did not fare better either (Lastarria-Cornhiel, 1989).

Elsewhere in Latin America in land reforms implemented in El Salvador in the 1980s redistributed approximately 20% of the agricultural land to cooperatives and individual beneficiaries in two phases (Seligson, 1995; Paige, 1996; McReynolds, 1998). Phase I redistributed lands that were in excess of 500 hectares confiscated by the government to 322 cooperatives, whilst phase III was in the form of the "land to the tiller" approach redistributed lands averaging 2 hectares to about 47,000 households (McReynolds, 1998). Phase II of the reform was aborted after heavy resistance by the politically connected coffee farmers which it targeted (Strasma, 1989; Thiesenhusen, 1995; Seligson, 1995; Paige, 1996; McReynolds, 1998).

Contrary to reforms in Peru, land reforms in El Salvador had an enormous impact on the utilization of labour as highlighted in an analysis by McReynolds (1998) concentrating on the effect of agrarian reform on labour. The utilization of labour conformed to the farm size efficiency assumption as small landowners were shown to be employing more labour man-days per hectare than larger ones. McReynolds highlights three reasons why small farmers had higher labour use per hectare than larger farmers: (1) they have no access to and/or do not require labour saving technologies, (2) labour saving technologies is expensive and (3) low education levels among small farmers in absence technical assistance that would enable them to utilise technologies. The impact of land reform was

thus to increase agricultural employment. Small landowner's total labour force was composed of a higher proportion of permanent wage workers compared to the large farms and there was an increase in the hiring of labour not predominant in the non reform sector. On cooperative beneficiaries it was found out they had increased the rate of their utilization of labour since being accorded with greater tenure security than their previous predicament as small renters in the *haciendas*. The land sizes redistributed during phase III of the land reform were small (averaging less than 2 hectares) and of poor quality for the household reproduction, the majority of them were involved in wage work outside the household (semi-proletarianisation) to supplement self-agricultural production and opportunities for wage work were provided by the expansion of the number of employers (Seligson, 1995; Paige, 1996; McReynolds, 1998).

Throughout Latin America benefits accruing to smallholders in state led land reforms were minimal and unequal dual agrarian structures still persist in the continent (Moyo, 1995; Bush, 2002; Veltmeyer, 2005). Close to 90 percent of the continent's agricultural land remained in the hands of 26 percent of the farmers by 1998 (Veltmeyer, 2005). One of the major achievements of land reforms in the continent is associated with eradication of the forced labour in precapitalist agriculture. The case of Peru, Bolivia and Mexico represents the generality of the outcome of land reform in Latin America. The beneficiaries of land reform were neglected by the state (no support services were provided to enable productivity) which favoured modernizing the remaining large estates and urban development (Kirby, 1973; Lastarria-Cornhiel, 1989; Bush, 2002; Veltmeyer, 2005; see also Ellis, 1992). This evidence supports theories advanced by Dorner (1972),

Kirby (1973) and De Janvry (1981a; 1981b) that land reform not accompanied by state investment in the agricultural sector enlarges the pool of cheap labour where the remaining large estates can draw labour supply.

Land Reforms experiences in Asia: the case of Taiwan

Land reforms in East Asia (Korea, Japan, and Taiwan) are considered to be one of the most successful in the 20th century as the effectively transferred property rights (freehold ownership) to tillers (land to tiller approach) and have had a lasting impact on poverty reduction and eradicating landlessness (Dorner, 1972; Thiesenhusen, 1989; Ellis, 1992; Adams, 2000; Besley and Burgess, 2000; Aguilar, 2005) and fostering economic growth in the region (Rodrik, 1995). Elsewhere in the region land reforms have also occurred in China and Russia (followed by collectivization), India (reforming landlord tenancies), Philippines, Thailand etc.

Here the study provides empirical evidence of the outcome of land reform in Taiwan. Land reforms in Taiwan were implemented between 1949 and 1951 and beneficiaries were provided with support services by the state. Findings of studies assessing the impact of land reforms in Taiwan were consistent with theoretical impacts. Labour absorption was found to be consistently higher on small farms compared to larger farms. For instance, small farms averaging less than 0.5 hectares utilised 2.6 times more labour units per crop hectare than large farms averaging 200 hectares, similarly yield also declined as

the farm size increased (Dorner, 1972). In addition it was reported that although tenants benefited immensely through the reduction of rents after the reform process, these income gains were not translated into less labour inputs invested into own agricultural production, meaning that the rate of labour utilization was enhanced by the reform process (Dorner, 1972).

2.4.2 Regional Land Reform Experiences

The need for land reform in Africa and particularly in Southern Africa stems from the mild to extensive expropriation of agricultural land by European settlers during the colonial period that created unequal agrarian structures inherited at independence. Land reform of varying degrees depending on level rural inequality and utilizing different forms have been implemented in Africa ranging from market based (Zimbabwe, South Africa, and Namibia) to nationalization (Angola, Mozambique, Tanzania and Zambia) since the onset of independence in the 1960s (Moyo, 2001). And more recently the radical state led land reform in Zimbabwe. Outside the Southern African region land reforms have been implemented in Kenya, Ethiopia, Rwanda, Egypt, Algeria, Ivory Coast just but to name a few.

Land Reform experiences in Zimbabwe, 1980-1997

Zimbabwe's land reform programmes falls under the second broad category as it involved the transfer of land from the capitalist farmers (mainly white) to landless

peasants and the rest of the populace previously disadvantaged during the colonial period according to de Janvry's typology of land reform in capitalist states. Zimbabwe's first phase of land reform (1980-1997) implemented using the "willing buyer, willing seller" or the market based model redistributed land to about 70,000 households on a permit system or user rights. Beneficiaries of the first phase of land reform received significant state support in the form of agricultural loans, extension services, inputs, infrastructure etc. (see Moyo, 1995; Adams, 2000; van den Brink, 2003) for production activities though minimal when compared to their predecessors in the large-scale commercial farming sector (Rukuni, 1994; Moyo, 1995).

Bill Kinsey (1999) assessed the impacts of the first phase of this land reform programme on household welfare and poverty reduction using panel data of 400 households spanning 15 years since 1983. He found that: (1) area under crop production was twice more that in the communal areas where they originated, (2) household income was three times higher in reform beneficiaries than in the communal area and (3) non food expenditure was higher in the reform sector as well. It is possible to draw conclusions from these findings, the fact the cropping area was higher in the reform sector implies higher utilization of inputs including labour. Meaning that land reform enhanced the utilization of labour and/or increased the demand for agricultural labour. The fact that non-food expenditure is higher in the reform sector implies an increase in the domestic demand for local products. The first phase of the land reform in way fulfilled one of the objectives espoused in the programme's policy document which was to create employment for the landless (GoZ, 1980).

Land Reform Experiences in South Africa

Prior to the implementation of the FTLRP, South Africa and Zimbabwe shared similarities in land ownership structures rooted in history as post settler colonies. The apartheid governments enacted discriminatory legislation that alienated black people from their traditional land. The key piece of legislation was the *Native Lands Act of 1913* that restricted the area where Africans could establish farming operations to 8 percent of the country's area as well as barring them from buying land from whites (Department of Land Affairs [DLA], 1997). At the end of apartheid in 1994, the new South African government inherited a highly unequal agrarian structure in which some 60,000 white farmers owned almost 87 percent of the agricultural land (85.5 million hectares) where they practised capital intensive agriculture utilising modern technologies existed alongside 12 million blacks inhabiting 17.1 million hectares practising mostly subsistence agriculture (Wildschut and Hubert, 1998).

Land Reform programme components

To redress the past colonial injustices, the new South African government enacted various legislation and policies to implement a land reform programme composed of three components: (i) land restitution; (ii) land tenure reform and (iii) land redistribution (DLA, 1997). The overall framework of the land reform programme is premised on the "willing buyer, willing seller" market assisted model promoted by the World Bank (Adams, 2000).

The land restitution programme's main objective is to restore the land disposed from communities as result of the enactment of the *Native Lands Act of 1913* (DLA, 1997). Communities are required to prove their land dispossession after 1913 through the Land Claims Court set by the enactment of the *Restitution of Land Rights Act 22 of 1994* which forms the legal basis of the programme. In the operation of the programme, when a claim lodged by a community is adjudicated favourably by the Land Claims Court, the land is either restored to the community and the current owner is paid compensation by the state or communities are paid compensation in the form cash if land restoration is not feasible.

The land tenure reform programme seeks to address the insecurity of tenure in the former homelands and contested lands that were created by the apartheid governance system. The programme is guided by the *Interim Protection of Informal Land Rights Act 31 of 1996* that is meant to protect people with insecure tenure from losing their land, the *Land Reform (Labour Tenants) Act 3 of 1996* for labour tenants to purchase land and provision of subsidies to facilitate the process and the *Communal Property Associations Act 28 of 1996* which "...enables communities or groups to acquire, hold and manage property under a written constitution" (DLA, 1997; p. 37)

The land redistribution programme's main objective is redistribute land to landless poor, labour tenants, farm workers and emerging farmers for residential and productive use to improve their livelihoods and quality of life (DLA, 2007). The programme is primarily governed by the *Provision of Certain Land for Settlement Act 126 of 1993* and the *Development Facilitation Act 67 of 1995*. The *Provision of Certain Land for Settlement*

Act 126 of 1993 "...provides for the designation of land for settlement purposes and financial assistance to people acquiring land and for settlement support" (DLA, 1997; p.37). The *Development Facilitation Act 67 of 1995* on the other hand is meant to facilitate urban land reform through measures aimed speeding up the delivery of low income housing through the provision of serviced land (DLA, 1997).

Redistributive Land Reform

Here the study focuses primarily on reviewing the impacts of the redistributive component of the land reform programme in South Africa as they relate to agrarian labour processes and rural livelihoods in general. The land redistribution programme is targeting to redistribute 30 percent of the agricultural land mostly in the hands of white farmers by 2014 (DLA, 1997). The land redistribution programme has primarily relied on community or group model in which several potential beneficiaries team up to apply for a land acquisition grant to purchase land on the open land market (Lahiff, 2008; Bradstock, 2005a; Hall, 2004). Large groups have often been formed due to the ceilings on the grants that were initially allocated by the government under the Settlement/Land Acquisition Grant (SLAG) amounting R16,000 (Deininger, 1999). The SLAG targeted poorer households with a monthly income level of not more than R1, 500. The groups formed would acquire land, own it and conduct farming operations through a Communal Property Association or trust. By November 1999, a total of 447 land redistribution projects had been implemented benefiting 55,424 households on 714,407 hectares of land across the country at an average of 12.8 hectares per household (Cliffe, 2000).

After realising the limitations of the grant restrictions of the SLAG, the government replaced it with the Land Redistribution for Agricultural Development (LRAD) in 2001 which is more commercial agriculture oriented operating on matching grant basis for the acquisition of land on the open market either in the form financial resources or labour contribution for the poor who cannot afford to raise the minimum R5, 000 required (Hall, 2004). Since then more land initiatives have been introduced to aid the land redistribution programme. These include the Proactive Land Acquisition Strategy (PLAS) and the Land and Agrarian Reform Project (LARP) (Lahiff, 2008). Under the PLAS, the government is responsible for the identification and acquisition of land in the open market for onward transfer to beneficiaries. The LARP on the other hand, reinforces the commercial agriculture orientation of the land redistribution programme with a focus on redistributing 5 million hectares of land to mostly farm dwellers over a 10 year period. The other objectives of the LARP are to provide access to agricultural support services to beneficiaries, increasing agricultural trade amongst beneficiaries and participation of black entrepreneurs in the agribusiness industry (Lahiff, 2008). The common denominator amongst the various land redistribution initiatives implemented by the South African government has been the communal ownership of land acquired and agricultural production especially for the poor segments of society through communal property associations or trusts (Lahiff, 2008; Bradstock, 2005a; Hall, 2004; Cliffe, 2000). However some richer segments of the society have managed to mobilise adequate resources to acquire farms on an individual basis under the LRAD matching grant system (Hall, 2004; HSRC, 2003).

Land redistribution in South Africa has been occurring at a slow pace in relation to the target set by the government. Some recent estimates indicate that only 4.7 percent of the agricultural land has been transferred under the state land reform projects to date (Centre for Development Enterprise, 2008). The market assisted model of land redistribution through the willing buyer, willing seller route has been blamed for delivering limited amounts of land on the market and is dependent on willing sellers who seem intent on entrenching the existing status quo (Hall, 2004). As such there have been growing calls for the adoption of compulsory expropriation of commercial farms as part of the land acquisition strategy since the National Land Summit in 2005 (Lahiff, 2008; Centre for Development Enterprise, 2008). To this end, the Parliament of South Africa has already drafted an Expropriation Bill to facilitate this process which is currently being debated in various circles. However others (Centre for Development Enterprise, 2008) have called for the increased role of the private sector in the market assisted model and the state's involvement to be limited to providing an enabling policy environment. The limited success of the land redistribution programme has also been affected by inadequate budgetary support[7] amidst escalating land prices on the open market and the inferior land unsuitable for settlement being offered on the market (Lahiff, 2008; Hall, 2004; Lyne and Darroch, 2003).

Impacts of Land Reform on Land Use, Employment and Income Generation

[7] The budget for land reform averaged 0.5 percent of the total budget in the first ten years of independence (Hall, 2004).

Outside the slow pace in agrarian restructuring, most recent studies have pointed to the limited impacts of the land redistribution projects implemented to date on land use, employment and income generation (see Lahiff, 2008; Centre for Development Enterprise, 2008; Bradstock, 2005a; 2005b; Hall, 2004; McCusker, 2002; 2004; HSRC, 2003). Land reform impacts as Kinsey (1999) has shown in Zimbabwe generally require about 10 years to emerge. As such in South Africa, since most of projects are still in their infancy the review of various impact assessment studies should be read in this context.

In an assessment of five land redistribution projects which had benefited 607 households in Limpopo Province operating under Communal Property Associations initiated between 1997 and 1998, McCusker (2004) showed that there was a decrease in agricultural land use and abandonment of redistributed land. In the case studies analysed by McCusker (2004), only 17 percent of the beneficiaries from the Communal Property Associations indicated that farming contributed "some" or "most" of their household income. In fact wage employment in the urban areas was the most important source of income for 59 percent of the households who had a member involved in migrant employment in Polokwane or Gauteng Province. An additional 10.0% of the households had members employed in neighbouring white commercial farms. Studies in the Northern Cape Province by Bradstock (2005a; 2005b) have also shown similar results where most of the redistributed lands remain unutilised or underutilised as beneficiaries have continued to exploit their previous economic opportunities prior to benefiting from land redistribution projects that are dominated by non-farm wage employment at the expense of agriculture which contributed less than 5.0% of household income in the case studies.

Lahiff (n.d) citing Quality of Life Studies conducted on land reform beneficiaries for the Department of Land Affairs nationally notes that only 16 percent of the land redistribution projects generated sustainable income revenues and that no productive activities were occurring in most of the land redistribution projects. As at November 2005, some 70 percent of the land redistribution projects in Limpopo Province were dysfunctional (Lahiff, n.d). For instance in one of the Communal Property Associations examined by McCusker (2004) membership had declined from 396 at inception to 160 when field surveys were conducted in 2000. Thus land reform in its current form in South Africa has implied a reduction in the labour utilisation per unit of land area as land previously under production in the former commercial farms lies fallow and/or underutilised by reform beneficiaries and thus limited impacts on employment generation. The employment and income generation effects of land redistribution in South Africa are being hampered by underutilisation and abandonment of land by beneficiaries and in some instances where farm workers are not part of the beneficiaries some agricultural jobs have been displaced.

However, it is important to note that some positive impacts of land redistribution projects have also been reported. In case study research in KwaZulu Natal, Limpopo and Eastern Cape Provinces the Human Sciences Research Council (HSRC) (2003) concluded that family farm type projects showed greater promise in terms of land utilisation and thus labour use in comparison to group or communal projects, although they have the potential of limiting the beneficiary numbers.

One of the key reason attributed to the limited impact of the land redistribution programme has been the resettlement format through communal or group projects rather than on an individual basis (Lahiff, 2008; McCusker, 2004; Cliffe, 2000; Deininger, 1999). The format of the land redistribution forces land applicants to form large and dysfunctional groups to finance land acquisition through government grants and engage in communal agriculture regardless of the aspirations of the individual members. Communal Property Associations have been affected by limited capacity within the groups to organise themselves for agricultural production, lack of farming and managerial skills, as well as limited participation and/or non cooperation by some members in group activities. The Communal Property Associations have also been affected by the forced adoption of business plans mostly based on the previous land use model by the DLA regardless of their skills and resource base in absence direct support systems to enhance the efficient functioning of these groups (Lahiff, 2008).

Furthermore, post settlement support for land redistribution beneficiaries has been limited as state support has focused on facilitating land acquisition. Various empirical studies have highlighted that the bulk of land redistribution projects are poorly resource endowed lacking capital to finance agricultural production, constrained in accessing credit and information (research and extension) markets[8], as well as experiencing shortages of agricultural inputs that have affected their meaningful engagement in agricultural production (Lahiff, 2008; Bradstock, 2005a; 2005b; HSRC, 2003; McCusker, 2002;

[8] The current extension establishment in South Africa is only a third of the requirements and 80% of the existing staff are inadequately trained (Lahiff, 2008).

2004). Private sector support services targeting land redistribution beneficiaries have also been limited (HSRC, 2003). It is important to note that post settlement challenges have been noted by the government of South Africa and responses have included the launching of Comprehensive Agricultural Support Programme to provide loans to farmers among other support services which is still in its infancy and impacts are yet to be felt (Lahiff, 2008).

Land Reform experiences in Egypt

Outside Sub-Saharan Africa, state led land reforms in Egypt were extensive and aimed reforming the landlord tenant system and remnants of feudal labour relations similar to those found in Latin America and Asia (Adams, 2000; Bush, 2002). Nasser's land reforms in Egypt which commenced in 1952 sought to eradicate coercive labour and redress the inequities in the agrarian structure through the granting of secure land rights to tenants at fixed rents. These land reforms redistributed one seventh of the total country's arable land and benefited two million agricultural labourers and tenants between 1952 and 1961 who were provided with subsidized inputs and credit by the government (Bush, 2002).

Ray Bush notes that the breaking up of large estates and their subsequent redistribution to peasants led to the reduction of the incidence of wage labourers as they only relied on family labourers as predicted by (Herring, 1983; Thiesehusen, 1989; Paige, 1996).

Although this represents a loss to wage employment, Bush (2002) fails to mention the benefits in the use of family labour in the newly acquired lands. As we have seen in the El Salvadorian case where small renters increased their rate of labour utilization when they were accorded secure land tenure rights after reform (see also McReynolds, 1998) and the fact that labour is underused in the land short peasant sector (Ellis, 1993; Moyo, 1995; Lipton, 1996 etc.). Evidence in Algeria showed that in the 1960s the peasant sector composed of 2.1 million persons did not utilise 75 percent of their labour time (Dorner, 1972). The discounting of family labour as being part of the overall agricultural employment and its associated advantages (highlighted earlier in this study, see also Newell et. al., 1997; Adams, 2000) is common in literature. Earlier studies assessing the impacts of the land reform in Zimbabwe have not been different either focusing only on the effect on wage workers (see for example FCTZ, 2002; Sachikonye, 2003; Magaramombe, 2003).

Egyptian land reforms implemented by Nasser led to the increase in agricultural production as well as the rural incomes and ultimately the growth in the demand for locally produced goods and services in the reform sector (Bush, 2002). Unfortunately these gains were reversed with the implementation of *Law 96 of 1992* by the Mubarak government in 1997 that promoted the application of market land values in line with the country's economic reform programmes promoted by the Breton Woods institutions (International Monetary Fund and World Bank). As result the rentals for land rose dramatically and many beneficiaries were forced off the land, as they were unable to renew their tenancies. Once again they joined the ranks of landless labourers (rural

proletariats) seeking wage employment in landlord estates and an increase in rural poverty (Bush, 2002).

2.5 Agrarian Labour Policy Framework in Zimbabwe

Formal employment in Zimbabwe is governed by the *Labour Relations Act, Chapter 28:01* which is administered by the Ministry of Public Service, Labour and Social Welfare (MPSL & SW) for all sectors including agriculture. The Labour Relations Act is read in conjunction with other legislation that includes the *National Social Security Act (NSSA Act)*, *Income Tax Act* and *Pensions and Other Benefits Act*. In addition there are other acts that cater specifically for public and local government employees which are the *Public Service Act* and *Urban Councils Act*. The current labour legislative framework does not cover self employed persons.

Pre-Independence Agrarian Labour Policy Regime

Agricultural employment was not part of the labour relations framework in Zimbabwe until after independence (Loewenson, 1992; Amanor-Wilks, 1995; Chambati and Magaramombe, 2008). For instance farm workers in white large-scale commercial farms were governed under the *Master and Servants Act of 1899* that "made an employee virtually the property of the employer" (Amanor-Wilks, 1995; p.3) and had total control over the workers who depended on them for both employment and residential rights. Among other restrictions, farm workers had to seek permission to live with their families

in farm compounds, and there were no provisions for paid, maternity and sick leave (Clarke, 1977). Other legislature that were also passed to enhance the supply of labour included the *Private Location Ordinance of 1908* after the regularisation of labour tenancy obligated tenants to "...perform a stipulated number of months work for his landlord at current rates of wages" (Clarke, 1977; pp. 16), the *Pass Law of 1901* which restricted the movement of blacks from the rural areas into urban areas; the *Native Juveniles Employment Act of 1926* forcibly bonded unemployed blacks found in the towns in white farms and the *Compulsory Native Labour Act of 1942* which restricted unemployment (Amanor-Wilks, 1995).

To achieve their objectives, white farmers used a combination of strategies in managing labour that included intimidation, racially atoned verbal abuse, threats of dismissal from work and indeed physical violence to ensure accomplishment of farm tasks (Clarke, 1977; Rutherford, 1995; 2001; Rubert, 1997). The white farmers' management of agricultural workers transcended the employment contracts to include virtually all aspects of the workers life. There existed internal dispute resolution mechanisms for both labour and social issues within the farm compounds and farms which differed from farm to farm. White farmers set their own laws which were sometimes at variance with national laws and they have often been labelled as being "law unto themselves" (Amanor-Wilks, 1995) in what has become commonly known as domestic government or *mitemo yevarungu*[9] (Rutherford, 1995). These processes have been aided by the spatial dispersion of commercial farms and far away from the glare of the public. For instance, whilst all other industries such as mining were subject to government inspections, commercial

[9] *Mitemo yevarungu* literally translated means "laws of the white men".

farms were not up until the late 1960s (Rubert, 1997). Under these circumstances, safety regulations such as provision of protective clothing were a rarity in the agricultural sector in a hazardous environment. As such conditions of work in the white farms were poor rather than paternalistic as portrayed by white farmers. Employment contracts were based on a "gentlemen's agreement" which set obligations for both employers and employees, but was biased in favour of land owners who broke their commitments as they deemed fit (Clarke, 1977; Rubert, 1997).

Post Independence Agrarian Labour Policy Regime, 1980 – 1990

The attainment of independence in 1980 transformed the agrarian labour policy regime through the inclusion of farm workers in the labour relations framework and introduction of the labour dispute resolution mechanisms in the form of workers' committees at the farm level (Loewenson, 1992). The government regulated the labour market through the promulgation of legislation that included the *Minimum Wages Act of 1980*. The government implored on white LSCF to improve living and working conditions for farm workers. To a limited extent workers' committees registered successes improving working conditions of farm workers including the reduction in working hours and task work; introduction of overtime pay; provision of protective clothing; allocation of food security gardens and access to literacy classes (Kanyenze, 2001) regardless of the fact that they were not recognised as legal trade union structures until 2003 (Chambati and Magaramombe, 2008).

The new labour regulations introduced by the government in 1980 were meant to offer worker protection, raise the standard of living, reduce the income differentials, reduce inflationary pressures and improve conditions of service to all workers including farm workers (Kanyenze, 2007). Under the new labour relations framework, for dismissing a worker it now required the consent of the Ministry of Labour (Amanor-Wilks, 1995). White farmers responded by increasingly casualising agricultural labour as these regulations protected permanent employees and ceasing operations (Amanor-Wilks, 1995). This process was halted by the promulgation of the *Employment Act of 1980* which doubled the remuneration of casual workers in comparison to permanent workers (Kanyenze, 2001).

Despite the slight improvements to the agricultural workers conditions as a result of the legislative promulgations, labour relations in the commercial farms remained largely a domestic affair. The formal separation of the workers committee structures from trade unions meant the absence of a grassroots link and weakened the bargaining position of these structures (Chambati and Magaramombe, 2008). Added to this unionisation was constrained by the spatial distances between farms and cities to organise and access restrictions by commercial farms who utilised trespass laws on their private properties against union organisers (Chambati and Magaramombe, 2008). The government also lacked resources to monitor the implementation and enforcement of legislation and policies through its labour relations officers (Chambati and Moyo, 2003).

Changing Agrarian Labour Policy Regime after Economic Reforms, 1991 - 1999

The initial pieces of legislation governing employment were merged into the comprehensive *Labour Relations Act of 1985* (Kanyenze, 2001). There was major shift in economic policy in Zimbabwe in 1991, with the introduction of the Economic Structural Adjustment Programme (ESAP) imposed by the Breton Woods Institutions (IMF and World Bank). This programme was aimed at replacing the 'state interventionist' model with the 'free market' model of economic management (GoZ, 1991). The development paradigm changed from being inward looking towards export led growth through integration into regional and global markets.

Trade liberalisation and the deregulation of the labour market impacted negatively on agricultural workers. Trade liberalisation created an export drive that resulted in new land use patterns and labour demands in the commercial agricultural sector (Moyo, 2000). Commercial farmers increased the production of capital intensive export commodities that displaced permanent agricultural workers (Amanor-Wilks, 1995; Moyo, 2000). Agricultural labour was thus increasingly casualised as a result. Furthermore, commodity price collapses on the global market were passed on workers in the form of reduced wages and retrenchments, but the benefits of price booms were only enjoyed by farmers (Loewenson, 1992; Amanor-Wilks, 1995).

The deregulations of the labour market on the other hand introduced new flexible labour arrangements that simplified the procedures of worker dismissal without the consent of the Minister of Labour (ZHDR, 1999). Thus farm workers lost their job security and

experienced declining wages as minimum wages were scrapped in favour of collective bargaining between employers and employers. The decline in real wages of farm workers accelerated in post ESAP period such that indices of average real earnings declined from 130 in 1990 to 85 in 1996 at constant 1980 prices (Kanyenze, 2001). Consequently, wages of farm workers as a proportion of the Poverty Datum Line (PDL)[10] also collapsed from 60% in 1990 to 24% in 1999, indicating the worsening poverty situation among agricultural workers (Kanyenze, 2001).

Several amendments that were also introduced to the *Labour Relations Act* which included the transfer of the power to determine the conditions of service of farm workers from the Ministry of Labour to the National Employment Council for the Agricultural Industry provided for in the new legislation and the local structures at the farm level the works council through collective bargaining.[11] The collective bargaining process covers wage rates, grading of employees, nature of contracts, benefits such as paid leave, sick leave, provision of protective clothing and gratuities payable on termination of employment.

However, government policy allows individual farms to be exempted from the collective industry agreements through lodging a separate agreement to the Ministry of Labour through their works council. The works council agreements are binding in law once registered with the Ministry of Labour and supersede the industrial level agreements. The

[10] The PDL measures the income required to meet the basic needs of an average family composition and size, and provides a useful tool for assessing the adequacy of worker earnings (MPSL & SW, 1997).
[11] The National Employment Council is a body comprising representatives of employers (Agricultural Labour Bureau [ALB] and employees (the trade union, GAPWUZ) and the works council is a local level structure comprising equal representation of management and employees.

collective bargaining agreements in policy only protect permanent workers, whilst casual workers' conditions are negotiated between the employees and employers at the local level.

FTLRP: Implications for Agrarian Labour Policy, 2000 onwards

Leading into the FTLRP, farm workers have remained the poorest section of the formal sector employment living under difficult conditions on private property. As collective bargaining power was heavily biased in favour of the farmers, workers in the agricultural sector were the lowest paid in the formal sector employment (Amanor-Wilks, 1995; Moyo et. al., 2000). For instance the lowest paid employee in all the other sectors earned three times more than the lowest paid employee in the agricultural sector (MPSL & SW, 2001). Over 70% of the farm workers lived below the PDL in 1997 (Chambati and Magaramombe, 2008). Moreover, farm worker grades which were defined by the collective bargaining exercise tended to undergrade them as close to 80 percent were classified as unskilled (CSO, 2001). As wages were tied to farm worker grades, the majority of permanent workers earned the lowest wage in the sector.

The farm compound system remained intact as reservoir of agricultural labour up until the FLTRP. The living conditions of farm workers were also exacerbated by the fact that social service provision provided by the government in other sectors of the society have largely been regarded as the responsibility of large-scale commercial farmers, whilst farmers considered it government responsibility (Loewenson, 1992). As such commercial farms were characterised by a lower per capita provision of social services such as health facilities, schools, recreation etc. in comparison to other sectors.

Up until the FTLRP, the agricultural sector has operated under a cheap labour policy regime that disadvantaged workers in favour of farmers. Thus the FTLRP has presented an opportunity for the transformation of the agrarian labour policy framework characterised by unsustainable livelihoods towards greater worker protection. Key among them the de-linking of employment and residential rights for farm workers. Furthermore, the dismantling of the freehold property rights in the acquired large-scale commercial farms in favour of state tenure systems implies the removal of the restrictions of trespass laws that constrained effective union organisation. However, it also important to note that the FTLRP affected the membership base of the farm worker trade union that needs to rebuild (Chambati and Magaramombe, 2008). The subdivision of farms into smaller plots presents its own set of challenges for worker organisation and enforcement of legislation as smaller numbers of workers are generally employed per plot in comparison to the large batches of workers employed in the former large scale commercial farms.

Growing unemployment in Zimbabwe especially in the urban sector and underemployment prevalent in the land short communal areas have also been major policy concerns prior to the implementation of the FTLRP (GoZ, 2001a). This scenario was juxtaposed against an endowed employment creation potential in the large scale commercial farmers, but constrained as large tracts of land remained underutilised and intensification of capital displaced agricultural labour. The key question posed is what role land reform can play in employment generation. Thus an equitable agrarian structure with a broad range of participants provided the opportunity to resolve the unemployment problem.

2.6 Conclusion

The theoretical impacts of land reform are diverse. There is no single outcome of land reform. The economic debate on the impact of land reform on agrarian labour is between the farm size efficiency and economies of scale theories. Neither is there agreement in the nature and form of agricultural employment after reform. Whether the impact of land reform is to increase the overall demand of agricultural labour (which is the sum of family and wage labour)? Whether there will be an increase of family labour at the expense of wage work opportunities? What role the modes of production (peasant versus capitalist farms) play in the combination of factors of production?

The empirical outcomes of land reform are also varied and differ from country to country and across regions. The impacts have been greater in countries that effectively transferred property rights to reform beneficiaries (Korea, Japan and Taiwan) in terms of both labour absorption and agricultural productivity. In most cases, outcomes have been consistent with theoretical impacts. However in countries where land reforms have been focused on reforming feudal agrarian labour relations (Bellande's reforms in Peru), the reforms have not benefited from the inverse relationship between farm size and productivity (see Besley and Burgess, 2000) though they were successful in eradicating forced labour, increasing wages and consequently the livelihoods of agricultural wage workers in those regions. Despite the implementation of land reforms in the last ten decades, land inequality still characterizes most rural economies the world over because of various

factors which include fierce resistance from the landed elites (in alliance with state in some cases), onerous demands on the fiscus, weak political power among peasants to pressure governments for land reform, less policy prioritization etc.

CHAPTER THREE

RESEARCH METHODS AND ANALYTICAL FRAMEWORK

3.1 Introduction

This study was based on primary data collected from newly resettled households (A1 and A2 sectors) and farm workers in Zvimba District. The assessment of the changes in agrarian labour processes resulting from the land reform programme is based on the situation obtaining in the former large-scale commercial farms whose data was obtained from secondary sources including the Central Statistical Office and other previous studies. This chapter details how the primary data was collected and the methods used for analysis to answer the research questions.

3.2 Research Approach

A positivistic research methodology was adopted in this study. The key underlying assumption embedded in positivistic methodology is the existence of an "objective" world that can be measured by scientific methods and driven by prediction and explanation of causality among variables (Gephart, 1999). Put differently, the knowledge generated through scientific research is arguably objective and statistical or econometric procedures can be utilised in search of correlations and explaining causality between variables (Chong, 2003, Mwanje 2001). The major focus of study is the investigation of "cause-effect" relationships (how the processes accompanying the land reform have a bearing on the agrarian labour market. The "cause-effect" relationship constitutes a key

assumption of positivistic research methodology (Giddens, 1978; Hacking, 1983; Borg and Gall, 1989; Mwanje, 2000; Usher, 1997; etc.). In addition the variables that will be investigated are quantifiable and can be subjected to statistical analytical tools to enable the explanation of causes and allow for prediction, another key feature of positivistic research.

Since the study was assessing the impacts of land reform on the different on the smallholder A1 and middle to large A2 sectors that have emerged, the use of standardized data collection instruments that are characteristic of quantitative research allowed for comparisons to be made. The standardization of data collection instruments under the positivistic research is motivated by the assumption of independence between the research setting, object of research and the researcher to allow for the generation of objective and neutral observations (Borg and Gall, 1989). Although, Sellitz et. al. (1946), proponents of positivism, acknowledge the flexibility of unstructured interviews which is the domain of qualitative enquiry, they bemoan the relative difficulty for comparisons to be made between interviews and that they are time consuming and analysis is cumbersome compared to structured interviews.

According to Mwanje (2000), the selection of a research methodology is dependent on the types of questions study seeks to answer and the "what" questions which characterize the proposed research area are classified under the quantitative paradigm which is the domain of positivistic research methodology.

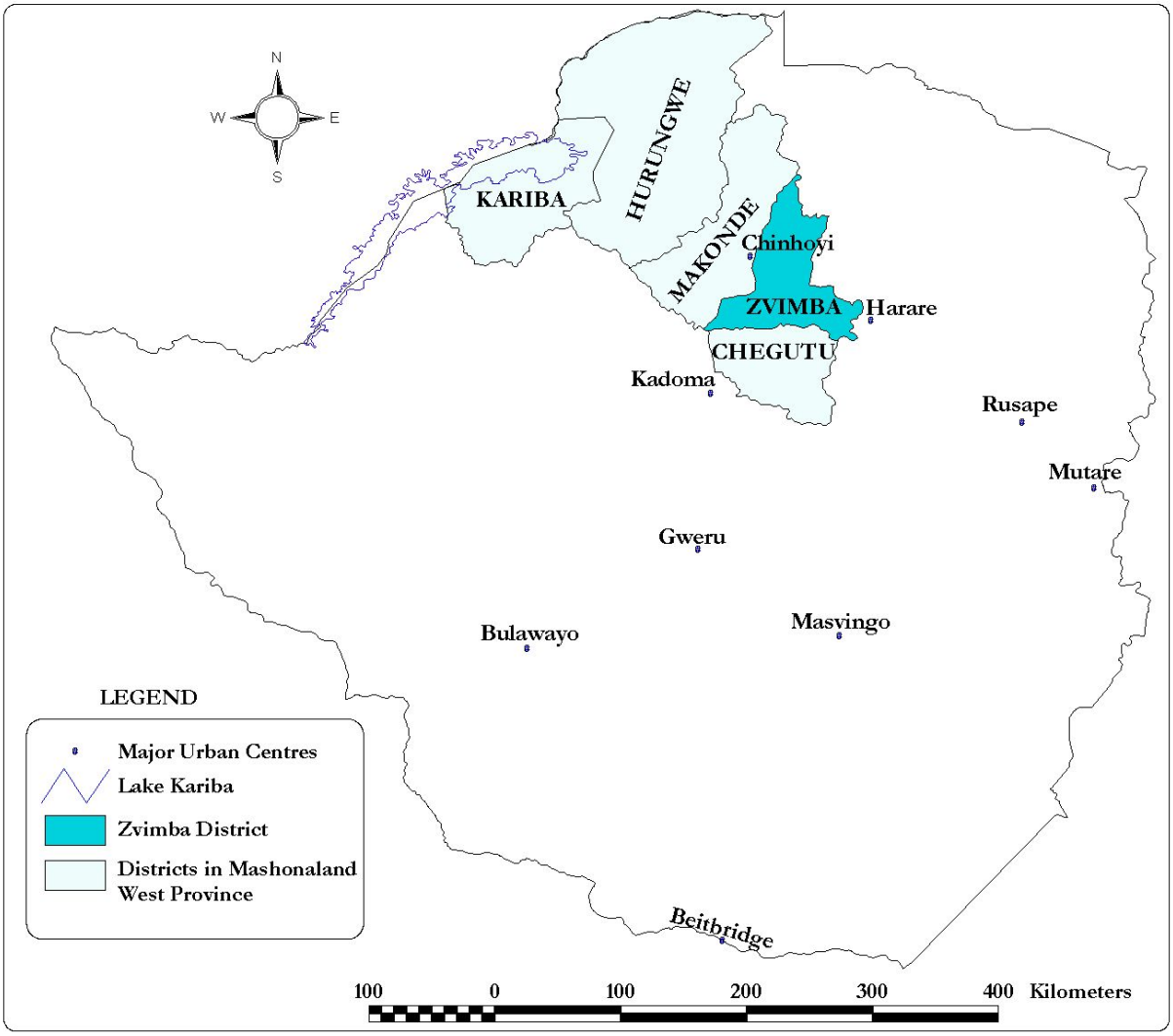
3.3 Research Methods

3.3.1 Study Area Selection and Justification

The study was conducted in Zvimba district which is located in Mashonaland West Province some 40 km in the North West of the capital city, Harare (see Figure 3.1). The bulk of the agricultural land in Zvimba District falls under agro-ecological region IIb which receives an average of between 700 and 1050 mm of rainfall during the summer period (November to March) (CSO, 1998).

Mashonaland West Province has a total of six districts namely: Chegutu, Hurungwe, Kadoma, Kariba, Makonde and Zvimba. There are three peri-urban centres in the district, Banket, Nyabira and Murombedzi. According to the latest Census, Zvimba District had a population of 220 763 people contributing 18.03 percent and 1.89 percent of the provincial and national population respectively (CSO, 2002). The household size in the district averages 4.19 persons. The majority of the people in the district are employed in the agriculture sector followed by the mining sector.

Figure 3.1Map showing the relative geographic position of Zvimba District.



Source: AIAS (2006)

Before the FTLRP, the agricultural land in the district was composed of the communal area, LSCF and small-scale commercial farming sector. The district is divided into six Intensive Conservation Areas (ICA's) - Banket, Darwendale, Gwebi-Manyame, Trelawney, Mtoroshanga and Rafingora. Of these, three farming areas were randomly chosen for the study namely Banket, Darwendale and Gwebi-Manyame.

Zvimba District was selected as the study area on the basis that it is generally representative of the typical farming scenario in the province and in the country given that the district has a diversity of livestock and crop production enterprises. Before the land reform, the LSCF sector's agricultural activities focused on the production of flue-cured tobacco[12], maize, cotton, wheat, soyabeans, coffee and intensive beef production for export (Muir, 1994). Other commodities grown include burley tobacco, sorghum, groundnuts, seed maize and various horticultural crops (Muir, 1994). Furthermore, Zvimba District was selected as a result of the vibrancy of the agricultural labour market and the concentration of land acquisition for reallocation to mostly landless peasants was concentrated in the Mashonaland Provinces. For instance, Mashonaland West Province where Zvimba District is located accounted for close to 30% of the total commercial agricultural workers employed in the LSCF sector just before the land reform (CSO, 2000).

The newly resettled areas in Zvimba District targeted by this study comprised 673 former large scale commercial farms, of which 208 farms, with a combined hectarage of 163 420, were acquired for resettlement under the A1 (small farms) model, accommodating an estimated 8 653 plots, and 263 farms covering 103 583 hectares were redistributed to 1 380 A2 farmers (middle to large farms) (PLRC, 2003). At the time of the completion of the Presidential Land Review Committee, a total of 102 large-scale commercial farms

[12] Flue-cured tobacco was one of the largest export earners in the country before the FTLRP (Muir, 1994).

had not yet been acquired by the government. However since land acquisitions and allocations have continued since 2003, more farms have been acquired for redistribution.

3.3.2 Study Units

The units of analysis for this study were 208 smallholder (A1) and 100 middle to large farms (A2) resettlement households who were allocated land under the land reform programme; and 80 farm worker households. The farm worker households included those who were predominantly employed on a full or part time basis on large scale commercial farms.

3.3.3 Primary Data Collection Method

The primary data for this study was derived from two broader structured questionnaire surveys designed by the African Institute for Agrarian Studies (AIAS) to collect data from newly resettled A1 and A2 households; and farm worker households. The questionnaires were administered to sampled farm households in A1 and A2 resettlement models and farm workers. The questionnaires were self administered by the AIAS research team with assistance of enumerators who were trained on data collection techniques. The structured questionnaires targeted the head of the household and in their absence another respondent who was knowledgeable about the farm operations was selected. Self-administration of structured questionnaires has an advantage over other techniques such as mailing as it ensures a higher return rate. The structured questionnaire

was pre-tested to ten farm households in both the A1 and A2 sectors before its actual implementation for the study. This allowed for the improvement in the design and restructuring of biased questions and the way the questionnaire is administered.

The structured questionnaires surveys elicited the following information: household demography and socio-economic data; asset ownership; land base/landholdings/farm sizes; agricultural activities/land uses; agricultural incomes; on-farm non-agricultural activities/incomes; off-farm activities and other sources of incomes; household expenditures/consumption patterns; agricultural wage employment; non-wage agricultural employment; labour hiring by the household among other issues (see annex 3.1 for the detailed questionnaires)

3.3.4 Sampling Methods and Sample Size

The study utilized a combination of multistage and stratified random sampling techniques in order to derive the sampling units. In multistage sampling, we select an initial or first-stage sample called primary sampling units (Mwanje with Gotu, 2001). A second-stage sample involves the stratification of the primary sampling units. The stratified random sampling technique involves selecting samples independently within the selected stratas, which are non-overlapping subgroups of the survey population (Mwanje with Gotu, 2001). The main objective of stratification is to ensure adequate sample sizes for subgroups of interest. Stratified random sampling allows for variation in the population to be also shown in the selected sample and allows for comparisons between the different

strata (Mwanje with Gotu, 2001). The third stage involves drawing the study units from the selected secondary sampling unit in the second stage sample.

In Zvimba District, three of the six ICAs (Banket, Darwendale and Gwebi-Hunyani farming areas) were randomly chosen for the study. Within these farming areas original large scale commercial farms before land redistribution/subdivisions were taken as the primary sampling units. The original large-scale commercial farms were then stratified by the type of resettlement model (A1 and A2) to form the secondary sampling units. A list of A1 and A2 farms containing beneficiary information was sourced from the Department of Agricultural Research and Extension in the three ICAs and these acted as the universe from which the households for the sample were drawn from. (Table 3.1)

Table 3.1: Universal Sampling Frame

Area	**Original large scale commercial farms**		**Total Original large scale commercial farms**	**Household units**		**Total Household Units**
	A1	**A2**		**A1**	**A2**	
Gwebi-Manyame	12	60	72	620	420	1040
Darwendale	12	15	27	540	62	602
Banket	16	25	41	765	285	1050
Total	**40**	**100**	**140**	**1,925**	**389**	**2314**

Source: AIAS Zvimba District Household Survey (2005)

From the stratified A1 and A2 farms, the study units, the farm households were randomly selected to attain at least 5.0% of the population in each of the ICA taking into account the spread of the farms to derive the targeted sample frame of the study units (table 3.2). Data in the field surveys was eventually collected from a representative sample of 308

newly resettled households representing 10.8 percent and 25.7 percent of the A1 (208) and A2 (100) households in the selected ICAs.

Table 3.2: Targeted household units sample frame and actual sample

Area	Targeted households			Actual Household units sampled			
	A1	**A2**	**Total**	A1	% of A1 households in ICA	A2	% of A2 households in ICA
Gwebi-Manyame	42	75	117	39	6.2	41	9.7
Darwendale	100	30	130	109	20.0	36	58.5
Banket	58	45	103	60	7.8	23	8.2
Total	**200**	**150**	**350**	**208**	**10.8**	**100**	**25.7**

Source: Source: AIAS Zvimba District Household Survey (2005)

Purposive sampling was used to cater for farm workers which were a special interest group for the study, but a sample frame could not be derived due to lack of information on the population characteristics. A total of 80 farm worker households were purposively sampled and interviewed using a structured a questionnaire in three ICAs in Zvimba District.

3.3.5 General Sample Characteristics

The land reform programme created new diverse communities with improved access to land not typical of most poor rural communities in Zimbabwe and strong linkages with the urban sector. The resettlement programme was undertaken against the backdrop of 20 years of heavy social investment in education, information, infrastructure etc. by the GoZ

in the rural sector.[13] Unlike the former LSCF and old resettlement sector there is high range of beneficiaries of the land reform programme with university education, people who have ventured into farming on the basis of their previous training in general management in their current/former employ. This section analyses the general socio-economic and demographic characteristics of newly resettled households that allow us to discern the emergent agrarian labour relations in new resettlement areas.

Extent of land sizes redistributed

The land sizes redistributed under the FTLRP in Zvimba District's new resettlement areas in the sampled households ranged from 10.9 hectares to 68.0 hectares, averaging 21.3 hectares per household in the A1 sector, while among A2 households allocations ranged from 10.0 hectares to 342.0 hectares, averaging 82.91 hectares per household. In terms of distribution, 52.2 percent of the households had been allocated land sizes ranging between 10 and 19 hectares, 28.2 percent had received between 20 and 49 hectares and less than 20.0 percent had received land sizes exceeding 49 hectares. Within the resettlement models, 77.4 percent of the A1 households had been allocated land sizes ranging from 10 to 19 hectares, and 21.0 percent had accessed between 20 and 49 hectares, while the remaining 1.6 percent had received between 50 and 99 hectares. Larger land sizes were allocated in the A2 sector, where 42.7 percent of the households had received between 20 and 49 hectares, 52.0 percent were evenly distributed in the 50

[13] For instance secondary school enrollment grew by a phenomenal 900% between 1980 and 1990 (ZHDR, 1999). Gains were also recorded in per capita social service provision indicated by the growth in government expenditure in health and infrastructural development in rural areas (see Herbst, 1990; GoZ, 1991; MPSL&SW, 1997).

to 99 hectares; and 100 to 299 hectares land size categories and only 4.2 percent obtained more than 300 hectares. Overall, therefore, land sizes for the new large farms are much smaller than those obtaining in the former LSCF sector, which averaged 2 000 hectares.

The majority of the beneficiaries in A1 and A2 households were found to have a peasant background, with 65.5 percent originating from the communal area, while 19.41 percent were from the urban area and 6.3 percent were from the former LSCF areas.

Beneficiary Demographic Characteristics

Amongst the newly resettled A1 and A2 households 81 percent were married, with an equal proportion (7.5 percent) of single and widowed beneficiaries. Very few beneficiaries were divorced (3.9%). Land access in the new resettlement sector is skewed towards male beneficiaries as women sole beneficiaries accounted for only 24% of the total beneficiaries. The majority of these women sole beneficiaries (69%) were located in the A1 sector. Since the majority of beneficiaries were married most women gained land as joint beneficiaries with their spouses.

Gender Distribution of beneficiaries

The sampled newly resettled households (A1 and A2) represented a total population of 1 359 persons. The sample population was dominated by males, who accounted for 54.7 percent. The bulk of the sample population (69.5 percent) fell within the economically productive age group (15 to 64 years), supporting economically non-productive children

(below 14 years, at 28.9 percent of the sample population) and the aged population (above 64 years, at 1.6 percent), suggesting the availability of labour resources for social reproduction.

Occupational status of beneficiaries

The majority of the persons in the newly resettled households were resident full time on the farms, as only 211 persons or 15.5 percent of the sample population from 104 households resided elsewhere. Self employment as own producers was the dominant mode of employment, with 43.61 percent of the sample population being employed as unpaid family workers in the newly resettled areas.

Educational levels of beneficiaries

The literacy levels among the newly resettled households were fairly high. Close to 40 percent of the sample population had completed at least Ordinary Level education[14]; only 13.6 percent of the sample population across A1 and A2 households had no formal education; and 30 percent had completed primary education. The new resettlement sector consists of beneficiaries who are more educated compared to other rural sectors (communal and old resettlement schemes). Studies in the communal areas and old resettlement sector showed that less than 15 percent of the household heads had attained a level of education higher than the Junior Certificate (CSO, 1992; MPSL&SW, 1997). These data suggest the existence of capacity within the new resettlement sector for the

[14] Ordinary Level education is regarded as the standard for securing formal employment in Zimbabwe.

adoption of and uptake of agricultural extension and skills compared to other rural sectors.

Farm worker household characteristics

Farm worker households interviewed represented a population of 256 persons, of whom 55.5 percent were males. Similar to the trends exhibited in the newly resettled households, 68.0 percent of the population was found in the productive age group, supporting 30.4 percent of economically inactive children (under 14 years) and a 1.6 percent population of over 65 years. Only 10.0 percent of the farm worker population in the sampled households was not fully resident in the newly resettled areas. The average household size was 3.27 persons among farm worker households. Paid agricultural work or hiring out labour for wages was performed by 40.9 percent of the total sampled population. In contrast to the newly resettled A1 and A2 households, education levels were low among farm worker households, as 32.6 percent had no formal education, 42.6 percent had completed primary education. Only 7.0 percent of this population had attained Ordinary Level education.

3.3.6 Secondary Data Collection

Secondary data was also collected document Zimbabwe's land reform and agricultural labour processes. This secondary data enabled us to ascertain the status before the land

reform for comparative analysis with the situation in the new agrarian structure. Sources of secondary data included: government policy documents (e.g. labour and land acquisition legislation, the Fast Track Land Reform policy document: *People First, Fostering Social Justice and Economic Growth: Zimbabwe's Land Reform Programme* [GoZ, 2001a]) Central Statistical Office (e.g. *Agricultural Production on Large Scale Commercial Farms 2000* [CSO,2001], farm workers advocacy organisations reports (e.g. various Farm Community Trust of Zimbabwe field reports [FCTZ, 2000; 2001; 2002]), and farmers unions (e.g. farm workers wage data from the Commercial Farmers Union's Agricultural Labour Bureau).

3.4 Data Analysis

Data collected from the structured questionnaire surveys was analysed using the computer software, Statistical Package for Social Sciences (SPSS). The process of data analysis commenced with the data entry and cleaning and which was then followed by the analysis. Data cleaning involved the running of frequency distributions in SPSS to allow for the removal of outliers from the data set. Various statistical analysis tools were utilised to answer the research questions and test the hypotheses proposed in this study are summarized in table 3.2.

Table 3.2: Linkage of research questions, objectives, hypotheses and analytical tool

Research Question	Research Objective	Hypothesis	Data Required	Analytical Tool(s)
What changes have occurred in the forms of labour mobilised and structure of employment in agrarian labour market since the land reform?	To examine the forms and structure of employment characterizing the new agrarian structure	There is a decrease in the incidence of wage employment	(i) forms of labour mobilised (ii) Types of labour contracts (permanent versus part time) (ii) Relationships between workers and employers	Descriptive statistics (frequency distributions)
What factors affect the demand for farm labour in the new resettlement areas?	Identify the factors that affect the demand for farm labour in the new agrarian structure	There is an increase in the number of agricultural workers per unit area as result of the increase in the potential number of employers through the reduction of farm sizes	(i) Socio-economic factors (e.g. household characteristics, type of farm, farm sizes, land uses (agricultural and non agricultural), capital intensity, wage rates, resource endowments etc.) (ii) Number of agricultural workers	Descriptive statistics, ANOVA tests Cross tabulations
What incomes and benefits are derived from farm labour reproduction in new resettlement areas?	To examine the benefits from agricultural labour reproduction in new resettlement areas	Incomes earned from farm labour reproduction have deteriorated after the land reform	(i) Farm outputs (ii)Agricultural incomes (iii) Wages and benefits	Descriptive Statistics

3.4.1 Descriptive Statistics

Descriptive statistics can be defined as those methods involving the collection, presentation and characterization of a set of data in order to properly describe the various features of the data set (Koustayannis, 1977; Mwanje, 2001). The descriptive measures are useful for analyzing and interpreting quantitative data, whether collected in raw form (ungrouped data) or summarized into frequency distributions (grouped data). The most

common descriptive measures include measures of central tendency (mean, median and mode) and measures of dispersion (such as the variance and the standard deviation). Descriptive statistics contributed to the testing of all **hypotheses**. For instance frequency distribution was be used to characterize the forms of labour mobilised and type of labour contracts for hired labour and compared to the pre-2000 situation.

3.4.2 ANOVA test

The Analysis of Variance (ANOVA) test is a general statistical technique that can be used to test the hypothesis that the means among two or more groups are equal, under the assumption that the sample is from a normally distributed population. One can make an overall conclusion[15] about the means of a certain population under investigation. The ANOVA test was used to test significant differences in the average rates of labour utilisation on different factors affecting the demand for farm labour (capital intensity, land sizes, land utilisation, farm machinery and equipment endowments etc.) under **hypothesis two**.

3.4.3 Cross tabulations

[15] Suppose there are two means of different groups under study, based on the technique the variation of the mean can be partitioned into two components i.e. Between Groups represents variation of the group means around the overall mean and Within Groups represents variation of the individual scores around their group means and these can be further broken down into trend components allowing us to draw conclusions on the characteristics of the means around the group and overall mean.

A cross-tabulation gives a basic picture of how two variables inter-relate. It helps in establishing for patterns of interaction. Cross tabulations were mainly be used mostly for nominal data and further inference to assess whether the pattern has any substantial relevance were done using the Pearson Chi-Square test to establish if any association exists between two variables. Pearson Chi-Square tests were utilised in testing **hypothesis 2** to ascertain the existence of association between factors identified to affect demand for labour such as educational level, farm machinery and equipment endowments, cropping patterns etc.

CHAPTER FOUR

FORMS OF RURAL LABOUR IN NEW RESETTLEMENT AREAS

4.1 Introduction

The forms of rural labour in new resettlement areas are critical in assessing the impacts of land reform since they define the scope of new livelihoods for both former and new farm workers. Firstly the chapter considers the forms of labour (including wage and non-wage labour) being utilised across the A1 and A2 resettlement sectors. This is followed by the examination of the emerging structure of rural labour in the resettlement sector. Thirdly, the chapter assesses how labour is mobilised in the new resettlement areas. Lastly an examination of how newly resettled households are differentiated on the basis forms of labour utilised and the level of utilisation; and mobilisation of labour is conducted.

4.2 Forms of Labour in New Resettlement Areas

In the newly resettled areas in Zvimba District the study found four major forms of rural labour in existence. These are: (i) family labour use on own agricultural plots; (ii) family labour hired out of the household for farming and non-farm activities; (iii) family labour use for own non-farming activities; and (iv) labour hired in by households for farming and non-farming activities.

The occurrences of these different forms of labour in newly resettled areas are discussed in detail below.

4.2.1 Family labour use on own farm plots

The household is an integral source of labour for own agricultural production activities in peasant societies and Zimbabwe's newly resettled areas are no exception. Family labour is utilised in both managerial and planning activities, and in the manual/menial work services of the farm. In all households there exists family labour participation on own farm plots through managerial and planning services but its use in manual work services is not the same for all households as some rely exclusively on hired labour to provide these. As seen in Table 4.1, 34.7 percent of the newly resettled A1 and A2 households do not use family labour for manual activities in their own agricultural production activities.

Table 4.1 Family Labour Use on Own Plots

Household Category	Family Labour on Own Plots				No. of HH Members Deployed on Own Plot					No. in Sample
	Yes		No							
	No.	% of HH	No.	% of HH	1	2	3-4	5-6	≥ 7	
A1	150	72.1	58	27.9	7.7	17.3	23.6	13.9	9.6	208
A2	51	51.0	49	49.0	10.0	9.0	20.0	8.0	4.0	100
Subtotal	201	65.3	107	34.7	8.4	14.6	22.4	12.0	7.8	308
Farm worker	20	25.3	59	74.7	5.1	1.3	6.3	6.4	3.8	79

Source: AIAS Zvimba District Household and Farm Workers Surveys (2005)

Evidence from our sample shows that, among the newly resettled households (A1 and A2), 65.3 percent utilise family for manual labour activities on their own farms (Table 4.1), while among the farm worker households, only 25.3 percent of the households interviewed utilise family labour on their own plots. Amongst farm workers, all the 24 households who had access to land to practice agricultural production utilised manual family labour. Non utilisation of manual

family labour in the other farm worker households was because they had no access to land to practice agricultural production.

Comparing the two resettlement models, it is evident that the utilisation of manual family labour on own agricultural plots is more common among the smaller A1 households, as over two thirds utilise household labour resources compared to 50 percent of the larger A2 plots (Table 4.1). On the level of family labour utilised by households, there seems to be a similar trend among the newly resettled A1 and A2 households, with the majority of households utilising between three and four members. However, among the A1 households there are a greater number of households that deploy more than four workers (23.5 percent, compared to 12.0 percent in the A2 sector), indicating the existence of larger family sizes among A1 households. In addition, 19.2 percent of the A1 farmers are solely reliant on family labour to support agricultural production activities. Family labour utilisation in the A1 sector averages 3.7 workers per household, compared to 1.7 in the A2 sector.

4.2.2 Family labour hired out to farm jobs

In addition to contributing to labour resources for own agricultural production, some households also hire out their labour in return for wages in cash or kind to augment their social reproduction. The hiring out of labour out of the household has mostly been associated with poorer peasant households in the literature (see Moyo and Yeros, 2005; McReynolds, 1998; Leavy and White, n.d.). Among the newly resettled households in Zvimba District, only 9.7 percent of the households hire out their labour to paid agricultural work (Table 4.2).

Table 4.2 Family Labour Hired Out for Farm Jobs

Household Category	HH Performing Paid Farm Work				No. of HH Members Deployed in Paid Farm Work			No. in Sample
	Yes		No					
	No.	% of HH	No.	% of HH	1	2	3-4	
A1	23	11.1	185	88.9	6.3	2.9	1.9	208
A2	7	7.0	93	93.0	5.0	2.0	0.0	100
Subtotal	30	9.7	278	89.6	5.8	2.6	1.3	308
Farm worker	66	83.5	13	16.5	43.0	30.4	10.1	79

Source: AIAS Zvimba District Household and Farm Workers Surveys (2005)

A disaggregation of the newly resettled households by model type shows that 11.1 percent of the A1 households hire out their labour compared to 7.0 percent of the A2 households. Overall only 4.1 percent (56 people out of 1 359) of the newly resettled households perform paid agricultural work. In contrast, over 80 percent of the farm worker households hire out their labour for paid agricultural work. Among the farm worker households, 106 out of 256 people (40.9 percent) were involved in this. For those who hire out labour among the newly resettled households, the majority utilise only one member of the household (Table 4.2). Among farm worker households, although the majority (43.0 percent) also utilise only one member in paid agricultural work outside the household, 30.4 percent and 10.1 percent hired out two, and three to four members respectively.

The hiring out of household of labour resources by newly resettled households is mostly seasonal, as 48.9 percent indicated that they perform paid agricultural work in the dry season, while 26.7 percent and 24.4 percent respectively hire out labour in the rainy season and throughout the year. As mentioned above, among the farm worker households sampled, only 30.3 percent have access to land in the newly resettled areas to practice own agricultural production and, among those with access to land, sizes (averaging 1.06 ha per household) are generally too small for them to socially reproduce themselves through own agricultural

production alone. Thus their labour is hired out throughout the year. For resettled households, labour resources are utilised on own farm plots much more during the rainy season.

4.2.3 Family labour used for non-farming activities

In Zvimba District's newly resettled areas, family labour resources are also deployed to non-farming activities both within the locale and outside. Locally, non-farming activities cover a broad range, from natural resource harvesting such as firewood and pit sand collection for own consumption and sale to petty commodity trade. Outside the locale, non-farm activities are dominated by migrant employment by some members of the household, mostly in the towns and cities.

Table 4.3 Local Non-Farming Labour Activities of Households

Type of Activity	No. and Percentage of Households					
	A1		A2		Farm worker	
	No.	%	No.	%	No.	%
Gold panning	-	-	1	1.0	-	-
Firewood sale	1	0.5	1	1.0	1	1.3
River/pit sand sale	1	0.5	-	-	1	1.3
Wildlife harvesting	-	-	-	-	-	-
Wood carving	4	1.9	-	-	1	1.3
Stone carving	1	0.5	-	-	-	-
Tailoring	6	2.9	5	5.0	3	3.8
Basketry	4	1.9	-	-	1	1.3
Bricklaying	7	3.4	3	3.0	-	-
Pottery	-	-	4	4.0	1	1.3
Clothes vending	8	3.9	1	1.0		
Beer brewing	-	-	-	-	2	2.5
Carpentry	6	2.9	-	-	-	-
General repair work	7	3.4	4	4.0	2	2.5
N	208		100		80	

Source: AIAS Zvimba Household and Farm Worker Surveys (2005)

Non-farm income earning activities were not commonly reported by newly resettled households. Taken as a whole, 18.6 percent of the newly resettled households and 10.1 percent of the farm worker households reported being involved in such activities, with some involved in more than one activity. In the A1 sector, 17.9 percent of households are involved in non-farm income earning activities compared to 20.0 percent in A2 households. Less than 5 percent of households are involved in any of the categories of non-farm activities reported in Zvimba District (Table 4.3). Although very few households reported being involved in non-farm income earning activities in the locale, key informant interviews revealed the significant involvement of households in natural resource harvesting for own consumption. The most common natural resource extraction activities for own consumption highlighted by key informants were fishing (reported by 67.9 percent of informants), wildlife harvesting (73.1 percent) and wood harvesting (38.5 percent). Thus, rather than income earning activities, family labour resources are deployed more to meet the direct consumption needs of the households.

Table 4.4 Residency Characteristics of Newly Resettled Households

Household Residency Characteristics	No. and Percentage of Households					
	A1		A2		Farm worker	
	No.	%	No.	%	No.	%
HH with all members resident in RA	149	71.6	54	54.5	76	96.2
Households with non-residents	59	28.4	45	45.5	3	3.8
TOTAL	208		99		79	

Source: AIAS Zvimba District Household and Farm Workers Surveys (2005)

There existed some split households in newly resettled areas, which have members resident in towns and cities involved in different activities. In the A1 sector, 28.4 percent of the households have one or more members not resident in the newly resettled areas, in contrast to 45.5 percent in

the A2 sector (Table 4.4). Non-residency amongst farm worker households is limited to only 3.8 percent of the households. Of those households with non-resident members, 12.5 percent and 14.1 percent respectively for the A1 and A2 areas have one member not resident in the newly resettled areas (Table 4.5).

Table 4.5 Non-Residency Levels in Newly Resettled Households

No. of Non-Residents per Household	No. and Percentage of Households					
	A1		A2		Farm worker	
	No.	%	No.	%	No.	%
0	149	71.6	54	26.6	76	96.2
1	26	12.5	14	14.1	3	3.8
2	11	5.3	8	8.1	-	-
3-4	15	7.2	13	13.2	-	-
5-6	4	1.9	6	6.0	-	-
≥7	3	1.5	4	4.0	-	-
TOTAL	208		99		79	

Source: AIAS Zvimba District Household and Farm Workers Surveys (2005)

There are 118 migrant[16] household members in the A1 households, of whom 33.1 percent are involved in self employment activities in the urban areas (Table 4.6), while 22.8 percent of the migrant family labour is formally employed in the private (8.4 percent) and public (14.4 percent) sectors.

Among the 102 migrant A2 household members, 14.7 percent are involved in self employment activities, while 27.48 percent are formally employed in the public (22.0 percent) and private (4.88 percent) sectors. Migratory work is limited among the 79 farm worker households, with only 3 members across the sample being involved in self employment activities. The migrant population was not limited to labour sources as there are a sizeable percentage of students (28.0 percent and 35.3 percent respectively) in the A1 and A2 households. The significant portion of

[16] The terms 'non resident' and 'migrant' are used interchangeably.

students among the migrant household members could be an indicator of the limited availability of educational facilities in the newly resettled areas in this transitional period of the land reform programme.

Table 4.6 Migrant Family Labour Activities among Newly Resettled Household Members

Labour Activities	No. of Household Members and Percentage of Total					
	A1		A2		Farm worker	
	No.	%	No.	%	No.	%
Self employed	39	33.1	15	14.7	3	100
Civil service-uniformed	5	4.2	11	10.8	-	-
Civil servant semi-skilled	12	10.2	12	11.8	-	-
Private sector-managerial	3	2.5	4	3.9	-	-
Private sector-unskilled	7	5.9	1	0.98	-	-
Student	33	28.0	36	35.3	-	-
Unemployed	19	16.1	23	22.5	-	-
TOTAL	118		102		3	
N	208		100		79	

Source: AIAS Zvimba District Household and Farm Workers Surveys (2005)

4.2.4 Labour Hired In by Households for Farming and Non-Farming Activities

As well as contributing their own labour to own agricultural production and non-farming activities, some households also hire in labour on a full or part time basis to augment family labour resources.[17] Fulltime workers are those employed on a permanent basis by households, whereas part time workers are employed on a task basis, as and when households require additional labour. Part time workers are normally employed during peak periods, such as those for weeding, planting and harvesting. Unlike part time workers, fulltime employees are contracted to households, either verbally or in writing, and receive periodic wages and benefits, normally on a monthly basis. Part time workers are paid for the performance of specific tasks for

[17] The terms 'fulltime' and 'part time' workers are used interchangeably with 'permanent' and 'casual' workers respectively.

the period that they are hired in by the household. Field observations indicated that part time workers are normally hired in and rewarded daily. The field survey collected data on the average number of part time workers hired in by households annually. As such, the use of part time labour is just indicative, as the time periods in which the labour was hired is not available.

Table 4.7 Households Hiring in Labour for Farming Activities

No. of Workers Hired In	No. and Percentage of Households Hiring in Labour											
	A1				A2				Farm worker			
	Permanent		Casual		Permanent		Casual		Permanent		Casual	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
0	138	66.7	63	30.3	37	37.8	12	12.5	79	100	77	97.5
1	21	10.1	3	1.4	7	7.1	1	1.0	0	0.0	1	1.3
2	12	5.8	3	1.4	13	13.3	0	0.0	0	0.0	1	1.3
3-4	19	9.2	30	14.4	13	13.3	6	6.3	0	0.0	0	0.0
≥5	17	8.2	109	58.6	28	28.6	77	80.2	0	0.0	0	0.0
TOTAL	207		208		98		96		79		79	

Source: AIAS Zvimba District Household and Farm Workers Surveys (2005)

Evidence from the sample survey showed that 69.7 percent and 87.5 percent of the A1 and A2 households respectively hire in labour to augment family labour resources on either a full or part time basis (Table 4.7). Thus, hired-in labour use is more common among the larger A2 farms than the smaller A1 plots. Among farm worker households, only two households (2.5 percent) hire in labour and these engage only casual workers.

Looking at the different forms of hired-in labour, field evidence shows that most A1 households (66.7 percent) also do not hire in any permanent workers (Table 4.7). Among those households that engage permanent workers, 10.1 percent hire in one permanent worker, 5.8 percent hire in two permanent workers, 9.2 percent hire three to four permanent workers and 8.2 percent employ five or more permanent workers. The majority (58.6 percent) of A1 households hires in at least

five casual workers annually but close to a third of the A1 households did not hire in any casual labour.

In the larger farm size, A2 households, the hiring in of permanent workers is more common, as 62.2 percent of the households hire in at least one permanent worker (Table 4.7). The majority of the A2 households (28.6 percent) that hire in permanent workers engage at least five permanent employees. Similar to the trends expressed in the use of permanent workers, the use of casual workers is more common among A2 households than among A1 households. In the A2 sector, only 12.5 percent of the households do not engage any part time labour. All but one of the A2 households hire in at least three casual workers annually and the majority (80.2 percent) hire in at least five workers.

4.3 The Emergent Structure of Rural Labour in Newly Resettled Areas

Field evidence allows us to discern an emergent structure of rural labour utilisation among A1 and A2 households. Households were empirically classified into five categories from lowest to highest depending on the absolute level of farm labour utilisation (Table 4.8). The first category of households in the lowest level of farm labour utilisation hire in neither full nor part time labour and is thus exclusively reliant on the family for its labour needs. The second category of low level labour users hires in part time labour only, to augment family labour resources. The third category of medium labour users hires in one permanent worker plus some part time workers to augment family labour. The fourth category, of high level labour, users hires between two and four fulltime workers plus some part time workers. Lastly, the fifth category, of the

highest level labour users, hires in five or more fulltime workers plus some part time workers. Across the five categories of households based on the level of labour use, some households also hire out their labour to other households in return for wages in cash or kind.

Table 4.8 Emergent Structure of Rural Labour in New Resettlement Areas, Zvimba District

Level of Labour Use	A1							A2						
	No. of HH	% of HH	Average Labour Use					No. of HH	% of HH	Average Labour Use				
			Hired In		Family	Family +FT	Hired Out			Hired In		Family	Family +FT	Hired Out
			FT	PT*						FT	PT			
Lowest[1]	55	26.57	-	-	3.60	3.60	0.14	9	9.38	-	-	1.22	1.22	0.00
Low[2]	83	40.10	-	7.61	2.89	2.89	0.21	26	27.08	-	15.73	2.00	2.00	0.19
Medium[3]	21	10.14	1.00	7.86	2.76	3.76	0.23	7	7.29	1.00	9.71	1.14	2.14	0.14
High[4]	31	14.98	2.87	8.81	2.32	5.19	0.19	26	27.08	2.76	11.73	1.88	4.65	0.00
Highest[5]	17	8.21	10.11	10.29	1.94	12.05	0.58	28	29.17	11.68	20.72	1.57	13.25	0.03
TOTAL	207							96						
Average for total sample			1.3	6.01	2.90	4.26	0.22			4.2	13.99	1.70	5.93	0.07

Source: AIAS Zvimba District Household Survey (2005)

Key: FT = Full Time; PT = Part Time

1. Household hires in neither full time nor part time labour, relies solely on family labour
2. Household utilises family labour in combination with part time labour hired in
3. Household hires in one fulltime worker plus some part time workers
4. Household hires in between two and four fulltime workers plus some part time workers
5. Household hires in five or more permanent workers plus some part time workers

*Data on the duration part time workers are engaged by households is not available. Figures presented here are crude averages of part time workers hired annually and thus our classification of the level of labour use is mostly based on household use of fulltime and family labour.

ANOVA RESULTS

Level of labour use by average no. of fulltime labourers hired in, [A1- F=194.79, 4 d.f., p=0.00 (significant at 0.05)]; [A2 - F=57.408, 4 d.f., p=0.00 (significant at 0.05)]
Level of labour use by average no. of part time labourers hired in, [A1 - F=33.80, 4 d.f., p=0.00 (significant at 0.05)]; [A2 - F=4.676, 4 d.f., p=0.00 (significant at 0.05)]
Level of labour use by average no. of family workers, [A1- F=1.490, 4 d.f., p=0.206 (not significant at 0.05)]; [A2 - F=0.380, 4 d.f., p=0.823 (not significant at 0.05)]
Level of labour use by average family + fulltime labour index, [A1 - F=30.405, 4 d.f., p=0.00 (significant at 0.05)]; [A2 - F=47.030, 4 d.f., p=0.00 (significant at 0.05)]
Level of labour use by average family labour hired out [A1- F=1.281, 4 d.f., p=0.279 (not significant at 0.05)]; [A2 - F=1.823, 4 d.f., p=0.131 (not significant at 0.05)]

It is possible to deduce from the figures in Table 4.8 some specific trends within each of the different forms of labour (hired-in, hired-out and family labour use) in the A1 and A2 sectors, beyond those dictated by the classification itself. The distribution of households based on this classification showed that it is skewed toward the lowest and low level labour use categories in the A1 sector, while in the A2 sector it is biased towards the high and highest levels of labour use. In the A1 sector 60.0 percent of the households are located in the lowest and low level labour use categories, in comparison to just over 36.0 percent in the A2 sector. On the other hand, in the A2 sector, 56.0 percent of the households are located in the high and highest level labour use categories, in comparison to 23.0 percent in the A1 sector. Thus there is generally higher absolute utilisation of farm labour on the larger sized A2 farms, than on the smaller sized A1 farms. However there are some individual A1 households that utilise more labour than their counterparts in the A2 sector.

The lowest level labour users are, by definition, exclusively reliant on family labour resources, leaving them with few extra labour resources available for hiring out of the household. Households in this category in the A1 sector have the highest average of 3.60 family members utilised by households in farming operations and the lowest number of family members hired out. In the A2 sector the lowest level labour users utilised a relatively lower average of 1.22 family members but also did not hire out their labour to other newly resettled households.

There was also differentiation between the A1 and A2 sectors across the low labour use category, in which the greatest proportion of the A1 households fall. A1 households do not hire in fulltime labour but engage an average of 7.61 part time workers per year, in addition to 2.89 family members, and hire out an average of 0.21 family members to other households. A2 households in this category (27.08 percent of the total A2 households) utilise almost twice as many part time workers (averaging 15.73 per household annually) as their A1 counterparts, alongside use of an average of 2.00 family members. The low labour use A2 households also hire out an average of 0.19 members of the family to other newly resettled households.

The medium level labour use category was not common among either A1 (at 10.14 percent) or A2 (7.29 percent) households. The category is defined by the hiring in of one fulltime worker. Over and above this, the A1 households hire in an average of 7.86 part time workers annually, to augment the labour of an average of 2.76 family members, while households in the A2 sector hire in one fulltime employee and an average of 9.71 part time workers annually and utilise an average of 1.14 family members. Few family members are hired out from households in this category, at an average of 0.23 family members in the A1 sector and 0.14 members in the A2.

The percentage of A2 households in the high level labour user category (27.08) was almost twice as high as that for A1 households in this category (14.98). The A1 and A2 households in this category hire in an almost equal average number of fulltime employees, at 2.87 and 2.76 respectively but the A1 households hire fewer part time

workers, at an average of 8.87 than the A2 households, averaging 11.73. In compensation, A1 households utilised more family members (an average of 2.32, as compared to 1.88 utilised by A2 households) and also hired out labour at an average of 0.19 members per household. Households in the A2 sector in this category did not hire out family labour resources.

Only 8.21 percent of A1 households fall into the highest labour use category, while 29.17 percent of the A2 households appear in this category. Hiring in of fulltime workers by households in this category did not vary markedly between the A1 and A2, averaging 10.11 and 11.68 workers respectively. However, the A2 households hired about twice as many part time workers (average 20.72) and the A1 households (average 10.29) Average family labour use was lowest in this category of households for the A1 sector, at 1.94 family members, but the hiring out of family labour to other households was highest in this category of labour users (averaging 0.58). By contrast, A2 households in this category utilised an average of 1.57 members per household (a roughly median figure for A2 households across all the labour use categories) but hired out only an average of 0.03 members per family.

While, as one would expect given the definition of the categories, there is a fairly consistent increase in various types of labour use from the lowest to the highest categories, in both sectors, there are some less predictable sub trends within this. In the A2 sector, the average number of part time workers significantly decreases moving from the low to the medium level labour use category, before it begins to significantly increase

in the high and highest categories. In both the A1 and A2 sectors the shifts in average own family labour use and that hired out across the five categories of labour use are not significant.

In the next section we assess how the different forms of labour utilised by households are mobilised.

4.4 Rural Labour Mobilisation in New Resettlement Areas

4.4.1 Sources of labour

Hired in labour represents the major source, accounting for 83.5 percent of the total employ in Zvimba District's newly resettled households, with the remainder being family workers (Table 4.9). A total of 3 929 hired in labourers was employed by 308 households, of whom 75.7 percent were engaged on a part time/casual basis. In the A1 sector, hired in labour accounted for 73.1 percent of the employ, while it constituted 93.1 percent in the A2 sector. Thus, family workers are a more important source of labour on the smaller A1 farms than on the larger A2 farms. Hired in labour seemed to be engaged mostly for agricultural production activities. Non-farm labour activities were not frequently reported by households anyway but the labour sources for these are mostly from within the family.

An assessment of the character of full time rural labour hired in by households indicates a composition bias towards former farm workers, who average 62.0 percent of the permanent agricultural workers in the sampled households who hired in permanent workers, indicating their accessibility and a preference for their skills by the new landowners. In 23.4 percent of the households, the entire permanent workforce is composed of former farm workers and 18.2 percent of households had between 50.0 percent and 99.0 percent former farm workers in their permanent employ. However, in total the majority of workers employed in the new resettlement areas are new farm workers as 21.1 percent and 51.1 percent of the A1 and A2 households hired former farm workers respectively.

Table 4.9 Structure of Rural Employment in New Resettlement Areas of Zvimba

Labour Type	No. and Percentage of Workers					
	A1		A2		Total No.	Average % (hired labour)
	No.	% (hired labour)	No.	% (hired labour)		
Hired Labour						
Permanent	396	24.1	559	24.4	955	24.4
Casual	1 245	75.9	1 729	75.6	2 974	75.7
Total Hired Labour	*1 641*	*100.0*	*2 288*	*100*	*3 929*	*100*
		% (total labour)		**% (total labour)**		**Average % (total labour)**
Family	605	26.9	173	7.0	778	16.5
TOTAL	**2 246**		**2 461**		**4 707**	

Source: AIAS Zvimba District Household Baseline Survey (2005)

Geographically, agrarian labour is sourced from within and outside the newly resettled areas. Within the newly resettled areas there are four broad sources of labour – former farm workers, own family, other resettled households hiring out labour and squatter households. Outside of the newly resettled areas, the communal areas are the major

source of labour, with 32.1 percent of the farms surveyed in the district citing this as their most important source of rural labour. Among the newly resettled households, 14.0 percent had sourced some of their labour requirements from the communal areas.

4.4.2 Nature of the Labour Hired in by Households

The nature of hired labour in newly resettled areas can be delineated on the basis of its sex, age and skills. To differentiate by sex, males account for 52.5 percent of the total labour hired in by A1 and A2 households. Within the sectors, similar to the trend observed in the overall sample data, the percentage of females (43.6 percent) is less than that of males (56.4 percent) on the A1 farms, while in the A2 sector, males and females are almost equally distributed at 50.2 percent and 49.8 percent respectively (Table 4.10). Although these statistics show a fairly balanced sex composition, disparities in the representation are more apparent when the forms of hired in labour are disaggregated into full and part time work. Field evidence shows that males are dominant in the fulltime employment category, averaging 76.2 percent per household in the overall sample data. Trends within the sectors also reflect a similar distribution pattern as males account for 78.5 percent and 73.5 percent of the permanent employ in the A1 and A2 households respectively. The implication is that the majority of hired in female workers are employed for the least secure, casual or part time work in the newly resettled households.

A new phenomenon seems to be emerging in the recruitment of relatives as part of the wage labour force, albeit on a small scale. This phenomenon reflects what is termed the ‘social patronage’ system and presents an alternative to the domestic government that

governed work relations in the former LSCF. The social patronage system involves the recruitment of members of the extended family among the labour force, and work relationships tend to be defined by kinship ties (Chambati and Moyo, 2003). In the AIAS sample survey, an estimated 9 percent of the households recruited their permanent workers from within their extended family, usually from the communal areas.

Table 4.10 Sex Characteristics of Hired Labour, Permanent and Casual

Sex	A1		A2		Total	
	No.	%	No.	%	No.	%
Male	306	56.4	472	50.2	778	52.5
Female	236	43.6	469	49.8	705	47.5
TOTAL	542	100.0	941	100.0	1483	100.0

Source: AIAS Zvimba Household Baseline Survey (2005)

The skills of hired in labour can broadly be classified into four categories according to the roles they perform, as defined by the households. These are managerial, supervisory, specialist skills – tobacco, tractor drivers, livestock diagnosis, etc. – and general hands. The hiring in of managerial skills is low, with only 0.7 percent of the newly resettled households in Zvimba District engaging such services. In most households, this function is met by the landowners themselves. Managerial personnel tend to demand relatively high wages that might not be affordable to new farmers in this transitional phase of the land reform programme. Furthermore, the small land sizes, especially in the A1 sector, might not warrant the engagement of outside managerial skills. Supervisory skills are hired in by 9.6 percent of the households. The vast majority of the hired in labour (87.5 percent) is classified as ‘general hands’ by the households.

However, as we have seen, former farm workers constitute the bulk of those employed permanently by newly resettled households and it could be that the skills they gained in the LSCFs are currently not being utilised by the new farmers because of the production and land use patterns currently being pursued. Thus these potentially skilled workers (38.1 percent of the heads of farm worker households had more than ten years experience and 28.5 percent had between six and ten years) are employed in jobs that do not exploit their skills. In fact, 54.4 percent of the farm worker households indicated that their previous experience in the LSCF sector is not relevant to their current jobs in the newly resettled areas, implying that some valuable skills earned by former farm workers are not being utilised in some areas, although they may be in short supply in other areas of the country. In addition to the categories of skills highlighted above, specialist skills (tobacco grading, tractor driving and livestock diagnostics) and consultants are also engaged by households for specific assignments as and when the need arises.

Although the bulk of the workforce is composed of adults above the age of sixteen years, children are also deployed by some households as hired-in labour. According to the *Labour Relations Act Chapter 28:01*, the employment contract of any person under the age of sixteen years cannot be enforced but the activity is not classified as illegal. However, the International Labour Organisation (ILO) Minimum Age Convention, to which Zimbabwe is a signatory, makes the employment of people below the age of fifteen years illegal. The implementation of these statutes is weak and children continue to be employed in various sectors, and especially in agriculture and mining. The study did not adequately address the involvement of children in wage employment but observation

and press reports have indicated the proliferation of child labour utilisation in the newly resettled areas.[18] Their utilisation within the family is discussed in the next section.

4.4.3 Recruitment of family labour

As with hired labour, family labour mobilised by the households is analysed in terms of sex, skills and age, and the source of labour is also considered in this sub-section. Field survey evidence suggests sharing of work between men and women in newly resettled households as they account for 49.9 percent and 50.1 percent respectively of the labour deployed (Table 4.11).

Table 4.11 Sex of Labour Mobilised by Households in Newly Resettled Areas

Sex	A1 and A2 Households		Farm worker Households	
	No. people mobilised	% of total mobilised	No. people mobilised	% of total mobilised
Male	383	49.9	86	54.4
Female	384	50.1	72	45.6
TOTAL	**767**	**100.0**	**158**	**100.0**

Source: AIAS Zvimba District Household Baseline Survey (2005)

In former farm worker households, there are more males deployed by households (54.4 percent) than females (45.6 percent). These trends are in contrast to widespread empirical

[18] A tragedy in January 2004 in Bindura exposed the growth of child labour when a lorry carrying farm workers after a day's work overturned killing 22 people and the survivors included children aged between thirteen and eighteen years (www.independentcatholicnews.org Zimbabwe: Child labour a growing problem, 6 February 2004). In related developments, school children at Kuwadzana High School in Banket were reported to have been forced to provide supplementary labour at North Banket Farm and another farm owned by a high profile business executive based in Harare in exchange for payment of a portion of their school levies directly to the school (Zimbabwe Independent, 19 March 2004). Children refusing to work are required to pay an extra ZW$20 000, which the school claims is for sport development. A similar scenario existed at another farm in Odzi District, where the farmer took advantage of the shortage of books at the farm school by asking students to work on the farm in exchange for books from the owner (www.newzimbabwe.com, General Nyambuya's workers desert farm, 16 March 2004).

findings that the burden of work in rural areas is carried mostly by women (Muchena, 1994; Potts, 2000) but are reflective of the population of Zvimba's newly resettled areas, which is almost evenly distributed, whereas in most rural areas women constitute the majority of the population.

The bulk of the family labour resources mobilised by households is from within the nuclear household. In Zvimba District, 68.2 percent of the sampled households are nuclear households, while the remainder are extended family households. The pattern of distribution of nuclear and extended family households remains visible when the two resettlement sectors are disaggregated. In the newly resettled households, of 752 family workers mobilised, 79.3 percent are from within the nuclear household and 20.7 percent are from the extended family (Table 4.12). The mobilisation of own family labour in farm worker households is also comparable to that of A1 and A2 households, as 89.6 percent of the labour mobilised is from within the nuclear household.

Table 4.12 Source of Family Labour in Newly Resettled Areas, Zvimba District

Source of Labour	A1 and A2 Households		Farm worker Households	
	No. HH members mobilised	% HH members	No. HH members mobilised	% HH members
Within nuclear household	596	79.3	139	89.6
Extended family	156	20.7	16	10.4
TOTAL	**752**	**100.0**	**155**	**100.0**

Source: AIAS Zvimba District Household Baseline Survey (2005)

The skills harnessed from within the household include formal agricultural training and the standard educational qualifications earned through the Zimbabwean school system. Formal agricultural training is limited in the newly resettled areas, as 85.9 percent of the

members mobilised by households had none at the time of the field surveys (Table 4.13). The other members had attained formal training from certificate to diploma level in agriculture. Attainment of formal agricultural training is even lower among farm worker households, with 93.5 percent not possessing any recognised qualification. However, households do have agricultural experience outside the formal system, mostly in the communal areas for A1 and A2 households and from working in the LSCF sector for farm worker households. For instance, among households heads mobilised to provide family labour, 40.4 percent have agricultural experience spanning more than ten years in the communal areas and 13.7 percent have six to ten years worth of experience. In addition, some households have other skills transferrable to farming gained from previous and current professional employment. For instance 13.1 percent of the beneficiaries have managerial and planning experience learnt in current and previous professional employment.

Table 4.13 Skills of Household Members Mobilised

Formal Agricultural Training	A1 and A2 Households		Farm worker Households	
	No. HH members	% of total	No. HH members	% of total
No formal training	550	85.9	144	93.5
Certificate	32	5.0	6	3.9
Master Farmer certificate	42	6.6	1	0.6
Advanced Master Farmer	12	1.9	-	-
Diploma	4	0.6	3	2.0
TOTAL	**640**	**100.0**	**154**	**100.0**

Source: AIAS Zvimba District Household Baseline Survey (2005)

In terms of formal education, less than 20.0 percent of the members mobilised across A1, A2 and farm worker households did not go through the schooling system (Table 4.14). In Zvimba District, 31.6 percent of the members in newly resettled A1 and A2 households

had completed O' Level, compared to 9.7 percent in farm worker households, meaning that the education levels are higher among the former than the latter. Literacy levels are high in the newly resettled areas as more than 80 percent of the members mobilised by households had attained at least primary education. The high literacy levels in newly resettled areas imply that households can assimilate extension and other agricultural knowledge and information and they thus facilitate rapid skills transfer.

Table 4.14 Education Level of Household Members Mobilised

Education Level Attained	A1 and A2 Households		Farm worker Households	
	No. of Households	% of total	No. of Households	% of total
No formal education	161	15.1	30	19.3
Primary education	335	31.4	82	52.9
ZJC	147	13.8	24	15.5
O' Level	338	31.6	15	9.7
A' Level	32	2.8	1	0.6
Tertiary	17	1.6	-	-
Standard 6	37	3.7	3	2.0
TOTAL	**1 067**	**100.0**	**155**	**100.0**

Source: AIAS Zvimba District Household Baseline Survey (2005)

In most of the households in the newly resettled areas, adult labour is mobilised to perform services in agriculture, but children under the age of sixteen years are also deployed in some households. The AIAS study could not ascertain the level of involvement of children, time periods, actual tasks carried out and length of time that they are employed, thus our discussion is only indicative of the use of child family members in agricultural production in these areas. In the sample data, 21.8 percent of the households reported the involvement of children in household agricultural work (Table 4.15). There exists a statistical association between the model type and the use of children in such work (Table 4.15, Chi-Square results). The use of children is more prevalent in the A1 households than in the A2. Disaggregated analysis shows that 28.5 percent of the

A1 households mobilise child labour compared to 8.0 percent in the A2 sector. The number of children mobilised by households averages 2.1 and 2.0 per household in the A1 and A2 sector respectively for those who utilise them.

Table 4.15 Child Labour Utilisation in the New Resettlement Sector

Utilisation of Child Labour	A1			A2			Total		
	No.	%	% of Total	No.	%	% of Total	No.	%	% of Total
Use child labour	59	28.5	19.2	8	8.0	2.6	67	21.8	21.8
Do not use child labour	148	71.5	48.2	92	92.0	30.0	240	78.2	78.2
TOTAL	207	100.0	67.4	100	100.0	32.6	307	100.0	100.0

Level of Child Labour Use	No.	Total in Sample	No.	Total in Sample	t-value#
Total child labour/ HH	2.15	N=59	2.00	N=8	0.280
No. child workers/ ha cropped area	0.74	N=53	0.39	N=5	1.248

Source: AIAS Zvimba District Household Baseline Survey (2005)

Child labour utilisation by resettlement sector, Chi-Square=16.612, 1 d.f., p=0.00 (significant at 0.05) # Significant at p=0.05

In addition to mobilisation of labour from within the nuclear and extended families, there also exist inter-family arrangements of reciprocal labour exchanges. Under these arrangements, several households team up to work on one household's plot, normally during peak periods such as weeding and harvesting, and each participating household receives these services in turn. In most cases under reciprocal labour arrangements, the household that is receiving labour services provides food and (non) alcoholic drinks to other members during the time that they are working on their plot. Reciprocal labour arrangements enable tasks that would take a long time if each household relied only on its own labour pool to be completed quickly. These reciprocal labour arrangements, which

are very common in the communal areas, have to a limited extent been imported into the newly resettled areas. In the sample data only 1.3 percent of the beneficiary households are involved in reciprocal labour exchanges to meet some of their agricultural labour demands and all of them ware located in the A1 sector.

4.4.4 Methods of labour mobilisation

There are two dominant methods of hiring in labour into the newly resettled households, i.e. individual and group recruitment. Within the individual recruitment approach, it is possible to distinguish between selection on the basis of skills and experience and that based on other rationale. The mobilisation of labour by the newly resettled households is done through scouting and advertising through word of mouth, mostly within the former LSCF areas (farm compounds and local centres where former farm workers are resident). In addition, labour is mobilised from among those who proactively seek jobs on the farms.

Table 4.16 Methods of Recruiting Permanent Agricultural Workers

Method	A1		A2		Total	
	No. of HH	% of HH	No. of HH	% of HH	No. of HH	% of HH
Individual						
Skills based	49	75.4	28	47.4	77	62.1
Not skills based	16	24.6	31	52.4	47	37.9
Group recruitment	-	-	-	-	-	-
TOTAL	65	100	59	100	124	100

Source: AIAS Zvimba District Household Baseline Survey (2005)

Individual recruitment is the only method used for permanent agricultural workers and it is biased towards harnessing the skills and experience possessed by the workers. More

than 60 percent of the newly resettled households highlighted that they select permanent workers on the basis of skills and/or experience (Table 4.16). A disaggregated assessment shows that skills based mobilisation of labour is more dominant in the A1 sector that the A2 sector, with 75.4 percent of the A1 households that hire in permanent workers indicating that they consider skills and/or experience in the selection of full time employees, compared to 47.4 percent in the A2 sector.

In the mobilisation of casual agricultural workers, the individual method is also dominant but group mobilisation is also used. Within this, skills based selection is dominant, being used by 58 percent of the households (Table 4.17). Group mobilisation of casual workers is limited to 3.8 percent of the households. When the trends are considered in the disaggregated A1 and A2 households, individual recruitment is also biased towards harnessing certain skills and/or experience, utilised by 58.6 percent and 56.9 percent respectively. Group recruitment is carried out by 4.6 percent and 2.6 percent respectively of those A1 and A2 households that hire in casual workers (Table 4.17).

Table 4.17 Methods of Recruiting Casual Agricultural Workers

Method	A1		A2		Total	
	No. of HH	% of HH	No. of HH	% of HH	No. of HH	% of HH
Individual						
Skills based	78	58.6	45	56.9	123	58.0
Not skills based	49	36.8	32	40.5	81	38.2
Group recruitment	6	4.6	2	2.6	8	3.8
TOTAL	133	100.0	79	100.0	212	100.0

Source: AIAS Zvimba District Household Baseline Survey (2005)

Another form of labour mobilisation observed in the newly resettled areas was the engagement of specialist consultancy services for specific, short term assignments that

are not part of the routine agricultural activities. These activities include motor mechanics, veterinary services, livestock diagnosis and treatment of farm animals. The mobilisation of labour through this route is on a low scale, as only 13.2 percent of the households indicated that they used specialised labour services in the sample data. The services are mostly offered by skilled former farm workers. This was corroborated by evidence from farm worker households as 8.0 percent reported that they provide their labour services through this route.

Newly resettled households also mobilise labour in the form of gangs, who provide their services as a group. Labour gangs are made up mostly of former farm workers who organise themselves into teams to provide general labour services (e.g. weeding, harvesting, stumping, etc.) and specialised tasks on demand from new farmers. Unlike permanent and casual workers, who are contracted to a specific employer/household and receive periodic wages and benefits, labour gangs are independent and their attachment to a household ends on completion of an assignment and payment for it. The independence of labour gangs from employers allows them some bargaining power in determining wage rates, a right that was severely limited in the past as workers in the LSCF sector relied on landowners for both wage employment and residency on freehold property (Chambati and Moyo, 2003; Chambati and Magaramombe, 2008). Labour gangs demand payment as a group, which tends to be higher than that paid to contracted employees and is shared amongst the members through the leader of the gang. The labour gangs are mostly engaged by newly resettled households during peak seasonal periods to perform time sensitive tasks that the normal employment establishment cannot accomplish in the

required time. The AIAS sample data showed that labour gangs are mobilised by 12.6 percent and 15.0 percent of the A1 and A2 households respectively.

4.5 Social Differentiation of Labour Use and Mobilisation

4.5.1 *Labour use*

Newly resettled households' labour use was socially differentiated based on resource access and other socioeconomic characteristics of households, including family size, land size, education level, and employment status.

It was found that labour use is differentiated on the basis of the educational level attained by the landowners in the A1 sector. A positive association exists between the level of labour use and the educational level attained by the land beneficiaries i.e. in general, households possessing higher levels of education tend to hire in more absolute labour than those with lower educational levels (Table 4.18, Chi-Square results).

Table 4.18 Education Level versus Level of Labour Use, A1 Sector, Zvimba District

Educational Level	Level of Labour Use										Total	
	Lowest		Low		Medium		High		Highest			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
No formal	7	12.8	9	10.8	0	0.0	0	0.0	0	0.0	16	7.7
Primary	14	25.5	19	22.9	7	33.3	7	22.6	1	5.9	48	23.2
ZJC	7	12.7	16	19.3	2	9.5	8	25.8	2	11.8	35	16.9
Standard 6	7	12.7	6	7.2	0	0.0	0	0.0	3	17.6	16	7.7
O Level	19	34.5	31	37.3	10	47.6	12	38.7	9	52.9	81	39.1
A Level	1	1.8	2	2.4	1	4.8	2	6.5	0	0.0	6	2.9
Tertiary	0	0.0	0	0.0	1	4.8	2	6.5	2	11.8	5	2.4
TOTAL	55	100.0	83	100.0	21	100.0	31	100.0	17	100.0	207	100.0

Source: AIAS Zvimba Household Baseline Survey (2005)

Education level by level of labour use, Pearson Chi-Square=38.65, 24 d.f., p=0.03 (significant at 0.05)

For instance, households with landowners who have no formal education are located in the lowest and low level labour use categories, accounting for 12.8 percent and 10.8 percent among these respective groups. There are no households with landowners with no formal education in the medium, high and highest level labour use categories, where all the land beneficiaries had attained at least primary education. At the other end of the educational ladder, there were no landowners who had attained tertiary education in the low and lowest level labour use categories, but these appear in the medium, high and highest level labour use categories, ranging from 4.8 percent to 11.8 percent. Furthermore there are more landowners who attained the Ordinary Level qualification in the medium, high and highest level labour use categories than in the low and lowest categories. Given the relationship of education to other factors, such as literacy, familiarity with official documents, access to resources and professional opportunities, one would expect a correlation between education and level of labour use in the A2 because the application process under this scheme was more demanding and selection was based on such factors as the quality and viability of the business plan presented and the potential for self financing by the applicant. However, in the A2 sector no association was found between the educational level attained by the landowners and the level of labour use.

A differentiated pattern also emerged in the areas cropped in relation to the level of labour use in both the A1 and A2 sectors. Those households that crop more land are generally located in the higher levels of labour use categories. For instance, in the A1 sector the highest percentage of households (43.6 percent) that cropped 2 hectares or less in the 2004/05 season appears in the lowest level labour use category (Table 4.19), with a

further 29.3 percent falling in the low labour use category. On the other hand, those that crop 2 hectares or less are fewer than 10.0 percent among the medium and highest level labour users. At the other end of the cropping ladder, households that cropped 5 hectares or more are limited to only 3.6 percent in the lowest level labour users, compared to 47.1 percent among the highest level labour users.

Table 4.19 Level of Labour Use by Total Cropped Area, A1 Model

Total Cropped Area Hectares	Level of Labour Use										Total	
	Lowest		Low		Medium		High		Highest			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
0	8	14.5	5	6.0	1	4.8	6	19.4	4	23.5	24	11.6
0.1 - 1	8	14.5	4	4.8	0	0.0	2	6.5	1	5.9	15	7.2
1.01 - 2	16	29.1	12	14.5	2	9.5	5	16.1	0	0.0	35	16.9
2.01 – 3	13	23.6	20	24.1	1	4.8	6	19.4	2	11.8	42	20.3
3.01 - 4	5	9.1	15	18.1	6	28.6	0	0.0	1	5.9	27	13.0
4.01 - 5	3	5.5	9	10.8	6	28.6	4	12.9	1	5.9	23	11.1
5.01 – 6	1	1.8	6	7.2	2	9.5	4	12.9	4	23.5	17	8.2
6.01 - 10	1	1.8	10	12.0	1	4.8	3	9.7	1	5.9	16	7.7
10.01 - 20	0	0.0	1	1.2	1	4.8	0	0.0	2	11.8	4	1.9
Over 20	0	0.0	1	1.2	1	4.8	1	3.2	1	5.9	4	1.9
TOTAL	55	100.0	83	100.0	21	100.0	31	100.0	17	100.0	207	100.0

Source: AIAS Zvimba District Household Baseline Survey (2005)

Level of labour use by total cropped area, Pearson Chi-Square=73.498, d.f.=36, p=0.000 (significant at 0.05)

Similar trends were exhibited in the A2 sector where households cropping more land area are also located in the higher levels of labour use. The lowest level labour user category had only two households that cropped in the 2004/05 season, of which one cropped 1.0 hectare; and the other 3.0 hectares. The majority of the households (35.7 percent) in the highest level labour users is also found in the highest category of over 20 hectares of land area cropped (Table 4.20), while 7.7 percent and 19.2 percent of households cropping more than 20.0 hectares of land are categories among the low and high level labour users respectively. There were no households that cropped more than 20.0 hectares among the medium level labour users. The area cropped by households can be used as an indicator

of resource availability, suggesting that those who utilise more labour tend to have more resources at their disposal.

Table 4.20 Level of Labour Use by Total Cropped Areas, A2 Model

Total Cropped Area Hectares	Level of Labour Use										Total	
	Lowest		Low		Medium		High		Highest			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
0	7	77.8	6	23.1	1	16.7	4	15.4	2	7.1	20	21.1
0.1 - 1	1	11.1	2	7.7	2	33.3	0	0.0	0	0.0	5	5.3
1.01 - 2	0	0.0	1	3.8	0	0.0	1	3.8	1	3.6	3	3.2
2.01 – 3	1	11.1	1	3.8	0	0.0	1	3.8	1	3.6	4	3.2
3.01 - 4	0	0.0	3	11.5	1	16.7	3	11.5	1	3.6	8	8.4
4.01 - 5	0	0.0	1	3.8	0	0.0	3	11.5	2	7.1	6	6.3
5.01 – 6	0	0.0	1	3.8	1	16.7	1	3.8	2	7.1	5	5.3
6.01 - 10	0	0.0	7	26.9	1	6.3	4	15.4	4	14.3	16	16.8
10.01 - 20	0	0.0	2	7.7	0	0.0	4	15.4	5	17.9	11	11.6
Over 20	0	0.0	2	7.7	0	0.0	5	19.2	10	35.7	17	17.9
TOTAL	9	100.0	26	100.0	6	100.0	26	100.0	28	100.0	95	100.0

Source: AIAS Zvimba District Household Baseline Survey (2005)

Level of labour use by total cropped area, Pearson Chi-Square=73.498, d.f.=36, p=0.000 (significant at 0.05)

The evidence from the analysis on cropped areas and labour use was also corroborated by agricultural asset access amongst the different categories of households on the basis of the level of labour use. On the access to and ownership of assets similar relationships were found to those pertaining to the areas cropped. Access to and ownership of agricultural assets was biased towards households that also utilise more absolute labour. Access and ownership patterns were assessed on three different types of agricultural assets – hand tools, animal-drawn equipment, and motorised/power driven equipment.

The access and ownership of hand tools is generally high in the newly resettled areas in both the A1 and A2 sectors, across all the levels of labour use categories. For instance, hoes and axes are owned by at least 88.0 percent of the households within the different level of labour use categories in both sectors (See Annex 4.1 and Annex 4.2). Ownership

of the other types of hand tools (mattocks, picks, spades, wheelbarrows and knapsack sprayers) is lower than that of the common tools (hoes and axes) but is generally above 50 percent in the different levels of labour use categories. Regarding the less common hand tools, the percentage of households with access and/or ownership of these tends to increase as one moved from the lowest to the highest level labour users in the A1 sector. For example, for picks, the percentage of households owning them increases from 58.18 percent in the lowest level labour use category to 88.24 percent in the highest category (Annex 4.1). In the A2 sector, the percentage of households owning hand tools initially increases between the lowest and low level labour users, decreases among medium level labour users, before increasing for high level labour users, to reach a peak among the highest level labour users. As another example, 55.56 percent of the households own a mattock among the lowest level labour users, which increases to 73.08 percent among the low level labour users and decreases to 57.14 percent for medium level labour users, finally increasing to a peak of 82.14 percent in the highest level labour user category (Annex 4.4). The common denominator across all the hand tools is that there are more A2 households in the highest level labour use category that own the implement.

Similar to the trends in the ownership and access patterns, field evidence also showed that the average number of hand tools that households can access is greatest for those that utilise more labour. For most of the hand tools, there is a statistically significant increase in the average number of assets accessed by households as one moves from the lowest to the highest level labour user category in the A1 sector. For instance, the average number of hoes significantly increases from 5.22 in the lowest labour use category to 9.41 among

the highest labour users (Annex 4.1). The high level labour users notably tend to have access to more hand tools than low level labour users in the A1 sector in general. In the A2 sector also, the average number of hand tools accessed by households increases significantly moving from the lowest to the highest level labour users. For example the average number of hoes accessed significantly increases from 7.22 by the lowest level labour users to 11.86 among the highest level labour users (Annex 4.2). The only implements for which this is not the case are axes and wheelbarrows, with no statistically significant difference in the numbers owned across the different levels of labour use.

Newly resettled A1 and A2 households are not differentiated on their access and ownership of animal drawn implements. There are no significant differences in the ownership of and access to animal drawn implements across the five levels of labour use categories. Our attention thus shifts to motorised/power driven implements, for which a differentiated pattern was established. Access to and ownership of power driven implements is lower than that of hand tools. In general, across all the levels of labour use, power driven implements are owned by less than 20.0 percent of the A1 households (Annex 4.5 and Annex 4.6). In all the equipment categories, the percentage of households with access and/or ownership increases as one moves from the lowest to the highest level labour users. For instance, the percentage of households in the A1 sector with access to tractors increases from 1.82 percent among the lowest level labour users to 23.53 percent for the highest level labour users (Annex 4.5). In the A2 sector, the percentage of households with access to power driven implements decreases from the lowest level labour user to the medium, before increasing among the high level labour users, to reach

a peak for the highest level labour users in all equipment categories. Ownership of and access to power driven implements is more common in the larger A2 sector than among the small sized A1 households. For example, in the A1 sector, 6.76 percent of the households have access to a tractor, compared to 42.71 percent in the A2 sector (Annex 4.5 and Annex 4.6). The high ownership and/or access patterns of power driven implements in the A2 sector compared to the A1 sector could be explained by the fact that they are better resource endowed and their larger land require these power driven implements to enhance their land utilisation. In all the power driven equipment categories, the highest level labour users have the highest percentage of households with access to them in the A2 sector. On the average number of power driven implements accessed by households there are significant differences across the different levels of labour use in both the A1 and A2 sectors (see Annex 4.5 and Annex 4.6, ANOVA results). The average number of implements significantly increases moving from the lowest to highest level labour use category among the newly resettled A1 and A2 households. The highest level labour users have access by household to a significantly higher average number of power driven implements.

Further analysis showed that the number of assets owned within the broader groups of hand tools, and animal drawn and power driven implements also differentiates the level of labour use in newly resettled areas. There is a statistical association between the number of types of hand tools owned and the level of labour use in the A1 and A2 sectors, implying that the number of hand tool categories owned by households increases as one moves from the lowest to the highest level labour users. For ownership of five or

more categories of hand tools in the A1 sector, the percentage increases from 50.9 percent among the lowest level labour users to 94.1 percent among the highest level labour users (Annex 4.7). Although there are fewer households in the A1 sector owning less than three categories of hand tools, these are found mostly among the lowest and low level labour user households. For instance, in the lowest and low level labour user categories, 23.7 percent and 10.8 percent of the households own three or less categories of hand tools respectively, whereas there are less than 6.0 percent in the other labour use categories. An almost similar situation exists in the A2 sector where the highest level labour use category has the highest percentage of households that own five or more categories of hand tools. Among the medium to highest level labour users, there are no households owning less than three categories of hand tools in the A2 sector but 7.6 percent of the low level labour users own two or less categories of hand tools (Annex 4.7). For those owning five or more categories of hand tools, the percentage of households increases from 88.9 percent in the lowest level labour user to 96.4 percent among the highest level labour users.

In terms of power driven implements, there is an association between the numbers of implement categories owned and the level of labour use, with the percentage of households owning multiple tools being higher among those located in the highest level of labour use than among those in the lowest level labour use category in both the A1 and A2 sectors (Annex 4.9, Chi Square results). For instance, in the A1 sector, there are no households owning more than two implement categories among the lowest level labour users, while 23.5 percent of the households in the highest level labour users (Annex 4.9)

did so. In the other categories of labour use (low to high level labour users) households owning more than two power driven implement categories are limited to less than 7.0 percent. Similarly, in the A2 sector the highest level labour users have the highest percentage of households owning more power driven implement categories than the other labour use categories. Of the highest level labour users, 60.7 percent fall among those owning five or more power driven implement categories, while there are no lowest or low level labour user households in this category (Annex 4.9). For the medium and high level labour users, 3.8 percent and 23.1 percent owned five or more power driven implements respectively. The level of labour use by households is not differentiated by the number of animal drawn implement categories owned (annex 4.8).

4.5.2 *Labour mobilisation*

The mobilisation of labour is differentiated on the basis of the skills harnessed and the age of the workers utilised in farming and other social reproduction activities. The mobilisation of labour skills in the new resettlement areas is mostly through the recruitment of former farm workers into the employ, including for specialised skills such as managerial and supervisory.

Field evidence shows that the mobilisation of the skills of former farm workers is statistically associated with the level of labour use obtaining in newly resettled households. There are higher percentages of households that mobilise former farm worker skills among the higher level labour users in both the A1 and A2 sectors. The percentage

of households mobilising farm worker skills increases from 1.8 percent for the lowest level labour users, to 94.1 percent among the highest level labour users in the A1 sector (Table 4.21).

Table 4.21 Level of Labour Use by Mobilisation of Former Farm Worker Skills, A1 Model

Employs former farm workers ?	Level of Labour Use (Number and Percentage of Households)																	
	Lowest			Low			Medium			High			Highest			Total		
	No.	%*	% of HH **	No.	%	% of HH	No.	%	% of HH	No.	%	% of HH	No.	%	% of HH	No.	%	% of HH
A1																		
Yes	1	1.9	1.8	6	11.1	7.2	11	20.4	52.4	20	37.0	64.5	16	29.6	94.1	54	100.0	26.1
No	54	35.3	98.2	77	50.3	92.8	10	6.5	47.6	11	7.2	35.5	1	0.7	5.9	153	100.0	73.9
Total	55	26.6		83	40.1		21	10.1		31	15.0		17	8.2		207	100.0	
A2																		
Yes	0	0.0	0.0	4	8.2	15.4	4	8.2	57.1	17	34.7	65.4	24	49.0	85.7	49	100.0	51.0
No	9	19.1	100.0	22	46.8	84.6	3	6.4	42.9	9	19.1	34.9	4	8.5	14.3	47	100.0	49.0
Total	9	9.4		26	27.1		7	7.3		26	27.1		28	29.2		96	100.0	

Source: AIAS Zvimba District Household and Farm Workers Surveys (2005)

*row percentage **column percentage

Level of labour use by place of mobilisation of former farm worker skills (A1 model), Pearson Chi-Square=104.187, d.f.=4, p=0.000(significant at 0.05)

Level of labour use by place of mobilisation of former farm worker skills (A2 model), Pearson Chi-Square=38.327, d.f.=4, p=0.000(significant at 0.05)

Among the low, medium and high level labour users in the A1 sector respectively, former farm workers' skills are mobilised by 7.2 percent, 52.4 percent and 64.5 percent of the households. Similarly in the A2 sector, the percentage of households mobilising former farm worker skills increases as one moves from the lowest to the highest level labour users. There are no households among the lowest level labour users in the A2 that mobilise former farm worker skills (Table 4.21). The percentage of households mobilising former farm worker skills increases from 15.4 percent for the low level labour users to

85.7 percent among the highest level labour users. In the medium and high level labour use categories, former farm worker skills are mobilised by 57.1 percent and 65.4 percent respectively. Thus households that hired in more labour, as reflected in their level of labour use category, also express their preference for the skills that former farm workers gained in the LSCF sector.

The mobilisation of former farm worker skills is also statistically associated with the type of crops grown by households in the A1 sector. Maize is the dominant crop grown by all households in the newly resettled areas but its combination with other crops is what differentiates households in terms of labour use. The survey evidence shows that the greatest proportion of households (45.7 percent) that mobilise former farm worker skills grow tobacco, which is considered a specialised crop (as the production processes is cumbersome and requires some technical know-how), compared to 22.2 percent in households that do not hire in former farm worker skills. Close to 50.0 percent of the households that do not mobilise former farm workers are involved only in the production of maize. The mobilisation of former farm worker skills is also associated with the areas cropped by newly resettled households, with those that mobilise former farm workers tending to crop more land area in general than those who do not. In the A1 sector for instance, 15.7 percent of the households that do not mobilise former farm workers crop more than 5 ha of land, compared to 32.8 percent among those who do hire them in. Those who do not mobilise former farm worker skills are dominant among the group that crops land areas of less than or equal to 3 ha, as they are 60.9 percent in this group of

households, compared to 41.7 percent in those that hire in former farm workers. In the A2 sector, for cropped areas above 10 ha, 41.2 percent of households mobilise former farm worker skills, compared to 16.7 percent among households that do not.

In Zvimba District, the allocation of land to A1 households is generally uniform, with all households being allocated +/- 6 ha of arable and +/- 15 ha of shared grazing area. However, the study found that households in the A2 sector that hire in specialist managerial skills tend to be endowed with larger farm sizes where there has been variation in the allocation of land under the FTLRP. There are higher percentages of households that employ farm managerial skills among those with plot sizes of over 50 ha. For instance, 73.0 percent of the households that hire in farm managerial skills own at least 50 ha of land compared to 47.1 percent among those that do not recruit managerial skills. Not recruiting managerial skills is more common among those with lower hectarages, where 52.9 percent of those that do not hire in such skills own less than 50 ha, compared to 26.9 percent among those that do hire in such skills.

The use of children from within the household also socially differentiates the mobilisation of labour in newly resettled areas, especially in the A1 sector where it is more prevalent than in the A2 sector. There is a differentiated pattern in the use of the other forms of hired labour between households that utilise children in their farming activities and those that do not.

Independent t-tests between those that utilise children from within the household and those that do not showed a significant difference in the average labour utilised by the households. In the A1 sector, the average number of permanent workers and casual workers hired in on an annual basis is significantly higher in households that do not utilise child labour. The average number of permanent workers hired in by A1 households that do not utilise child labour is 2.5 times higher than for those that do utilise children in own farming activities (Table 4.22). Users of child labour hire an average of 0.94 permanent workers, compared 2.29 among non-users (Table 4.22), while among the casual labour force mobilised on an annual basis, utilisation is 1.4 times higher in households that do not use child labour.

Table 4.22 Comparative Utilisation of Other Forms of Labour by Child Labour Use A1 Sector

General Labour Use by HH	Use Child Labour	Don't Use of Child Labour	t-value*
Permanent	0.94	2.29	*-1.037
Casual	4.61	6.51	*-2.121
Family labour	5.35	1.93	*8.591
N	59	148	

Source: AIAS Zvimba District Household Baseline Survey (2005)
* Significant at p=0.05

From the study's findings in the A1 sector, child labour utilisation is associated with lower use of hired labour. It is probable that the costs associated with the use of hired labour, especially permanent workers, tend to discourage its use among poorer households. The data indicates that in households that use child labour, family labour constitutes 35 percent of the total labour invested in agricultural production, compared to 10 percent in non child labour using households. Thus the use of child labour could be interpreted as a cost avoidance strategy by low resource endowed households. This

evidence is corroborated by Chi-Square tests which show the existence of an association between the use of children from within the household and the hiring out of own family labour to other households for farming activities which characterises poor households. The study found that, among households in the A1 sector that utilise child labour, those that hire out their labour constitute 20.3 percent, compared to only 8.8 percent among those that do not mobilise children to work. The differentiation of households that use and do not use child labour is also reflected in the access and ownership patterns of agricultural assets as low level child labour users also tend to own less assets than the high level child labour users. In general, therefore, it is the households with the strongest financial resource and asset base that are the least likely to utilise child labour

4.6 Concluding Remarks

Different forms of labour are mobilised in Zvimba District's newly resettled areas, from within own family sources and external sources, through hiring in of wage labour on a full or part time basis, and through non-wage reciprocal inter-family arrangements. Within the family, the majority of the labour is mobilised from the nuclear household, with mobilisation from extended family sources being less common. The newly resettled areas are the major source of labour hired in on a fulltime basis by households, mostly from among the farm workers formerly employed in the LSCF sector, the majority of whom have remained resident in the farm compounds after the FTLRP. Another important source of labour in the newly resettled areas is the communal areas, from whence over 65.0 percent of the land beneficiaries originated. Labour from the communal

areas is mobilised from within the extended family and from other land short, peasant households.

The supply of labour to most households in Zvimba's newly resettled areas seems adequate, given that competing or alternative income earning activities with higher rewards, such as gold panning, are limited. Overall, fewer than 30.0 percent of the households report having faced labour shortages in the newly resettled areas. Disaggregated by resettlement sector, our field evidence shows that 30.8 percent and 26.0 percent of the A1 and A2 households face labour shortages. Such shortages in Zvimba District are mostly seasonal, with 89.8 percent of those households reporting a deficit indicating that they had encountered bottlenecks in the rainy season. Only 9.2 percent encountered the labour shortage in the dry season, reflecting the fact that the agriculture is rain fed on most of the new farms. Weeding activities are the focus of the greatest shortage, reported by 72.2 percent of the labour short households, followed by harvesting, at 54.4 percent. Because of their seasonal nature, labour shortages are experienced on the part time hired in labour component that is required to augment family and fulltime labour during peak periods. Shortages experienced within households seem to be influenced by the unavailability of financial resources to reward workers, as highlighted by 62.1 percent of the households, more than by the general supply of labour. However some households (23.1 percent) highlighted supply not matching demand, as well as former farm workers refusing to work for new farmers (14.9 percent).

Although there has been an increase in the degree of self employment as own producers in the newly resettled areas, compared to the situation obtaining in the former LSCF sector, the fact that the majority of households do hire in either full or part time labour to augment family labour resources, especially during the peak agricultural season, suggests the existence of a labour market. Very few rely exclusively on the family for their labour resources. The labour market seems casualised and/or seasonal in the sense that households hire in low numbers of permanent workers and more casual workers annually. In the A1 sector, 66.7 percent of the households do not hire in permanent workers, compared to 30.3 percent with no part time workers, while in the A2 sector, 37.8 percent do not hire in permanent workers and 12.5 percent do not hire in the part time category. There also seems to be underutilisation of former farm workers skills as their engagement was limited to 26.1 percent and 51.0 percent of the A1 and A2 households respectively. Where they are employed by new farmers, new land uses patterns biased towards food crops in new resettlement areas have restricted the utilisation of their skills in commercial export agriculture. Furthermore, an assessment of the total labour force (including self employed family workers) in newly resettled areas shows the dominance of casual labour, accounting for over 63.2 percent (Table 3.1). In both the A1 and A2 sectors, casual labour constitutes over 75 percent of the total labour hired in by newly resettled households. Family labour resources account for 26.9 percent and 7.0 percent of the total number of workers utilised in the A1 and A2 sectors respectively.

The casualisation of the labour market and the low re-employment of former farm workers in the newly resettled areas raises some questions regarding the livelihoods of

rural workers, as permanent work is guaranteed and earns higher wages protected by gazetted collective bargaining agreements in comparison to casual work which earns irregular wages and conditions determined at the farm level (Chambati and Magaramombe, 2008). This begs the question, why does a casualised and/or seasonal labour market exist in the newly resettled areas? Three possible reasons have been suggested by Chambati and Magaramombe (2008).

Firstly, most new farmers are resource constrained and wages set through the collective bargaining process are not affordable to them during this transitional phase of the land reform programme. Furthermore, land uses on most resettlement farms, especially crop production, are rain fed and employment of permanent workers means payment for 'slack time' during the off season when activities are minimal. This study also found that the majority of newly resettled households are involved in the production of maize, for which output prices are controlled by the government and tend to be sub-economic.[19] Thus government commodity pricing policy, especially the controlled pricing of staple foods has also played a key role in suppressing farmer capacities with regard to the payment of the wages and benefits associated with fulltime employment (World Bank, 2006). However it also important to note that the majority of the maize produced in the post 2000 period is being marketed through informal channels rather than through the state controlled Grain Marketing Board.[20]

[19] Maize and wheat marketing is controlled through the Grain Marketing Act – Grain Marketing (controlled Products Declaration: Maize and Wheat) Amendment Notice 2001 No. 1.
[20] For instance in the 2002/03 and 2003/04 season, 4.7 percent and 10.9 percent of the maize produced was sold to the Grain Marketing Board (Ministry of Agriculture, personal communication).

Secondly, land reform beneficiaries are dominated by former communal area residents were they depended on family labour to meet their productive activities, although some occasional engaged casual labour during peak periods to augment family labour. Thus it could be a question of the new farmers sticking to a labour relations framework that they are used to. Hiring in of fulltime workers is mostly on a low scale in the communal areas, where the bulk of labour is provided by the family.

Thirdly, the casualisation of the labour market could be linked to the poor mutual co-existence and conflicts between former farm workers and new farmers. Some former farm workers have been reported to be refusing to work for new farmers and are thus perceived to be against the land reform programme and also through their alliance with white farmers during the land occupations. Whilst, farm workers characterise the new farmers as poor employers who pay sub-economic wages for their labour services, offering downgraded working conditions, and therefore, they prefer casual work that is paid on completion of the task.

CHAPTER FIVE

AGRICULTURAL LABOUR, CAPITAL AND LAND RELATIONS

5.1 Introduction

This chapter examines the utilisation of labour in relation to the land sizes distributed to newly resettled farmers, areas cropped and the types of commodities grown, as well as the intensity of labour use in the different types of farm categories. The chapter also assesses how the farm machinery and equipment endowments owned by newly resettled households influences the utilisation of labour in Zvimba District.

5.2 Land and Labour Utilisation in New Resettlement Farms

5.2.1 Commodity choice and labour utilisation

Crops in the newly resettled areas are mostly a combination of maize with some other crop(s). There were eleven crops reported as being grown by newly resettled farmers at the time of the survey in 2005, which can be classified into food, key export, oilseeds and horticultural crops. The crops most commonly grown by households are maize, tobacco, soyabean and groundnuts. Over 85.0 percent of the households grow maize, followed by tobacco, which is grown by 19.5 percent of the households. The other common crops, groundnuts and soyabean, are grown by 17.5 percent and 4.9 percent of the households respectively (Table 5.1).

Table 5.1 Previous, Current and Proposed Land Use Patterns by Farmers

Crops	Land Use Patterns by Season					
	Previous		Current		Proposed	
	No. of HH	% of HH	No. of HH	% of HH	No. of HH	% of HH
Food crops						
Maize	144	46.7	264	85.7	154	50.0
Wheat	5	1.6	4	1.3	13	4.2
Rice	-	-	-	-	-	-
Small grains	11	3.6	11	3.6	9	2.9
Key export crops						
Tobacco	138	44.8	60	19.5	76	25.6
Cotton	14	4.5	-	-	11	3.6
Sugar beans	-	-	-	-	22	7.1
Oilseed crops						
Soyabeans	30	9.7	15	4.9	44	14.2
Groundnuts	39	12.7	54	17.5	22	7.1
Sunflower	4	1.3	4	1.3	8	2.6
Horticultural crops						
Paprika	7	2.3	-	-	17	5.5
Flowers	4	1.3	-	-	-	-
Citrus	1	0.3	-	-	-	-
Vegetables - food and export	3	1.0	24	7.8	23	7.5

Source: AIAS Zvimba District Household Baseline Survey (2005), N=308

As opposed to the land use patterns in the former LSCF sector, which were focused on exports, crop production in the newly resettled areas is geared towards food crops and surplus for sale in domestic markets. Export crops are capital intensive and might not be affordable to newly resettled households at this point in time. Furthermore, the majority of the beneficiaries in the newly resettled areas have a peasant background, in which the staple maize crop for own consumption would have been produced from own agricultural production. These data suggest that, in this transitional phase of the land reform, households' crop diversification and indeed overall crop production is driven by the need to meet household food security goals rather than to produce cash crops for sale.

From these cropping patterns, four major cropping combinations in the newly resettled areas can be discerned – maize only, maize and oilseeds, maize and tobacco, and maize and (an)other crop(s) (small grains, vegetables or wheat). Crop diversification beyond two crops is limited, as 44.8 percent and 31.5 percent of households grow one and two crops respectively. In the A1 sector, 46.1 percent of the households that cropped in the 2004/05 season grew maize only; 20.0 percent combined maize with (an) oilseed(s); 27.8 percent grew maize and tobacco; and 6.1 percent grew maize with another crop (Table 5.2).

Table 5.2 Level of Labour Use by Major Crop Combinations, A1 Model

Crop Combination	Level of Labour Use										Total	
	Lowest		Low		Medium		High		Highest			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Maize only	29	61.7	29	38.2	8	42.1	10	40.0	7	53.8	83	46.1
Maize/oilseed	5	10.6	17	2.4	8	42.1	5	20.0	1	7.7	36	20.0
Maize/tobacco	10	21.3	23	30.3	3	15.8	9	36.0	5	38.5	50	27.8
Maize/other	3	6.4	7	9.2	0	0.0	1	3.0	0	0.0	11	6.1
TOTAL	47	100.0	76	100.0	19	100.0	25	100.0	13	100.0	180	100.0

Source: AIAS Zvimba District Household Baseline Survey (2005)

Level of labour use by major crop combinations, Pearson Chi-Square=18.20, 12 d.f., p=0.110 (not significant at 0.05)

In the A2 sector, more or less similar crop combinations were also realized as 50.7 percent of the households grew maize only, 18.7 percent combined maize with oilseeds, 10.7 percent grew maize and tobacco and the remainder grew maize with another crop (Table 5.3).

An analysis of the relationship between the level of labour use and crop combinations, shows no statistical association in the A1 sector, as reflected by the Pearson Chi-Square tests (Table 5.2), but in the A2 sector, there is an association in the level of labour use

and crop combination (Table 5.3, Pearson Chi-Square results). For instance, among those who grow maize only, there is a decrease in the percentage of households as you move from the low level labour users to the highest level labour users, from 75.0 percent to 28.0 percent. Maize and oilseeds in combination are grown by mostly medium and high level labour users, who account for 33.3 percent and 36.4 percent respectively within these groups in the A2 sector. As expected, tobacco which is both capital and labour intensive, is grown only by the high and highest level labour users in the A2 sector. The greatest concentration of tobacco growers is found among the highest level labour users, where they constitute 28.0 percent, compared to 4.5 percent for the high level labour users (Table 5.3).

Table 5.3 Level of Labour Use by Major Crop Combinations, A2 Model

Crop Combination	Level of Labour Use										Total	
	Lowest		Low		Medium		High		Highest			
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Maize only	1	50.0	15	75.0	4	66.7	11	50.0	7	28.0	38	50.7
Maize/oilseed	0	0.0	1	5.0	2	33.3	8	36.4	3	12.0	14	18.7
Maize/tobacco	0	0.0	0	0.0	0	0.0	1	4.5	7	28.0	8	10.7
Maize/other	1	50.0	4	20.0	0	0.0	2	9.1	8	32.0	15	20.0
TOTAL	2		20		6		22		25		75	

Source: AIAS Zvimba District Household Baseline Survey (2005)

Level of labour use by major crop combinations, Pearson Chi-Square=28.54, 12 d.f., p=0.005 (significant at 0.05)

The analysis also compared the average labour use within the different crop combinations in both the A1 and A2 sectors using the ANOVA test. In the A1 sector, ANOVA results indicated that there is no significant difference in the average number of permanent and casual workers hired in by households across the crop combinations, but households that grow tobacco have the highest mean number of permanent workers hired in, compared to other crop combinations (Table 5.4). The hiring in of casual workers is dominated by those who grew maize and oilseeds and they engage an average of 7.72 workers per year.

In contrast to the average use of hired-in labour, the ANOVA test revealed significant differences in family labour utilised by households in the A1 sector (Table 5.4, ANOVA results). The average family labour utilised by households is significantly lowest in households that grow maize only (2.33 members) and highest in those that combine maize and tobacco (4.25 members). Because the data do not show the time contributed by casual workers, an index of the sum of family labour and permanent workers (overall labour index) was used as an indicator of the total labour utilised by households. Significant differences were found to exist in the overall labour index across the crop combinations in the A1 sector (Table 5.4, ANOVA results). The households that grow tobacco have the highest average overall labour index of 5.96 workers, followed by those that combine maize with oilseeds, with 3.80 workers.

Table 5.4: Farm Labour Use by Crop Combinations, A1 Model

Average Labour per HH	Crop Combinations				Average for Total Sample
	Maize Only	Maize/Oilseed	Maize/Tobacco	Maize/Other	
Permanent workers	1.24	1.02	1.70	0.18	1.26
Casual workers	5.01	7.72	6.22	5.91	5.94
Family labour	2.33	2.77	4.25	2.45	2.97
Family labour + permanent workers index	3.57	3.80	5.96	2.63	4.22
N	83	36	50	11	180

Source: AIAS Zvimba District Household Baseline Survey (2005)

ANOVA Results

Average number of permanent workers by crop combinations, F=0.848, 3 d.f., p=0.469 (not significant at 0.05)

Average number of casual workers by crop combination, F=1.968, 3 d.f., p=0.121 (not significant at 0.05)

Average number of family labourers by crop combination, F=4.42, 3 d.f., p=0.005(significant at 0.05)

Average number of family labour + permanent workers index by crop combination, F=4.851, 3 d.f., p=0.003 (significant at 0.05)

In the A2 sector, the ANOVA test revealed significant differences in the average number of permanent workers hired in by households across the crop combinations (Table 5.5,

ANOVA results). Similar to the trends expressed in the A1 sector, the analysis also showed that those who grow tobacco have the significantly highest average number of permanent workers hired in by households compared to the other crop combinations (Table 5.5). Those who grow maize only have the significantly lowest average number of permanent workers, almost four times lower than those hired in by households that grow tobacco (Table 5.5). The utilisation of casual and family workers is not significantly different across the crop combinations in the A2 sector (Table 5.5, ANOVA results). However, the average overall labour index (family + permanent workers) is significantly different, as the A2 households that grow maize only have 3.97 workers, compared to 11.62 workers among tobacco growers. Those that grow oilseeds and other crops in combination with maize utilise an average of 5.78 and 10.53 workers respectively.

Table 5.5 Farm Labour Use by Crop combinations, A2 Model

Average Labour per HH	Crop Combinations				Average for Total Sample
	Maize Only	Maize/Oilseed	Maize/Tobacco	Maize/Other	
Permanent workers	2.45	4.14	9.62	8.86	4.75
Casual workers	13.05	14.23	12.88	18.00	14.24
Family labour	1.58	1.64	2.00	1.66	1.65
Family labour + permanent workers index	3.97	5.78	11.62	10.53	6.37
N	40	14	8	15	74

Source: AIAS Zvimba District Household Baseline Survey (2005)

ANOVA Results

Average number of permanent workers by crop combinations, F=7.158, 3 d.f., p=0.00 (significant at 0.05)
Average number of casual workers by crop combination, F=0.772, 3 d.f., p=0.513 (not significant at 0.05)
Average number of family labourers by crop combination, F=0.083, 3 d.f., p=0.969(not significant at 0.05)
Average number of family labour + permanent workers index by crop combination, F=7.835, 3 d.f., p=0.00 (significant at 0.05)

In general, in both the A1 and A2 sectors, the overall usage of labour reflected by the family plus permanent workers index is closely related to the crop combinations, as we

saw that labour intensive tobacco production is undertaken by those households that mobilise the most labour resources, while those who grow maize only have the lowest average overall labour index in both the A1 and A2 sector.

5.2.2 Land sizes and labour utilisation

Land sizes are an important determinant in labour utilisation by households. Therefore, we analysed the relationship between the land size (overall plot size/gross land available, arable area and actual areas cropped) and the labour utilisation in newly resettled areas. Using the ANOVA test, the average labour use (hired and family labour) was compared across the different farm sizes.

Table 5.6 Labour Employed by Size of Holding, Zvimba District

Average Labour per Household	Size of Holding (hectares)				Average for Total Sample
	1 - 19	20 - 49	50 – 99	≥ 100	
Permanent workers	0.95	2.44	7.46	3.29	2.22
Casual workers	6.98	5.93	19.33	15.88	8.65
Family labour	2.72	2.86	2.03	1.20	2.54
Family labour + permanent workers index	3.67	5.29	9.50	4.37	4.76
N	152	81	28	27	288

Source: AIAS Zvimba District Household Baseline Survey (2005)

ANOVA Results

Size of holding by average number of permanent workers, F=22.20, 3 d.f., p=0.00 (significant at 0.05)
Size of holding by average number of casual workers, F=21.94, 3d.f, p=0.00 (significant at 0.05)
Size of holding by average number of family labourers, F=3.04, 3 d.f., p=0.02 (significant at 0.05)
Size of holding by average number of family labour + permanent workers index, F=14.15, 3 d.f., p=0.00 (significant at 0.05)

Firstly, the relationship between the overall gross land size and labour utilisation showed that there are significant differences in the average labour utilised by households across the different land size categories (Table 5.6, ANOVA results). In the permanent workers

category, the average number hired in significantly increases as the land size category increases, from 0.95 workers in the lowest land size category (1 - 19 hectares) to 7.46 workers in the 50 - 99 hectares land size category, before declining for land sizes of 100 hectares or more (Table 5.6). The average number of permanent workers is close to eight times higher in the 50 - 99 hectares land size category than in the lowest land size category. For casual workers, the average numbers hired in by households initially declines between the lowest land size category and the second land size category (20 - 49 hectares), from 6.98 workers to 5.93 workers, before it increases to 19.33 in the 50 - 99 ha land size category, and then decreases to 15.88 workers in land sizes of more than 100 hectares. In terms of family labour, the average numbers utilised tended to significantly decrease as the land sizes increases, from 2.72 workers in the lowest land size category to 1.20 workers in the highest land size category. The trends in overall labour index are similar to those that emerged for the permanent workers, as the average overall labour index increases between the lowest and the 50 - 99 hectares land size category, before it declines towards the highest land size category. In general, the labour utilised by households is expected to increase as the land size increases but this fails to explain why households in the highest land size category utilise less labour than those in the 50 - 99 hectares land size category.

Table 5.7 Size of Holding by Average Cropped Area

Farm Size (hectares)	Average Cropped Area (hectares)	N
1 – 19	3.44	152
20 – 49	5.68	81
50 – 99	18.65	28
≥ 100	11.93	27
TOTAL	6.33	288

Source: AIAS Zvimba District Household Baseline Survey (2005)

ANOVA Results

Size of holding by average cropped area, F=3.042, 3 d.f., p=0.00 (significant at 0.05)

Although some of the reasons that this could be the case, such as access to machinery, are discussed later, the study found that those with land sizes of 100 hectares or more crop significantly less land area in absolute terms than those in 50 - 99 hectares land size category (Table 5.7). The ANOVA test showed that those in the 50 - 99 hectares land size category cropped a significantly higher 18.65 ha, compared to 11.93 ha for those in 100+ ha land size category. Furthermore, it was found that the majority (66 percent) of the households in the 100+ ha category had been allocated land in 2004 or later compared to 44.4 percent in the 50 - 99 ha category. This implies that the proportion of households who were in the establishment phase due to the time at which they had been allocated land was higher in the highest land size category.

Thus, as the land sizes increases, households tend to rely more and more on hired labour and less on the family for labour supply. Translated to resettlement sectors, this analysis showed that in absolute terms more hired in labour was used in the larger A2 farms compared to the smaller A1 farms which were concentrated in 1 – 19 hectares farm size category. The A1 farmers were dominant in the use of family labour which tended to decrease as the farm size increased.

Secondly, the relationship between labour use and the arable areas available to households showed an association between the size of the arable area and the level of labour use (Table 5.8, Chi-Square results). The households with the highest arable areas are concentrated in the highest level labour users category, i.e. the greater the arable area

the higher the level of labour use. For instance, in the highest category of arable area, the percentage of households increases moving from the lowest level labour users to the highest level labour users, from 6.8 percent to 40.0 percent (Table 5.8), meaning that generally the A2 households that possess the greatest arable area also utilise the most labour in absolute terms in comparison to the A1 sector were the majority of the generally possessed less than 10 hectares of arable area.

Table 5.8 Level of Labour Use by Arable Area in Newly Resettled Areas

Arable Area (ha)	Level of Labour Use										Total	
	Lowest		Low		Medium		High		Highest			
	No.	%	No.	%	No.	%	No.	%	No.	%		
1 – 5	2	3.4	6	5.8	2	3.7	2	3.5	0	0.0	12	3.8
5.01 – 10	49	83.1	77	74.0	20	74.1	31	54.4	13	32.5	190	66.2
10.01 – 20	1	1.7	6	5.8	3	11.1	7	12.3	5	12.5	22	7.7
20.01 – 40	3	5.1	6	5.8	0	0.0	7	12.3	6	15.0	22	7.7
40.01 - 60	4	6.8	9	8.7	3	11.1	10	17.5	16	40.0	42	14.6
TOTAL	59	100.0	104	100.0	27	100.0	57	100.0	40	100.0	287	100.0

Source: AIAS Zvimba District Household Baseline Survey (2005)

Level of labour use by arable area, Pearson Chi-Square=51.49, 16 d.f., p=0.000 (significant at 0.05)

The ANOVA test shows a significant difference in the utilisation of all the forms of labour across the arable area categories (Table 5.9, ANOVA results). There are significant increases in the average numbers of both permanent and casual workers as the arable area increases. For instance, the average number of permanent workers increases from 0.54 in the lowest arable area category (1 - 5 hectares) to 5.50 in the highest arable area category of above 40 hectares. This implies that as you move from the smaller A1 farms' arable areas, the absolute number of labour hired in increases in the larger A2 farms with more arable areas available. In contrast to hired labour, family labour tends to significantly decrease as the arable area increases. The average family labour utilised by

households decreases from a peak 3.02 workers in the 5.01 - 10 hectares arable area category, to 1.26 workers in the highest arable area category.

Table 5.9 Labour Employed by Size of Arable Area in Newly Resettled Areas

Average Labour per Household	Size of Arable Area (hectares)					Average for Total Sample
	1 - 5	5.01 – 10	10.01 - 20	20.01 - 40	40.01 - 60	
Permanent workers	0.54	1.26	3.31	3.63	5.50	2.2
Casual workers	7.27	5.91	11.00	13.61	15.27	8.30
Family labour	1.81	3.02	2.27	1.78	1.26	2.55
Family labour + permanent workers index	2.36	4.28	5.59	5.40	6.70	4.76
N	11	190	22	22	44	289

Source: AIAS Zvimba District Household Baseline Survey (2005)

ANOVA Results

Size of arable area by average number of permanent workers, F=11.10, 4 d.f., p=0.00 (significant at 0.05)
Size of arable area by average number of casual workers, F=16.36, 4 d.f., p=0.00 (significant at 0.05)
Size of arable area by average number of family labourers, F=4.46, 4 d.f., p=0.00 (significant at 0.05)
Size of arable area by average number of family labour + permanent workers index, F=3.45, 4 d.f., p=0.00 (significant at 0.05)

Thirdly, the relationship between labour utilisation and the areas cropped by households was examined. The cropped area to labour utilisation relationship is a more reliable indicator of labour use than the gross land and arable area size, as it relates to the actual areas where labour is engaged. The ANOVA test indicated the existence of significant differences in the average number of hired workers used by households across the different cropped area categories (Table 5.10, ANOVA results). The average number of permanent workers and casual workers increases as you move from the lowest cropped area category (0.1 - 1.0 hectares) to the highest cropped area category of 10 hectares upwards. The average number of permanent workers increases from 0.90 workers in the lowest cropped area category to a peak of 6.94 workers in the highest cropped area category (Table 5.10). The average number of casual workers hired in annually by newly resettled households increases significantly from 4.14 workers in the lowest cropped area

category to 10.84 workers in the highest cropped area category. It is interesting to note that, in the permanent workers category, there is a huge rate of increase in the average number of workers hired in by households between the 5.01 - 10 hectares and the >10 hectares cropped categories, compared to the more gradual shifts between other cropped area categories. In contrast to hired-in labour, the utilisation of family labour is not significantly different across the cropped area categories (Table 5.10, ANOVA results). The overall labour index also significantly increases as the cropped area increases, rising from 3.25 workers in the lowest cropped area category to 8.38 workers in the highest cropped area category (Table 5.10).

Table 5.10 Labour Employed in Newly Resettled Areas by Cropped Area

Average Labour per Household	Size of Cropped Area (hectares)								Average for Total Sample
	0	0.1 - 1	1.01 - 2	2.01 - 3	3.01 - 4	4.01 - 5	5.01 - 10	> 10	
Permanent workers	1.88	0.90	0.89	0.82	1.25	2.24	2.83	6.94	2.25
Casual workers	8.95	4.14	3.79	5.52	8.71	9.03	10.81	15.03	8.49
Family labour	2.25	2.33	2.84	2.78	2.74	3.10	2.57	1.57	2.52
Family + permanent workers index	4.13	3.25	3.74	3.61	4.00	5.34	5.40	8.38	4.77
N	44	21	39	47	35	29	54	38	307

Source: AIAS Zvimba District Household Baseline Survey (2005)

ANOVA Results

Size of cropped area by average number of permanent workers, F=9.346, 7 d.f., p=0.000 (significant at 0.05)

Size of cropped area by average number of casual workers, F=5.619, 7 d.f., p=0.000 (significant at 0.05)

Size of cropped area by average number of family labourers, F=1.106, 7 d.f., p=0.420 (not significant at 0.05)

Size of cropped area by average number of family labour + permanent workers, F=4.743, p=0.00 (significant at 0.05)

The lower cropped area categories were also dominated by the A1 households who lower size of arable area in comparison to the A2 sector. These data suggest that changes in the labour utilisation patterns as the cropped area increases are influenced by the hiring in of

farm labour by newly resettled households, rather than by the availability of family labour resources, the use of which is not significantly different across the cropped area categories.

5.3 Capital intensity and labour utilisation

Limited land preparation capacity is one of the major constraints facing Zimbabwean agricultural production from season to season. Access to mechanical means for land preparation, such as through tractorisation and animal drawn implements, creates the opportunity to crop more land and improves the timeliness of agricultural operations, thereby improving yields and potentially enhancing the demand for agricultural labour for other crop production operations. To assess how capital stock possessed by farmers affects their levels of production (reflected in cropped areas), which in turn determines scales and labour utilisation rates, the study empirically classified newly resettled households on the basis of farm machinery and equipment endowments into three groups – low, medium and high capital intensity. The high capital intensity households own at least three items from a set of power driven/motorised equipment that includes tractor, plough, planter, ridger, cultivator and water pump, but always including a tractor. The medium capital intensity households own at least one of the power driven implements, not necessarily including a tractor. The low capital intensity households did not own any power driven implements and mostly rely on animal drawn implements and hiring in services to conduct their farming operations. In the A1 sector, 86.1 percent of the households were classified in low capital intensity category, whilst in the 5.8 percent and

5.3 percent were medium and high capital intensity households respectively. Ownership of farm machinery and equipment endowments was more common in the A2 sector, were 42.0 percent of the households were low intensity, whilst 19.0 percent and 39.0 percent were medium and high capital intensity households respectively.

Generally, the field evidence shows a direct relationship between farm machinery and equipment endowments and scale of labour establishment. High capital intensity is associated with high levels of farm labour employment (Table 5.11, Pearson Chi-Square Results). Close to 80 percent of the high capital intensity households that are dominated by the A2 sector fall in the high and highest level labour user categories (Table 5.11). In the low and medium capital intensity households, high and highest level labour users account for 20.9 percent and 53.5 percent respectively. The majority of the low capital intensity households are found among the lowest and low level labour, where they constitute 67.8 percent, in comparison to 19.5 percent for the high capital intensity households. Among the medium capital intensity households, the lowest and low level labour users account for 40.5 percent of the households.

Table 5.11 Level of Labour Use by Capital Intensity

Level of Labour Use	Capital Intensity (No. and % of households)							
	Low		Medium		High		Total	
	No.	%	No.	%	No.	%	No.	%
Lowest	58	26.4	3	8.1	3	6.5	64	21.1
Low	91	41.4	12	32.4	6	13.0	109	36.0
Medium	25	11.4	2	5.4	1	2.2	28	9.2
High	29	13.2	15	40.5	13	28.3	57	18.8
Highest	17	7.7	5	13.5	23	50.0	45	14.9
Total	**220**	**100.0**	**37**	**100.0**	**46**	**100.0**	**303**	**100.0**

Source: AIAS Zvimba District Household Baseline Survey (2005)

Level of labour use by capital intensity, Pearson Chi-Square=84.252, d.f.=8, p=0.000 (significant at 0.05)

The average labour utilisation in the low, medium and high capital intensity households also reflected these trends as the number of workers increases as the capital stock increases. The ANOVA test showed the existence of significant differences in the average hired-in and family labour utilised by households in the newly resettled areas between the different levels of capital stock (Table 5.12).

Table 5.12 Average Labour Type Utilisation by Capital Intensity

Type of Labour	Capital Intensity (Average No. of Workers)			
	Low	Medium	High	Average for Total Sample
Permanent workers	1.19	2.72	6.85	2.25
Casual workers	6.58	10.35	15.83	8.47
Family labour	2.76	2.13	1.76	2.52
Family + permanent workers	3.96	4.86	8.51	4.77
N	221	37	50	308

Source: AIAS Zvimba District Household Baseline Survey (2005)

ANOVA results

Permanent workers by capital intensity, F=41.12, 2 d.f., p=0.00 (significant at 0.05)
Casual workers by capital intensity, F=19.86. 2 d.f., p=0.00 (significant at 0.05)
Family labour by capital intensity, F=3.025, 2 d.f., p=0.05 (significant at 0.05)
Family labour + permanent workers by capital intensity, F=20.00, 2 d.f., p=0.00 (significant at 0.05)

In both forms of hired labour (permanent and casual) there are significant increases in the average number of workers hired in as the level of capital stock increases from low to high capital intensity. In the permanent workers category, the average number of permanent workers significantly increases from 1.19 workers in the low capital intensity households to 6.85 workers in high capital intensity households, while the average number of casual workers increases from 6.58 workers in the low capital intensity households to 15.83 workers in the high capital intensity households. In contrast, family labour utilisation significantly decreases as the capital intensity increases, meaning that

A1 farmers who had the highest percentage of households with low capital stock relied more on family labour in comparison to the A2 households reflecting differential access to resources between the two sectors in the newly resettled areas. The average family labour utilised decrease from 2.76 workers in the low capital intensity households to 1.76 workers in the high capital intensity households (Table 5.12).

Thus, the usage of hired labour increases as the capital stock within the household increases, while there is a reduction in the use of family labour. This evidence conforms to neoclassical economic theories, which assume that increases in farm mechanisation are not necessarily accompanied by a decrease in the demand for farm labour (Ellis, 1993); ploughing capacity allows for an expansion of the area under crop production, thereby increasing the demand for labour. As a result, those without access to farm machinery tend to crop less land area.

Table 5.13 Total Cropped Area by Capital Intensity in Newly Resettled Areas

Total Cropped Area Ranges (ha)	Capital Intensity							
	Low		Medium		High		Total	
	No.	%	No.	%	No.	%	No.	%
0ha	31	14.1	6	16.2	7	14.0	44	14.3
0.1-1	18	8.2	2	5.4	1	2.0	21	6.8
1.01-2	34	15.5	3	8.1	5	4.0	39	12.7
2.01-3	39	17.7	3	8.1	5	10.0	47	15.3
3.01-4	30	13.6	4	10.8	1	2.0	35	11.4
4.01-5	22	10.0	5	13.5	2	4.0	29	9.4
5.01-10	36	16.4	7	18.9	1	22.0	54	17.6
>10	10	4.5	7	18.9	21	42.0	39	12.4
TOTAL	**220**		**37**		**50**		**307**	

Source: AIAS Zvimba District Household Baseline Survey (2005)

Total cropped area range by capital intensity, Pearson Chi-Square=65.975, d.f.=14, p=0.000 (significant at 0.05)

The relationship between capital intensity and labour utilisation is also affected by the size of the cropped area. Thus, those households with high farm equipment endowments most of which are located in the A2 sector tend to have larger cropped areas, translating into high demand for farm labour. Field evidence shows that high capital intensity households are concentrated in the higher cropped areas categories of more than 10 hectares, which were cropped by A2 households as arable areas in the A1 sector were generally limited to 6 hectares. Among these households, those that crop more than 10 hectares constitute 42.0 percent, in comparison to 4.5 percent and 18.9 percent for the low and medium capital intensity households respectively (Table 5.13). Where the cropped area is 2 hectares or less, only 6.0 percent of the high capital intensity households are found, while 23.7 percent of the low capital intensity households are found in this category.

Table 5.14 Average Cropped Areas in Newly Resettled Areas by Capital Intensity

Capital Intensity	No.	Average Total Cropped Area (ha)
Low	219	3.5877
Medium	36	6.9672
High	48	17.6312
TOTAL	303	6.2139

Source: AIAS Zvimba District Household Baseline Survey (2005)

ANOVA Results

Total cropped area by capital intensity, F=36.65, 2 d.f., p=0.00 (significant at 0.05)

The ANOVA test also shows the existence of significant differences in the average areas cropped by low, medium and high capital intensity households (Table 5.14). The high capital intensity households crop a significantly higher average of 17.63 hectares in comparison to 3.58 hectares and 6.96 hectares among low and medium capital intensity households. In terms of commodity choice, the study found that the highest percentage of

the households that had diversified from mono maize cropping are also those with high capital stock, with more than 75.0 percent in this category growing more than one crop. Most of the households with high capital stock had diversified to combine maize with other crops, such as tobacco (19.5 percent) and oilseeds (31.7 percent). In the low and medium capital intensity categories combined, the majority of the households grow maize only, accounting for 49.7 percent and 67.7 percent respectively (Table 5.15). Thus higher labour utilisation rates are directly dependent on access to capital which was biased towards the A2 sector, which in turn determines commodity choice and diversification, and land utilisation.

Table 5.15 Major Crop Combinations by Capital Intensity in Newly Resettled Households

Major Crop Combinations	Capital Intensity							
	Low		Medium		High		Total	
	No.	%	No.	%	No.	%	No.	%
Maize only	93	49.7	21	67.7	10	24.4	124	47.9
Maize and oilseeds*	34	18.2	3	9.7	13	31.7	50	19.3
Maize and tobacco	47	24.6	5	16.1	8	19.5	59	22.8
Maize and other crop**	14	7.5	2	6.5	10	24.4	26	10.0
TOTAL	**187**		**31**		**41**		**259**	

Source: AIAS Zvimba District Household Baseline Survey (2005)
*groundnuts, soyabeans, sunflower, **small grains, vegetables
Major crop combination use by capital intensity, Pearson Chi-Square=23.380, d.f.=6, p=0.001 (significant at 0.05)

The study also found a direct relationship between the capital intensity and cattle ownership, which in turn determined the level of labour use. The ANOVA test indicates the existence of significant differences in the average number of cattle owned by the low, medium and high capital intensity households. The average number of cattle owned significantly increases, from 3.25 head in low capital intensity households to 12.02 head for the high capital intensity households. This implies that the A2 households that have access to high levels of capital stock are also those with access to the most draught

power, as reflected in the cattle ownership patterns. As such, households with low capital stock also own less draught power, meaning that hiring of ploughing services becomes a key means for land preparation among this group of households. Translated into labour utilisation, the households that own the most cattle coincide with those with higher levels of capital stock, which in turn utilise the most labour in absolute terms. Field evidence shows that cattle ownership increases from 3.89 head for the lowest level labour users to 9.84 head among the highest level labour users.

5.4 Labour Intensities in New Resettlement Areas

Beyond the assessment of the utilisation of labour in absolute terms, it also important to examine the intensity of labour use as defined as the number of workers per land area available (gross land size, arable and cropped area). The intensity of labour use measures the utilisation of labour per land area and allows for comparisons to made between different farm sizes as, in general, those on larger sized farms are expected to mobilise more labour in absolute terms than those on smaller farm sizes.

Firstly, the study examined the gross labour intensities (calculated as the number of workers divided by the overall plot size) in relation to the farm size. The ANOVA test reveals the existence of a significant difference in the average labour intensities across the different farm sizes (Table 5.16). There is a tendency for the gross labour intensities to decrease as the farm size increases, in all the forms of labour except for the permanent workers category. On the overall labour index (family plus permanent workers), the

general trend is a significant decrease in the labour intensity as the farm size increases. The overall labour index per hectare of land area significantly increases from 0.18 to 0.21 workers per hectare between the 1 - 19 hectares and 20 - 49 hectares farm size categories, before declining to reach a low 0.03 in the largest farm size category of 100 hectares or more.

Table 5.16 Labour Intensities by Farm Sizes in Newly Resettled Areas

Labour Type	Labour Intensity (No. of Workers) by Farm Size (ha)				
	1 – 19	20 - 49	50 – 99	100+	Total
By Gross Land Size					
Permanent workers	0.04	0.09	0.13	0.02	0.06
Casual workers	0.35	0.19	0.30	0.12	0.28
Family labour	0.13	0.12	0.03	0.01	0.11
Family + permanent	0.18	0.21	0.16	0.03	0.17
N	152	81	28	29	290
By Arable Area					
Permanent workers	0.16	0.29	0.14	0.15	0.19
Casual Workers	1.16	0.48	0.41	0.28	0.81
Family labour	0.45	0.39	0.05	0.02	0.36
Family + permanent	0.61	0.64	0.27	0.05	0.54
N	152	81	28	29	290

Source: AIAS Zvimba District Household Baseline Survey (2005)

ANOVA Results

1. Gross land size

Number of permanent workers per Ha by farm size, F=4.73, 3 d.f., p=0.03 (significant at 0.05)
Number of casual workers per Ha by farm size, F=9.51, 3 d.f., p=0.00 (significant at 0.05)
Number of family workers per Ha by farm size, F=10.59, 3 d.f., p=0.00 (significant at 0.05)
Number of family + permanent workers per Ha by farm size, F=6.94, 3 d.f., p=0.00 (significant at 0.05)

2. Arable area

Number of permanent workers per Ha by farm size, F=1.53, 3 d.f., p=0.206 (not significant at 0.05)
Number of casual workers per Ha by farm size, F=21.90, 3 d.f., p=0.00 (significant at 0.05)
Number of family workers per Ha by farm size, F=12.45, 3 d.f., p=0.00 (significant at 0.05)
Number of family + permanent workers per Ha by farm size, F=10.33, 3 d.f., p=0.00 (significant at 0.05)

In the permanent workers category, the gross labour intensity increases significantly from 0.04 workers per gross land area in the lowest farm size category to 0.13 workers per gross land area in the 50 - 99 hectares farm size category, before decreasing in the largest farm size category. In the casual and family labour categories, the general trend is a

decrease in the gross labour intensities as the farm size increases with casual labour intensity decreasing from 0.35 to 0.12 workers per hectare between the smallest and largest farm size categories, while the intensity of family labour use decreases from 0.13 to 0.01 workers per hectare.

Similar trends were revealed when the labour intensities were calculated on the basis of arable area available to households. There existed a significant difference in the average labour intensities for all the labour forms, except for permanent workers, across the different land sizes (Table 5.16, ANOVA results). The general trend is a decrease in the labour intensity as the arable area increases. The larger farm sizes are associated with households that are better endowed than those on the smaller sized farms and a greater propensity to hire permanent workers was also found in these households, i.e. the labour intensity for fulltime workers tends to increase as the farm size increases.

Table 5.17 Cropped Areas Labour Intensity in Newly Resettled Areas

Labour Type	Labour Intensity (No. of Workers per Cropped area (hectares)							
	0.1 - 1	1.01 – 2	2.01 - 3	3.01 - 4	4.01 - 5	5.01 - 10	> 10	Total
Permanent workers	0.94	0.46	0.28	0.33	0.53	0.39	0.48	0.44
Casual workers	4.47	2.04	2.43	2.30	2.10	1.53	0.82	2.04
Family labour	2.31	1.60	1.01	0.73	0.67	0.43	0.12	0.86
Family + permanent	3.40	1.95	1.28	1.05	1.11	0.78	0.39	1.28
N	19	38	47	35	29	54	38	260

Source: AIAS Zvimba District Household Baseline Survey (2005)

ANOVA Results

Number of permanent workers per Ha by cropped area, F=0.763, 6 d.f., p=0.619 (not significant at 0.05)
Number of casual workers per Ha by cropped area, F=3.631, 6 d.f., p=0.001(significant at 0.05)
Number of family workers per Ha by cropped area, F=7.93, 6 d.f., p=0.00 (significant at 0.05)
Number of family + permanent workers per Ha by cropped area, F=10.118, 3 d.f., p=0.00 (significant at 0.05)

Thirdly, we examined the labour intensities on the basis of the areas cropped by newly resettled households. The ANOVA test analysis showed that there are significant

differences in the average labour intensities in all the forms of labour except permanent workers across the various cropped area categories (Table 5.17, ANOVA results).

The average number of casual workers per cropped area significantly decreases, from 4.47 in the lowest cropped area category (0.1 - 1 hectares) to 0.82 in the highest cropped area category (> 10 hectares) (Table 5.17), implying that those who crop the smallest land area utilise 5.4 times more casual labour per unit of cropped area than those in the largest cropped area category. Similarly, the average number of family workers per unit of cropped land also significantly decreases as the cropped area increases, from 2.31 in the lowest cropped area category to 0.12 in the highest cropped area category. The overall labour index follows a similar pattern, where the average labour intensity decreases from 3.40 in the lowest cropped area category to 0.39 in the highest cropped area category. Newly resettled households mostly found in the A1 sector that crop small areas utilise significantly more casual and family labour per unit of cropped area than those that crop larger land areas.

Table 5.18 Cropped Area Labour Intensity by Capital Intensity in A2 households

Labour Intensity (no. of workers per cropped ha)	Capital intensity			Total
	Low	Medium	High	
Permanent workers	0.25	0.44	1.21	0.66
Casual Workers	2.98	2.85	2.6	2.81
Family labour	0.5	0.45	0.20	0.37
Family + permanent	0.75	0.89	1.16	0.93
N	33	15	30	78

Source: AIAS Zvimba District Household Baseline Survey (2005)

ANOVA Results

Number of permanent workers per hectare by capital intensity, F=6.124, 2 d.f., p=0.003 (significant at 0.05)
Number of casual workers per hectare by capital intensity, F=0.066, 2 d.f., p=0.936 (not significant at 0.05)
Number of family workers per hectare by capital intensity, F=1.837, 2 d.f., p=0.166 (significant at 0.05)
Number of family + permanent workers per hectare by capital intensity, F=0.884, 2 d.f., p=0.418 (not significant at 0.05)

However, households with high capital stock tend to utilise more permanent workers per cropped area in comparison to those with lower capital stock. The ANOVA test showed the existence of significant differences in the number of permanent per unit of cropped area in the A2 sector, whilst no significant differences existed in the A1 sector for all the different types of labour. The other types of labour also showed no significant difference in the A2 sector. The average number of permanent workers per cropped area increases as the level of capital stock within the household increases, from 0.25 in the low capital intensity households to 1.21 in the high capital intensity households in the A2 sector (Table 5.18). The higher the capital stock the higher the capacity to mobilise resources, including hired labour. Thus high capital intensity households tend to utilise more permanent workers per unit of cropped area, as they are better positioned to afford the costs associated with fulltime employment than those with lower levels of capital stock.

5.5 Concluding Remarks

The current scales and rates of farm labour utilisation were measured in a context in which land utilisation rates in the newly resettled areas have not yet reached their full potential and are currently based on small cropped areas in relation to areas allocated, especially on the larger A2 farms.

Land utilisation rates can be calculated in gross (total area cropped divided by total plot size) or net (total area cropped divided by the total arable area) terms, and the rates compared across the farm sizes and levels of labour use among newly resettled

households. Field evidence showed that gross and net land utilisation rates in the newly resettled areas average 17.13 percent and 39.89 percent respectively (Table 5.19).

Table 5.19 Farm Size by Land Utilisation Rates in New Resettlement Areas

Farm Size (ha)	Gross Land Utilisation		Net Land Utilisation	
	Average %	No.	Average %	No.
1 – 19	17.14	149	48.25	133
20 – 49	18.45	81	39.02	77
50 – 99	21.84	25	27.72	25
100 +	9.34	29	14.39	29
Total	17.13	284	39.89	264

Source: AIAS Zvimba District Household Baseline Survey (2005)

ANOVA results

Farm size by gross land utilisation rate, F=3.171, 3 d.f., p=0.025 (significant at 0.05)

Farm size by net land utilisation rate, F=13.542, 3 d.f., p=0.00 (significant at 0.05)

Across different farm sizes, there are significant differences in the average gross and net land utilisation rates (Table 5.19, ANOVA results). In terms of gross land utilisation rates, there is an increase in the rate between the 1 - 19 hectares and 50 - 99 hectares land area categories, from 17.1 percent to 21.8 percent, followed by a decline in the largest farm size category (100 hectares or more) to 9.34 percent, while in terms of net land utilisation, there is a decrease in the rate as the farm size increases. The net land utilisation rate declined from 48.2 percent in the smallest farm size category to 14.39 percent in the largest farm size category, meaning that land utilisation rates are higher on the small sized A1 farms than on the larger A2 farms.

Further analysis across the levels of labour use showed that the significantly lowest gross and net land utilisation rates, averaging 8.68 percent and 29.9 percent respectively, occur among the households in the lowest level labour use category (Table 5.20).

Table 5.20 Level of labour Use by Land Utilisation in New Resettlement Areas

Level of Labour Use	Gross Land Utilisation		Net Land Utilisation	
	Average %	No.	Average %	No.
Lowest	8.68	61	29.90	60
Low	17.26	104	43.86	92
Medium	19.18	27	54.74	25
High	19.43	56	38.83	53
Highest	25.13	40	41.74	35
Total	17.14	288	40.44	265

Source: AIAS Zvimba District Household Baseline Survey (2005)

ANOVA results

Level of labour use by gross land utilisation, F=7.662, 4 d.f., p=0.00 (significant at 0.05)
Level of labour use by net land utilisation, F=3.744, 4 d.f., p=0.006 (significant at 0.05)

The gross land utilisation significantly increases as the level of labour use increases, from 8.68 percent for the lowest level labour users to 25.1 percent among the highest level labour users. However, the highest net land utilisation rates, averaging 54.74 percent, fall among the medium level labour users, while the rates (net) range between 38.83 percent and 43.86 percent in the remaining level of labour use categories.

Table 5.21 Level of Labour Use by Land Utilisation in New Resettlement Areas, A1 Sector

Level of Labour Use	Gross Land Utilisation		Net Land Utilisation	
	Average %	No.	Average %	No.
Lowest	9.99	52	34.54	51
Low	17.51	80	50.34	68
Medium	22.68	20	65.70	19
High	15.68	30	42.60	28
Highest	21.68	15	53.10	11
Total	16.09	197	46.38	177

Source: AIAS Zvimba District Household Baseline Survey (2005)

ANOVA results

Level of labour use by gross land utilisation, F=5.876, 4 d.f., p=0.00 (significant at 0.05)
Level of labour use by net land utilisation, F=5.087, 4 d.f., p=0.001(significant at 0.05)

When the data were disaggregated by the resettlement model, more or less similar trends were noticed, but this revealed significant disparities in gross and net land utilisation rates in the A1 and A2 sector. In the A1 sector, rates of net land utilisation are higher (averaging 46.38 percent) than in the A2 sector (averaging 28.49 percent). The reverse is true in terms of gross land utilisation rates, which are slightly higher in the A2 sector than in the A1 sector, averaging 19.40 percent and 16.0 percent respectively. In both the A1 and A2 sectors, the lowest level labour users have the lowest rate of both gross and net utilisation, averaging 7.9 percent and 1.09 percent respectively (Tables 5.21 and 5.22). In the A1 sector, gross land utilisation is dominated by the medium level labour users who average 22.6 percent, while in the remaining labour use categories, gross land utilisation rates range from 15.6 percent to 21.6 percent (Table 5.21). In the A2 sector, the general trend is an increase in the level of labour use as the gross land utilisation rate increases.

Table 5.22 Level of Labour Use by Land Utilisation in New Resettlement Areas, A2 Sector

Level of Labour Use	Gross Land Utilisation		Net Land Utilisation	
	Average %	No.	Average %	No.
Lowest	1.09	9	3.65	9
Low	16.40	24	25.50	24
Medium	9.16	7	20.02	6
High	23.77	26	34.62	25
Highest	27.19	25	36.53	24
Total	19.40	91	28.49	88

Source: AIAS Zvimba District Household Baseline Survey (2005)

ANOVA results

Level of labour use by gross land utilisation, F=3.495, 4 d.f., p=0.011 (significant at 0.05)

Level of labour use by net land utilisation, F=5.087, 4 d.f., p=0.001 (significant at 0.05)

More or less similar trends to those of gross land utilisation rates are expressed for net land utilisation in the A1 sector, where the medium level labour users are dominant, averaging 65.7 percent, and the lowest level labour users have the lowest rate of 34.5

percent (Table 5.22), while in the A2 sector, the general trend is an increase in the net land utilisation rate as the level of labour use increases, from 3.6 percent among the lowest level labour users to 36.5 percent in the highest level of labour use category.

These results suggest that there exists capacity for the expansion of production in the newly resettled areas through bringing currently unutilised and underutilised land into production, thus enhancing the demand for farm labour. Various factors have contributed to the low cropped areas, including the shortage of key inputs (seed, fertiliser, finance, chemicals), agricultural pricing policies (outputs and inputs), and limited availability of mechanised inputs, which in turn have depressed the demand for farm labour in newly resettled areas. For instance, 37.5 percent of the households in Zvimba district did not use fertiliser for crop production in the 2004/05 season, yet they grow hybrid seeds which require fertiliser for meaningful yields to be realised. This then suggests the potential for greater demand for labour if the supply of critical inputs were enhanced, especially the fulltime labour component, the use of which is currently on a low scale, with the majority of households relying mostly on part time workers to augment family labour.

The farm technologies utilised in the newly resettled areas have shifted from the capital intensive system existent in the former LSCF sector to labour intensive systems common in the communal areas but there exists some farms, especially in the A2 sector, who own some power driven mechanised equipment, such as tractors and related accessories, with which to conduct their farming operations. The study also found that capital intensive technologies such as tractors enhanced the utilisation of labour in households that have

access to them, especially on the larger A2 farms, both in absolute terms and in terms of the number of permanent workers per unit of land area cropped. High capital intensity is associated with high levels of farm labour employment on the new resettled areas' large farms. On the smaller farms, households that had access to draught power and animal drawn equipment are also associated with higher levels of farm employment. Given that the levels of farm machinery and equipment endowments are still low in the newly resettled areas, increased access to these would imply that more land area than is currently utilised could be brought into production and this would enhance the demand for labour. With specific regard to capital intensive technologies such as tractors, besides generating potential demand for farm labour, their availability also enhances the creation of skills and value added jobs, as opposed to unskilled labour, in the form of tractor operators and other downstream jobs for the maintenance of farm machinery. Although initial indications of the effect of capital intensive technologies point to the enhancement of demand for permanent farm labour for the fewer households with access to this type of equipment, further research is required to assess the direct impact of this on the long term growth of agricultural employment.

CHAPTER SIX

INCOMES AND EXPLOITATION OF RURAL LABOUR

6.1 Introduction

This chapter first discusses the incomes earned by farm workers under different employment arrangements, as well as the ancillary benefits the workers receive. This is followed by the issue of labour exploitation and the conditions under which farm workers are contracted. Thirdly, the incomes derived by households from their own labour reproduction and the consumption and marketing patterns that arise from these are examined. Beyond the incomes earned from agricultural activities, the chapter then assesses incomes and consumption trends derived from non farming activities in the new resettlement areas.

6.2 Incomes earned from wage farm labour sources

Wages and benefits of labour hired in by households[21]

The rewards of waged agricultural workers are supposed to be determined through a collective bargaining process, as stipulated in the Labour Relations Act (Chapter 28:01), administered by the Ministry of the Public Service, Labour and Social Welfare (MPSL&SW). The National Employment Council of the Agricultural Industry of Zimbabwe (NECAIZ), which includes employers, the Agricultural Labour Bureau (ALB)

[21] This section draws on earlier work by Chambati and Magaramombe (2008).

and employee representatives, including the General Agricultural and Plantation Workers Union of Zimbabwe (GAPWUZ) oversees such bargaining. More recently the NECAIZ has been expanded to include representatives of new farmers. The bargaining process is expected to cover wage rates, grading of employees, nature of contracts, benefits such as leave including during sickness, provision of protective clothing, and gratuities payable on termination. Agreements are registered with the MPSL&SW, which in turn gazettes them as statutory requirements for the agricultural industry. The employer representatives, ALB, are an arm of the Commercial Farmers Union, a grouping of mainly current and former white large scale commercial farmers. The collective bargaining process covers only the wages and working conditions of permanent farm workers, while those of casual workers are negotiated between the employee and the employer. Wages of farm workers are negotiated on a quarterly basis, therefore collective bargaining agreements are binding for a period of three months.

In the newly resettled areas, various methods of wage determination were noted, including the collective bargaining agreements gazetted by the government, which are utilised by 43.6 percent of the households that hire in labour. Other methods include the valuation of specific tasks where workers are paid for the delivery of agreed outputs, and through internal negotiations between workers and newly resettled households. The task valuation method is mostly used for rewarding casual workers. The task valuation method and internal negotiations are undertaken by 25.2 percent and 29.5 percent respectively of the newly resettled households that hired in labour.

In the last quarter of 2005 (October to December) which coincides with the period in which the field surveys were conducted (November, 2005), the gazetted nominal minimum wages for farm workers in the general agricultural sector ranged from $Z 665 000 for the lowest paid permanent worker to $Z 1 294 009.97 for the highest paid permanent workers (GAPWUZ, n.d). Monthly wages for permanent workers in our sample survey in Zvimba District ranged from $Z 20 000 to $Z 1 500 000 (Table 6.1).

Table 6.1 Wages for Permanent Workers in New Resettlement Areas, November 2005

Nominal Monthly Wage ($Z)	A1		A2		Total	
	No.	%	No.	%	No.	%
19 000 - 400 000	13	20.3	13	21.0	26	20.6
401 000 - 664 000	47	73.4	40	64.5	87	69.0
≥ 665,000	4	6.3	9	14.5	13	10.3
TOTAL	64	100.0	62	100.0	126	100.0

Source: AIAS Zvimba District Household Baseline Survey (2005)

The majority of the households hiring permanent workers (69.0 percent) paid a monthly wage between $Z 401 000 and $Z 664 000, while only 10.3 percent paid above the gazetted statutory wages. Field survey evidence showed that 6.3 percent and 14.5 percent of the A1 and A2 households hiring permanent workers were paying below the gazetted statutory minimum wage of $Z 665 000 per month for the last quarter of 2005 respectively (Table 6.1).

The evidence on wage payments to workers in new resettlement areas was corroborated by findings from the farm worker questionnaire survey. The nominal monthly wages earned by 43 permanent farm workers interviewed during the survey ranged from $Z 100 000 to $Z 4 500 000 in November 2005 (AIAS Farm Workers Survey, 2005). The

majority (55 percent) of these permanent farm workers earned a nominal monthly wage of $Z 450 000, averaging $Z 595 435 per month. The analysis also showed that 67.5 percent of these permanent farm workers were paid below the gazetted minimum wages for this period.

The payment of wages below the stipulated minimum could be attributed to the limited resources available to new farmers during this transitional period of land reform. For instance, in the data sample, 37.5 percent of the households indicated that they required additional labour to meet their needs, but the majority of them (62.1 percent) are hampered by the non availability of financial resources to reward the workers (see also section 4.5). Other factors could be the low level of participation of new farmers in the collective bargaining process meaning that they do not feel obligated by the outcomes of such bargaining. For instance in the sample data, 96 percent of the households indicated that they were not members of the National Employment Council. Added to this is farm worker trade union weak membership base as only 1.3% of the farm workers interviewed were paid up members of GAPWUZ. Membership of farmer organisations is also limited, with only 16.2 percent of the households belonging to such groups (see Murisa, 2007).

Table 6.2 Daily Wages for Casual Workers in New Resettlement Areas

Daily Nominal Wage ($Z)	A1		A2		Total	
	No.	%	No.	%	No.	%
1 500 - 10 000	95	71.4	48	56.5	143	65.6
10 001 - 15 000	13	9.8	18	21.2	31	14.2
15 001 - 20 000	25	18.8	19	22.4	44	20.2
TOTAL	133	100.0	85	100.0	218	100.0

Source: AIAS Zvimba District Household Baseline Survey (2005)

The daily wages earned by casual workers were even lower when translated into a monthly wage in comparison to those earned by permanent workers (Table 6.2).When the number of days worked by casual workers in the former LSCF sector of 13.3 days per month (which translates to 160 work days per year)[22] was applied in the newly resettled areas, wages ranged from $Z 19 950 to $Z 266 000 under this the worst case scenario. However, working a maximum of 160 days a year applies to always working for the same employer, as happened in the former LSCF sector. A more realistic strategy for the average casually employed farm worker would be to work those 13.3 days of the month for one employer and then work the rest of the month for another employer, rather than to be out of work for the equivalent of four months in a year. Under these circumstances, casual workers could potentially have nominal monthly wages ranging from $Z 36 000 to $Z 480 000. This conforms to the findings of the farm worker survey, in which 56.3 percent of the 19 casual workers reported earning $Z 450 000 monthly from agricultural work, while 12.6 percent of the workers had earnings ranging from $Z 300 000 to $Z 350 000 and the remaining casual workers earned between $Z 480 000 and $Z 1 300 000 per month during this period. Thus wages of casual workers in Zvimba District compare favourably with those of workers employed on a fulltime basis. A comparison of the average monthly wage earnings compiled from the data provided by farm workers using the t-test showed no significant difference between the wages received by permanent and casual workers in November 2005. From the farm worker survey data, the analysis showed that nominal wages averaged $Z 595 436 and $Z 522 500 for permanent and casual workers respectively.

[22] ALB personal communication.

The monthly wages paid to permanent workers averaged $Z 471 289, as computed from data provided by households in Zvimba District. There existed no significant difference between the monthly wages paid to permanent workers by A1 and A2 households, which averaged $Z 464 100 and $Z 478 709 respectively. As at November 2005, the urban PDL was pegged at $Z 9 500 000 per month for an average household of 4.6 persons and the rural PDL is estimated to be about 60 percent of the urban PDL, after deducting expenses not incurred in rural areas (Kanyenze, 2001). On this basis, the rural PDL as at November 2005 was equivalent to $Z 5 700 000 and thus farm worker wages constituted less than 10 percent of the PDL. The gazetted wage constituted 11 percent of the PDL.

The fact that farm worker wages compare poorly with PDL is also resultant from the hyperinflationary environment in Zimbabwe. As at November 2005 the monthly inflation rate was 502.35 percent (RBZ website, www.rbz.co.zw, accessed 10 November 2007), yet wages are adjusted on a quarterly basis, while inflation increases rapidly on a monthly basis, causing wages for all economic sectors to fall behind the PDL. Other economic sectors have also been affected as well.

Although the farm worker wages compare poorly to the PDL, it is important to note that their total earnings also include other income transfers through various benefits provided by employers that are discussed below. If these income transfers (housing, food rations, land to grow crops, etc.) are added to wages received by farm workers the total income

may not be as low compared to the PDL as appears to be the case above. The study did not quantify the additional income transfers received but the discussion is indicative of the total benefits accruing to farm workers for their social reproduction.

Table 6.3 Additional Benefits Provided to Wage Labour

Benefit	No. of HH (N=252)	% of Total
Housing	56	22.2
Food rations	107	42.4
Fuel	4	1.6
Health insurance	17	6.7
Food security gardens	16	6.3
Grazing land	3	1.2
Annual leave	54	21.4
Protective clothing	43	17.1
Funeral assistance	32	12.6
Other	2	0.8

Source: AIAS Zvimba District Household Baseline Survey (2005)

Benefits provided to farm workers include housing, fuel, food rations, land to grow crops (food security gardens), annual leave, funeral assistance and protective clothing (Table 6.3). However, very few households were found to be providing these benefits and they are usually below the gazetted statutory requirements for permanent workers.[23] According to gazetted statutory requirements, employers are obliged to pay the following benefits: transport, fuel, light and accommodation. Other benefits that need to be provided to workers are governed by other pieces of legislation that include the *Pensions and Other Benefits Act (Chapter 16:01)*, and the *NSSA Act (Chapter17:04).*

[23] Employers can seek exemptions from the MPSL&SW on paying the gazetted wages and benefits. Very few employers have sought such exemptions in the post 2000 period. The majority of the new employers have not yet familiarised themselves with the requirements of the labour laws.

With redistribution of land under the FTLRP, problems have also been encountered in the sharing of infrastructure inherited from the former LSCF sector especially in the A2 farms where 'ownership' of infrastructure from the previous LSCF farms before the subdivisions is vested in the plot in which it is located (see Sukume, Moyo and Matondi, 2003). In the A1 sector, ownership of infrastructure inherited from the former LSCF sector is vested in the state, so the problems tend to be different. With regards to farm worker housing in the former farm compounds, A2 farmers where this infrastructure is located tend to prefer to house only their workers to the exclusion of others. The issue of farm compound residency is complicated by the fact that government policy allows former farm worker to continue residing in these places regardless of their employment status (Chambati and Moyo, 2003; Chambati and Magaramombe, 2008). The field survey found that an estimated two thirds of the former farm workers in Zvimba District are still resident in the farm compounds regardless of their employment status, implying that new farm workers may require alternative accommodation. Following the habit of the former LSCF sector, new farmers tend to favour the linking of residency in the farm compound to employment on the farms.[24] In our survey of farm workers, 41.8 percent of the 79 farm workers interviewed in Zvimba District indicated that their residency in the farm compound on new farms was linked to their employment. This tends to result in conflicts between new farmers and farm workers with 20.5 percent of the farm workers interviewed indicating that they had been threatened with eviction by the new farmers, although only 8.1 percent were eventually evicted. In addition, some former farm

[24] Philip Chiyangwa, a former leading ZANU-PF politician and businessperson, was granted an order by the High Court to evict his 36 Old Citrus farm workers from the farm compound after they failed to agree on new employment contracts. However Mr Chiyangwa subsequently lost the case on appeal (Chambati and Magaramombe, 2008).

workers are accused of refusing to work for new farmers, a reason highlighted by 13.3 percent of the households as causing labour shortages, and the new farmers argue that those not employed on the farm should vacate the farm compound to make way for new workers.

Because of these constraints, only 22 percent of the households in our sample data indicated that they provided housing to their farm workers (Table 6.3). In the farm worker survey, 25.3 percent of the workers were offered housing facilities by their employers. As such, farm workers in new farms do not necessarily reside on the farms on which they are employed; some live in farm compounds at a particular farm but are employed elsewhere, while some reside on their plots gained during the FTLRP, and others live in the neighbouring communal areas. The housing facilities provided by new farmers are mostly those already existing in the former farm compounds.

Another benefit that farm workers are accorded is the allocation of garden plots or food security gardens to practice subsistence agriculture at their places of employment. In the resettlement sector in Zvimba District, only 6.3 percent of the farmers provide space for food security gardens to their workers. This level of access to food security gardens was confirmed by the farm worker survey, as 16.9 percent (or 13 out of 79 workers) interviewed had access to such plots at their places of employment. There were two methods of access for food security gardens, through allocations from the employer and self allocation in free spaces within the confines of the farm compounds. For those who indicated having access to food security gardens at their places of employment, 10.4

percent had gained access through allocation from the employer and 6.5 percent through self allocation.

Besides access to land through their employment links, 17.7 percent of farm workers also reported having access to land in their communal areas[25] and some (5.1%) had gained access to land during the FTLRP. Evidence from our household survey also showed that 6.3 percent of the beneficiaries openly identified themselves as former farm workers. In reality, more farm workers gained land through multiple routes, including through registering with chiefs in the communal areas and land occupations in their own right, in alliance with war veterans and landless peasants (see Chambati and Moyo, forthcoming). The plot sizes available to farm workers through the different routes range from 0.20 ha to 4.0 ha per household. Land access for farm workers through these different routes has been critical in subsidising their meagre wages to socially reproduce their livelihoods through subsistence agricultural production. For food security reasons, maize is the key crop grown by 22 of the 23 farm workers who had access to land in the communal areas or in the new resettlement areas, averaging 1.06 ha ploughed per household. Because very few farm workers have access to food security gardens, a greater proportion of their food needs have to be obtained on the market characterised by rising food prices.

To cushion their workers from food insecurity, 42.2 percent of the newly resettled households provided food rations. Thirty five percent of the farm workers also confirmed that they receive food rations, mostly in the form of maize grain (26.6 percent), while

[25] In some instances, access to land in the communal areas by farm workers from the former LSCF was used by white farmers to justify low wages as work was considered to be supplementing subsistence agricultural production (see Rubert, 1997).

others receive meals during working hours (3.8 percent) and some (6.3 percent) receive a defined food basket comprising basic requirements (maize grain, cooking oil, soap, dried fish, etc.). The maize grain provided to farm workers ranged from 10 to 30 kg per household per month during the time of the survey

The *NSSA Act (Chapter17:04)* stipulates that workers in the agricultural sector should be provided with protective clothing that limits their exposure to harmful chemicals (pesticides, agrochemicals, etc.) used in the production process. Despite the existence of statutes governing safety at the workplace, the major factor limiting compliance is the poor enforcement of the legislation by the state, largely because of the transaction costs of inspection given the spatial dispersion of farms, against a background of stretched government resources. The redistribution of land has increased these costs due to the increased number of farmers. The household sample data indicate that only 17 percent of the households employing wage labour provide protective clothing to their workers. In the farm worker survey, 22.8 percent of the interviewed workers reported that they were provided with protective clothing that includes overalls, gumboots, work suits and safety shoes.

The provision of health insurance to farm workers is also low, as only 8.9 percent of the farm workers interviewed reported receiving this benefit, in the absence of healthcare services in new resettlement areas. The model of health insurance as described by the workers is some level of assistance in the form of cash to cover medical bills and

transport to a health centre in the event that an employee falls ill. Thus it is a demand driven process, as and when the need arises rather than on a monthly basis.

The *Labour Relations Act (Chapter 28:01)* stipulates that all employees are entitled to a minimum of 30 days paid annual leave and twelve occasional leave days per year (Gwisai, 2006). However, field evidence revealed that only 21.5 percent of the farm workers interviewed are granted annual leave by their employers, in violation of existing labour statutes. This was corroborated by evidence provided by employers, in which 21.4 percent reported providing such benefits to their workers. The length of the annual leave for those who receive it ranges from twelve to 30 days. At this point in time, worker rights are not being realised in the new resettlement areas as most new farmers are not yet conversant with the requirements of the labour statutes.

Labour exploitation in new resettlement areas

The conditions of work for both new and former farm workers in the new resettlement areas varies widely, as reflected in the perceptions of the workers themselves. In our farm worker survey, 48 percent of the former farm workers[26] interviewed perceived working conditions to have improved from those of the former LSCF sector, while 27 percent and 24 percent respectively felt that there had been deterioration or no change. In order to assess the conditions of work in new resettlement areas, we examined the relations existing between workers and employers, the methods used to allocate and ensure task

[26] Of the 80 farm workers interviewed, there were 65 former LSCF farm workers in the sample.

completion or work objectives, the hours of work, the occurrence of labour disputes and resolution mechanisms.

In study's sample survey of agricultural workers in Zvimba District, 27.8 percent received their wage payments late and 11.4 percent indicated that they had been involved in labour disputes with their employers, but none highlighted being mistreated. Other labour disputes include low wages (5.1 percent); long working hours (2.6 percent) and refusal of employers to pay wages (2.6 percent). The methods of supervision for the accomplishment of tasks have shifted from the intimidatory and harassment tactics of employees common in the LSCF sector (Clarke, 1970; Loewenson, 1992; Amanor-Wilks, 1995; McIvor, 1995; Rutherford, 2001) to negotiation with employees. All the farm workers in our sample indicated that there are negotiation processes between employers and employees in the accomplishment of tasks.

Labour dispute resolution mechanisms in the new resettlement areas were also limited. For instance, 94.9 percent of the workers interviewed are not aware of the existence of an active agricultural labour union in Zvimba District and none are members of labour unions. Low unionisation of agricultural workers tends to limit the options available to workers to channel their grievances. The main agricultural labour union, GAPWUZ, has also faced some restrictions in reaching out to most new resettlement areas, largely because of its perceived association with the MDC and NCA through its support for the 'NO' campaign in advance of the national Constitutional Referendum in 2000. Its attack on land occupations that preceded the FTLRP has also rendered it not acceptable to most new farmers, in addition to the union's own organisational weaknesses (see Chambati

and Magaramombe, 2008).[27] Furthermore, workers' committees, the grassroots structures for handling worker grievances that were common in the LSCF sector, despite their limited success in addressing worker rights (Loewenson, 1992; Chambati and Magaramombe, 2008), are almost nonexistent in new resettlement areas, as only 13.9 percent of the workers had such structures at their places of employment. The establishment of workers committees on new farms might have been slow because of the small numbers of workers currently employed per household (see chapter four).

There are two dominant models of task allocation to agricultural workers in the new resettlement areas, the 'output based' and temporal methods. The output based method also popularly known as *mugwazo* involves the allocation of tasks to employees for completion within a given time period, normally the work day. The system has its origins in the ticket system used in South African mines in the 1950s and later adapted in the LSCF sector in the Southern Africa region (Clarke, 1977; Mathers, 1997; Rubert, 1997). Under the ticket system, workers were required to complete 30 full tickets, which were supposed to be equivalent to 30 days work, but it usually took 40 days to complete 30 tickets. Under the temporal method, workers are assigned a task and accomplish what they can during a set work day. In Zvimba District, 58.5 percent of the farm workers have temporal working arrangements, while the remainder have a *mugwazo* task allocation system at their places of employment. But over 65 percent and 88 percent of the employers indicated that they utilised the mugwazo system to allocate tasks to permanent and casual workers respectively, indicating its importance in the accomplishment of farm

[27] For instance, the union only managed to establish a physical presence in Mashonaland Central Province in 2007, seven years after the commencement of the FTLRP (Chambati and Magaramombe, 2008).

activities. Although the *mugwazo* task allocation system was meant to ensure timely accomplishment of farming activities in both the former LSCF sector and new resettlement areas, in the latter it has not been tied to wage cuts as was the case in the former LSCF sector.

Table 6.4 Working Hours in New Resettlement Areas, Zvimba District

No. of Working Hours	No.	% of Total
5 - 8	15	23.1
9 – 12	48	73.8
> 12	2	3.1
TOTAL	65	100

Source: AIAS Farm Workers Survey (2005)

The majority of agricultural workers (73.8 percent) reported working between nine and twelve hours a day over a six day working week (Table 6.4) and less than 25 percent works between five and eight labour hours per day. Thus it seems that the bulk of the farm workers in the new resettlement areas in Zvimba District are working beyond the regulated eight working hours as stipulated by the *Labour Relations Act (Chapter 28:01).*

However, there seems to be a compensatory process for the additional labour hours contributed by workers through overtime pay and granting of extra leave days in addition to those already guaranteed/granted. Of the 50 workers who work beyond the regulated working hours, 32 are paid for overtime and nine receive additional leave days.

6.3 Incomes derived by households from labour reproduction

Newly resettled households derive income from labour reproduction through the production of crops and livestock for sale and own consumption. The study assessed the 'incomes' derived from the common crops grown by households in the newly resettled areas, which are maize, tobacco, soyabeans and vegetables in addition to livestock based labour to indicate the 'incomes' derived from reproduction. However it is important to note that incomes derived from the production of other crops are also important.

Table 6.5 Crop Production in New Resettlement Areas

Crop	A1					A2				
	No. of growers	% of A1 HH	Avg. Ha. Cropped	Avg. Output (kg)	Avg. Yield (kg/ha)	No. of growers	% of A2 HH	Avg. Ha Cropped	Avg. Output (kg)	Avg. Yield (kg/Ha)
Maize	180	86.5	3.24	3 003.8	847.4	78	78.0	10.8	14 887.9	1 152.2
Tobacco	55	26.4	2.33	4 228.2	1 072.3	8	8.0	5.62	17 750.0	5 825.0
Groundnut	50	24.0	0.71	436.8	721.7	7	7.0	1.11	1 892.8	1 567.8

Source: AIAS Zvimba District Household Baseline Survey (2005)

Independent t-test results

Average maize output, t=-4.158, 256 d.f., p=0.00 (significant at 0.05)
Average maize yield, t=-2.590, 256 d.f., p=0.01 (significant at 0.05)
Average tobacco output, t=-2.175, 61 d.f., p=0.02 (significant at 0.05)
Average tobacco yield, t=-4.189, 61 d.f., p=0.00 (significant at 0.05)
Average groundnut output, t=-4.125, 55 d.f., p=0.00 (significant at 0.05)
Average groundnut yield, t=-2.169, 55 d.f., p=0.01 (significant at 0.05)

Maize production in terms of both area and output is significantly higher in the A2 sector than in the A1 sector. Area wise, an average of 3.2 ha is cropped in the A1 sector, compared to 10.8ha in the A2 sector. In terms of overall output, A1 households average 3 000kg compared to 14 887kg in the A2 households (Table 6.5). The levels of output attained also reflect the yields per hectare achieved, as in the case of maize, for example,

yields are 1.3 times higher in the A2 sector than in the A1. The trends in tobacco production are similar to those experienced in the production of maize, as A2 households crop more land area and realise higher outputs than A1 sector farmers. Average tobacco output and yields are more than four times higher in the A2 than in the A1 sector. Groundnuts, the other common crop grown in the newly resettled areas, are also higher in terms of both the output and area cropped on the larger A2 farms. Groundnut output averages 436.8kg in the A1 sector, compared to 1 892.8kg in the A2 sector.

The crop output produced on the newly resettled farms is either sold and/or consumed by the household. The amounts of crops sold in newly resettled areas closely mirrors the trends in the outputs realised. The A2 households, which realise higher outputs, also tend to sell more output to the market than the A1 households. For all the three crops (maize, tobacco and groundnuts), A2 households sell more output to the market and thus realise more income from labour reproduction than A1 households do (Table 6.6).

Table 6.6 Crop Sales in New Resettlement Areas

Crop	A1				A2			
	No. of Growers	% of A1 HH	Avg. Kgs Sold	% of Total Output	No. of Growers	% of A2 HH	Avg. Kgs Sold	% of Total Output
Maize	180	86.5	1 616.3	29.8	78	78.0	11 920.2	61.2
Tobacco	55	26.4	4 009.9	100.0	8	8.0	17 750.0	100.0
Groundnuts	50	24.0	74.5	12.1	7	7.0	571.6	9.5

Source: AIAS Zvimba District Household Baseline Survey (2005)

Independent t-test results

Average maize sold, t=-6.36, 236 d.f., p=0.00 (significant at 0.05)

Average groundnuts sold, t=0.240, 51 d.f., p=0.811 (not significant at 0.05)

Further analysis revealed some distinctive patterns in the proportion of total output of the staple food crop (maize) sold to the market. Field evidence showed that the bulk of the

maize output produced in the A1 sector is retained for own consumption. The A1 households sell an average of 29.8 percent of their total maize output, compared to 61.2 percent sold by the A2 households (Table 6.7). This implies that maize surplus production is higher in A2 households that produced more output and were, therefore, more integrated into maize markets than the smaller A1 farms. But in terms of volume retained by newly resettled households, A2 households retain more of their maize output than A1 households. However, the percentage of maize retained by A2 households in relation to total output is lower than that of the A1 households, accounting for 38.7 percent in the A2 and 70.1 percent in the A1. Distributional patterns in maize retention by households also show that over 50 percent of the A1 households retain between 81 and 100 percent of their output, compared to 25.4 percent retained by the A2 households. In the A1 sector, 54.0 percent of the households do not sell any of their maize output.

Table 6.7 Crop Retention in New Resettlement Areas

Crop	A1				A2			
	No. of Growers	% of A1 HH	Avg. Kgs Retained	% of Total Output	No. of Growers	% of A2 HH	Avg. Kgs retained	% of Total Output
Maize	180	86.5	1 530.4	70.1	78	78.0	2 888.3	38.7
Tobacco	55	26.4	-	-	8	8.0	-	-
Groundnuts	50	24.0	382.3	87.8	7	7.0	1 035.7	90.4

Source: AIAS Zvimba District Household Baseline Survey (2005)

Independent t-test results

Average maize retained, t=-2.654, 256 d.f., p=0.008 (significant at 0.05)

Average groundnuts retained, t=-2.174, 55 d.f., p=0.03 (significant at 0.05)

The study further assessed what the amounts of maize retained by households mean in terms of household annual requirements. The estimated annual human maize grain consumption averages about 121kg/person in Zimbabwe (ZIMVAC, 2003). If the maize

grain retained by households is spread equitably within households, the analysis showed that the average maize retained by households is enough to meet annual consumption needs for 2.7 years in the A1 sector, in comparison to 5.7 years in the A2 sector, given average household sizes of 4.59 and 4.19 respectively. However, in reality, output from the rural areas does not only support those resident there, but also friends and relatives in the urban areas. What these results mean is that the majority of the newly resettled households could meet their maize needs beyond the next harvest season from labour reproduction. More specifically, looking at the distributional patterns of the volume of maize retained by households, the analysis showed that, in the A1 sector only 13.1 percent of the households involved in maize production cannot meet their maize requirements until the next harvest and only 6.4 percent of the A1 sector households cannot. Thus labour reproduction in the newly resettled areas, in addition to earning income for households through crop sales, also lessens the burden on households of purchasing food in volatile markets and contributes to meeting food security needs.

Table 6.8 Livestock Sales in New Resettlement Areas, Zvimba District

Livestock Type	Number of Livestock Sold by Households in 2004/05 Season													
	1		2		3		4		5		>5		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Breeding cows	1	1.6	3	1.0	-	-	-	-	-	-	1	0.3	9	2.9
Bulls	2	0.6	2	0.6	-	-	-	-	-	-	-	-	4	1.3
Steers	4	1.3	-	-	-	-	-	-	1	0.3	-	-	5	1.6
Heifers	2	0.6	-	-	1	0.3	2	0.6	-	-	-	-	5	1.6
Beef herd	-	-	-	-	1	0.3	1	0.3	-	-	-	-	2	0.6
Donkeys	1	0.3	-	-	-	-	-	-	-	-	-	-	1	0.3
Goats	2	0.6	1	0.3	1	0.3	1	0.3	1	0.3	-	-	6	1.9
Poultry	2	0.6	1	0.3	1	0.3	3	1.0	-	-	11	3.6	18	5.8

Source: AIAS Zvimba District Household Baseline Survey (2005)

Incomes from labour reproduction are also derived from livestock sales but these are limited to 11.0 percent of the households, given that the different forms of livestock are generally owned by less than 40.0 percent of households. Cattle, which are important for the social reproduction of many rural households as a source of food and draught power, are owned by 37.0 percent and 35.0 percent of the A1 and A2 households respectively.

For all the different livestock types, sales are made by less than 6.0 percent of the newly resettled households. Poultry is the most common livestock sold, with 5.8 percent of the households being involved (Table 6.8). The sales of different types of cattle are limited to less than 3.0 percent of the households and the number of units sold is generally less than three for all livestock types, except for poultry where the majority of the sales were more than five units. The nominal incomes earned from livestock sales in Zvimba District's new resettlement areas ranged from $Z 100 000 to $Z 106 500 000 in the 2004/05 season, averaging $Z 8 290 000 per household. Newly resettled households, in general, seem to have been accumulating their herds at the time of the survey and thus sales were still depressed.

6.4 Incomes earned from non-agricultural work

In addition to incomes derived from agricultural activities through crop and livestock sales, and provision of wage labour services to other households, newly resettled households are also involved in non-farm labour that contributes to their social reproduction. As highlighted in chapter four, the non-farm activities that newly resettled

households are involved in varies from natural resource extraction activities for own consumption and for sale, to petty commodity trading. These activities are limited to less than 20.0 percent of the households in both the A1 and A2 sectors. Data on the incomes earned from these activities is not available. Key informants in Zvimba District indicated that natural resources access has increased after the FTLRP as discussed below.

The dismantling of the freehold property rights tenure system in favour of leasehold and permissory forms of tenure, where ownership is vested in the state, in the former large scale commercial farms has opened up access to various natural resources and other non-farm activities to newly resettled households and new and former farm workers that were previously under the exclusive control of landed white farmers (Chambati and Moyo, forthcoming). Natural resources within the confines of freehold properties in the LSCF sector were protected by trespass laws, which enabled landowners to exclude other segments of the population from access.

Rural households in the newly resettled areas are involved in various natural resource extraction activities, some of which contribute to their social reproduction, regardless of their legality. These include, gold mining on an informal basis (as opposed to more formally in the former LSCF sector), firewood cutting for sale and own consumption, fishing and wildlife harvesting. Some natural resource extraction activities, such as hunting, have arisen out of the isolation of the country through sanctions that have adversely affecting the tourism sector. The fact that there have been less foreign hunters has created legal opportunities for local hunters, as concessions were normally reserved

for foreigners who paid in hard currency. Some level of poaching is also taking place. The most common natural resource extraction activities in Zvimba District, as revealed in key informant interviews, are fishing (67.9 percent of respondents), wildlife harvesting (73.1 percent), wood harvesting (38.5 percent), grass harvesting (21.8 percent) and gold panning (12.9 percent) (Table 6.9).

Table 6.9 Common Natural Resource Extraction Activities

Activity	No. of Key Informants	% of Key Informants
Fisheries	53	67.9
Wildlife harvesting	57	73.1
Wood harvesting	30	38.5
Grass harvesting	17	21.8
Gold panning	10	12.9

Source: AIAS Wholesome Farm Survey (2005), N=79

Natural resource extraction activities provide an alternative source of income for rural households, especially farm workers, to supplement the non viable wages currently being paid in the new resettlement areas. Earnings from gold panning work, for instance, are much higher than farm labour rates and have created labour scarcities for new A1and A2 farmers as well as the remaining LSCF farmers in districts where alluvial gold is found in abundance (Chambati and Moyo, 2003).

6.5 Concluding Remarks

The accumulation trajectories in newly resettled areas from a labour perspective can be viewed from two angles – from newly resettled households who hire in labour and/or

utilise own family resources to engage in productive activities (agricultural and non-agricultural) for their social reproduction, and those who predominantly sell their labour to sustain their livelihoods. To a certain extent, rural labour has become part of the accumulation trajectories in newly resettled areas and are biased towards landowners who hire in and/or utilise own family resources for productive purposes.

In general, there is a direct relationship between the ownership of agricultural assets and the level of labour use in newly resettled households, meaning an accumulation pattern that also closely mirrors the use of labour. As discussed in chapter four, ownership of the different classes of agricultural assets (hand tools, animal drawn and power driven implements) was dominated by the households that utilised the most labour resources (combining family and hired-in labour) in the A1 and A2 sectors. The level of labour use increases from the lowest to the highest level as households begin to own more and a broader range of assets. Furthermore, the analysis also showed that households with high capital stock, indicated by the ownership of expensive technologies such as tractors and motor vehicles (see chapter five, Table 5.11), also utilise the most labour resources. Similarly, in terms of cattle ownership, the study found that, in general, as the number of head of cattle increase the level of labour use within households increases. The total number of cattle among the lowest level labour users averages 3.89, compared to 9.85 among the highest level labour users.

Investment patterns in infrastructural development on the farms since resettlement exhibited similar trends. As the level of labour use increases from the lowest to the

highest category, the nominal monetary investment by households significantly increases. For instance the highest level labour users have put investments on their farms since being resettled worth 14 times more in nominal terms than the lowest level labour users (AIAS Zvimba District Survey, 2005). These data suggest a close correlation between accumulation trajectories in the new resettlement areas and the level of labour use.

Rural labour as a source of accumulation is more valuable to the newly resettled households than to the workers who are hired in to provide labour services. Rewards from the sale of labour services in the new resettlement areas are below the minimum subsistence needs of worker households, as reflected by their proportion of the PDL and thus generating unviable livelihoods. The concern of worker households is more with the generation of sustainable livelihoods than defining an accumulation trajectory at this point. Worker households are contributing to the accumulation trajectories of others through the sale of labour services for productive activities, which in turn generates incomes for some newly resettled households to chart an accumulation path. Although some worker households do own land, sizes tend to be small and barely enough to meet subsistence needs, let alone to chart an accumulation trajectory.

CHAPTER SEVEN

CONCLUSIONS AND POLICY IMPLICATIONS

7.1 Introduction

This chapter draws conclusions from the findings from this study on how agrarian labour processes have been transformed after the implementation of the FTLRP and the ensuing relationships between labour and land in the new resettlement areas. In addition, the chapter examines policy implications arising from the findings and proffers some recommendations for the transformation of agricultural labour policy.

7.2 Conclusions

7.2.1 *New Labour Processes*

The FTLRP has been accompanied by an increase in the degree of self employment as own producers among newly resettled households in the predominantly wage labour market of the former LSCF sector, with some households also hiring in labour to augment family labour resources. Unlike in the former LSCF sector, where labour reproduction was predominantly in export agricultural production activities, in the new resettlement areas labour is utilised in a multiplicity of activities, including food focused agricultural production, natural resource extraction, petty commodity trading and sale of labour outside the locale in the form of migrant work in towns and cities.

Hiring in of labour in Zvimba's new resettlement areas is undertaken by 85.3 percent of the sample households. This tends to be mostly on a casual or part time basis, although some do hire in permanent labour. Over three quarters of the workers employed by newly resettled households are employed on a part time basis. Unlike in the former LSCF areas where large groups (averaging 65.8 workers) were employed on one farm, the newly resettled households employ few workers, usually averaging less than 10 per plot in the dominant small sized A1 sector and between 15 and 20 workers on the medium to large A2 farms. Some households also hire out their own family labour in return for wages in cash or kind to augment their livelihoods.

In contrast to the situation pertaining in the former LSCF sector, where there was a large reservoir of labour resident in the farm compounds employed as either full or part time workers tied to a specific employer, new forms of labour have emerged in the resettlement areas, albeit on a limited scale. The new forms of labour include the organisation of workers into labour gangs to provide general and specialised services to newly resettled households on demand. The labour gangs are independent from any employer and have more wage bargaining power than some fulltime workers who are reliant on newly resettled households for both wage employment and residential security, as was the case in the former LSCF sector.

Some new processes of labour mobilisation have also emerged in the new resettlement areas, involving the recruitment of relatives from the extended family, mostly from the communal areas, into wage employ, reflecting an emerging social patronage system. In

the former LSCF sector work relations were governed by what has been termed a 'domestic government' system or 'domestic affair' by some scholars (Amanor-Wilks, 1995; Rutherford, 2001), in which white farmers set laws and modes of operation beyond the employment contract to include the social affairs of workers on their farms, which were sometimes at variance with the legal framework in the rest of the country. However, under the social patronage system, work relations tend to be defined by kinship ties and are generally cordial. The worker mistreatment that was rife in the LSCF sector tends to be absent in the social patronage system and interference in employees' domestic affairs is limited. Outside the work relations that are defined by kinship ties, the majority of the workers employed on the new farms perceive work relations between employers and employees to have improved from the situation obtaining in the former LSCF sector. The strategies utilised by white farmers, which included intimidation, verbal (often racially based) abuse and physical violence to ensure the accomplishment of farm tasks (Clarke, 1977; Loewenson, 1992; Amanor-Wilks, 1995; McIvor, 1995; Rutherford, 1996; 2001; Rubert, 1997) have disappeared from the new farms.

Rather than just relying on own family and hired-in labour to complete productive activities, as was the case in the former LSCF sector, inter-family arrangements have been introduced to some extent in the new resettlement areas. Groups of families team up to work on the plot of one family, normally during peak periods, to perform tasks which are time sensitive, and this arrangement is in turn reciprocated to all families participating in the group. These reciprocal labour arrangements are common in the communal areas from whence the majority of the beneficiaries of the FTLRP originated.

Zimbabwe's commercial agricultural sector in the colonial and post colonial period was built on a supply of cheap labour from labour surplus communal areas (Palmer, 1973; Clarke, 1977; Amanor-Wilks, 1995; Rubert, 1997). Similarly in the new resettlement areas, in addition to the labour already existent in the former LSCF sector, the communal areas are an important source of labour. Recruitment of farm labour is mostly from within the new resettlement areas and the communal area in Zvimba District.

Similar to the situation in the former LSCF sector, accumulation trajectories have remained biased towards land owners at the expense of rural labourers. Both new and former farm workers employed in A1 and A2 farms earned unviable wages and benefits and were thus less protected than those in other LSCF subsectors (indigenous, state and remaining LSCF farms). In general, newly resettled A1 and A2 farms tend to pay lower wages and have poor employment contracts, although there are cases of good working conditions to be found. The employer's social obligation for worker welfare has been eroded by the increased casualisation of farm labour, which is the dominant employment mode in the newly resettled areas.

The economic conditions facing farm workers have worsened after the land reform as wages compared very poorly to the PDL to levels below those obtaining in the former LSCF sector which were also unviable as only 30% of the farm workers could meet their subsistence needs from their wages according to a survey conducted in 1999 (MPSL&SW, 2001). In addition their wages averaged about 50% of the PDL in the late

1990s (Kanyenze, 2001) compared to less than 10% in the post 2000 period. To supplement their wage earnings, farm workers were involved in other income generating activities.[28] In some instances, farmers also provided subsidized food to cushion their workers.[29] Some farm workers maintained rural communal homes as a fallback position.[30]

The land reform programme has also been accompanied by the underutilisation and loss of skills of former farm workers employed in the former LSCF sector. There has been a loss of useful skills and experience among former farm workers in new resettlement areas because of their low re-engagement on new farms. The majority of farm labourers employed in new resettlement areas are new farm workers with agricultural experience limited to the communal area farming. In cases where former farm worker have been re-employed or allocated land, their skills tend to underutilised as food focused agricultural production in the new resettlement areas restricts the utilisation of skills gained in export agriculture in the LSCF sector. The wage labour supply has been increased in the new resettlement areas as new farm workers have been mobilised from the communal areas in addition to the existing base amongst former farm workers. Furthermore the emergence of new labour forms such as short term farm labour specialist consultancy services and labour gangs that are independent from any employer have tended to limit new farmers' access to and control of skilled farm labour. Distrust has also led to the low re-

[28] These include subsistence cropping on the farm, piecework on neighbouring farms, poultry keeping, petty trading, gardening and gold panning. These activities generated between 15% and 20% of total household monthly income (FCTZ, 2001).
[29] According to a FCTZ survey in 2002, forty-two percent of the farms in Mashonaland West provided subsidized maize meal. Some farmers allocated farm workers land to engage in their own production.
[30] About 40.5% of the male permanent employees maintained a communal area home according to a 1998 survey (Vhurumuku et. al., 1998).

employment and loss of valuable skills of former farm workers as in some cases they have been perceived as loyal to former commercial farmers, while former farm workers perceive new farmers as poor employers (see also Chambati and Moyo, 2003).

It also important to note in other districts beyond the scope of this study, rural labour markets have severely affected by the presence of alluvial gold (Chambati and Moyo, 2003). The decontrol of freehold property rights in the newly resettled areas has created an alternative source of income for former farm workers in several districts in the Mashonaland and Midlands Provinces. Incomes earned from gold panning outcompetes wages from agricultural work and are preferred by some former farm workers meaning that shortages of agricultural labour have been experienced in some of these areas by both new and remaining LSCF.

The FTLRP thus shifted the character of the farms and created new forms of labour and a framework for the mobilisation and utilisation of agricultural labour, and the governance of work relations on the new farms.

7.2.2 Agricultural Labour, Capital and Land Relations

The utilisation of labour in the newly resettled areas is directly related to the land sizes and capital stock possessed by households, as well as to land use patterns. The scales and rates of labour utilisation in the new farms were measured (in 2005) in a context in which, although land utilisation rates had not yet reached their optimal levels, they

nevertheless compared favourably to the former situation in the LSCF sector. Over a period of five years, newly resettled households attained net land utilisation rates averaging 46.38 percent and 28.49 percent in the small sized A1 and medium to large A2 farms respectively, in comparison to an average of 42.6 percent over a period spanning more than 100 years in Natural Regions I, II and III where most of the large scale commercial were located (see Roth, 1994). The difference lies in the fact that land use patterns in the former LSCF sector were focused on high value export crops using high capital stock, while the newly resettled areas are still focused on food and domestic markets, although some new farmers are also involved in high value export crops.

As expected, the analysis showed an increase in the absolute number of full and part time workers employed by households as the farm size increases. The larger A2 farms tend to employ more hired labour than the smaller A1 farms. The hiring in of labour is more common in the larger farms, as only 2.0 percent of the A2 households are exclusively reliant on the family to provide labour for productive activities, in comparison to 19.2 percent among the A1 households. In general, casual forms of labour are more dominant in the newly resettled areas. This is the major type of hired in labour on the A1 farms where 70.7 percent of the households hire in casual workers and 33.3 percent hire in fulltime workers. In the A2 sector, 62.2 percent and 86.5 percent of the households hire in permanent and casual workers respectively. The study found that the relationship established between farm size and labour use was also reflected in the areas cropped. The newly resettled households that employ the most labour are also those cropping the greatest land area. Crop choices and combinations are not directly related to the level of

labour use on the A1 farms, but are influential in the A2 sector, as the study found that the majority of households that have diversified from maize mono-cropping also have higher levels of labour use.

The analysis showed that labour use was higher in the smaller farms per available arable area and total cropped area. The labour intensity, as measured by the number of workers divided by the arable or cropped area, tends to decrease as the farm size increases as some larger farms tend to have access to capital equipment such as tractors. Thus, after taking into account the land areas, the small farms utilise more labour or are more labour intense than the larger farms in the A2 sector.

In general the ownership of different types of agricultural equipment (animal drawn and power driven implements) was low among newly resettled households. The majority of households rely on hiring in equipment to carry out their farming operations and the technologies used tend to be labour intensive. There is a direct relationship between farm equipment and machinery endowments, and labour utilisation rates, as those who possess the critical assets, such as tractors (for the larger A2 farms) and animal drawn tools and draught power (for the smaller A1 farms), tend to utilise more labour resources, apparently because they crop greater land areas than those who do not have these equipment endowments.

Capital intensification in newly resettled areas is most concentrated in the larger farms. The level of labour utilisation tends to increase as the level of capital stock in the

households increases. Thus, households with more capital stock crop more land area and in turn demand more labour in absolute terms and more permanent workers per unit of cropped area, in a context in which ploughing capacity is one of the major constraints to local farming. This is in contrast to the situation in the former LSCF sector, in which labour was increasingly casualised as the intensification of capital increased, to account for almost 50 percent of the labour force by the late 1990s, up from 25 percent in the early 1980s (Loewenson, 1992; Amanor-Wilks, 1995; Chambati and Moyo, 2003). Appropriate capital intensification levels in the newly resettled areas and the long term implications of this for employment require further careful analysis since the land reform period is still in transition. Indeed serious research on past land reform in Zimbabwe found the effects beginning to show after 10 years (see Kinsey, 1999). Moreover, the resettlement has not taken place according to one uniform pattern; in reality, settlement has been spread over the five years, especially on the A2 farms that were resettled in the later phases of the programme.

As Moyo and Chambati (forthcoming) have observed, in this situation the newly established small and medium scale farms show a new process of social differentiation, reflecting the finer agrarian class formation trajectory based on farm labour utilisation, scale of land resources control, access to other economic resources, and sociopolitical connections. Some households hire in more labour than others, and some are solely reliant on the family to provide labour for productive activities, while some also hire out their own labour to other newly resettled households. As per our empirical classification

of labour use by households on scale of lowest to highest, the analysis showed a differentiated accumulation pattern, in which those utilising more labour (but less child labour) are those who own more agricultural assets and livestock, have invested more in infrastructural development on their resettled plots, and in turn crop more land area and earn higher incomes. This reflects new social relations of production. The broader agrarian class formation trajectory in newly resettled areas requires further research beyond the labour processes and is pursued in greater detail by Moyo and Chambati (forthcoming).

7.3 Policy Implications and Recommendations

The findings from this study raise five key policy implications from a labour perspective. These are (i) role of land reform in employment development, (ii) social protection of re-employed former farm workers and new farm workers (iii) access to farming technologies, (iv) skills development of new and former farm workers, and (v) access to residential and/or agricultural land rights for farm workers.

Role of land reform in employment development and rural livelihoods

The land reform programme was implemented against a backdrop of economic decline that was characterised by rising urban unemployment brought about by massive job retrenchments, persistent inflation, foreign currency shortages, rising interest rates,

contraction of the manufacturing sector and a host of other problems accompanied by the Economic Structural Adjustment Programme in the early 1990s (Oni, 1997; ZHDR, 1999; Bond and Manyanya, 2003). There is debate over the unemployment rate in Zimbabwe, which tends to be estimated at above 80 percent in most media sources, ignoring informal sector and other forms of self employment. What is not in dispute is the fact that Zimbabwe is faced with a growing unemployment problem. It is also important to note that the capacity to absorb additional labour in the former white farms, which was the largest formal employer accounting for 26 percent of the total work force,[31] had been severely constrained by the increase in capital intensity that had been slowly displacing agricultural workers since the 1970s (see Clarke, 1977; Loewenson, 1992; Amanor-Wilks, 1995; Rutherford, 2001) and relatively low utilisation of agricultural land.[32] Moreover employment development in the LSCF sector could also have been affected by uncertainties created by the increased calls for land reforms in the late 1990s and land occupations as investment into commercial agriculture could have been stalled as being suggested in South Africa (see Centre for Development Enterprise, 2008). The reformed agrarian structure is endowed with the potential to solve the growing unemployment problem in Zimbabwe, as the urban economy's capacity to generate employment continues to be undermined by economic decline.

The new farm structure (including A1, A2, remaining LSCF, old resettlement, state farms and communal areas) with reduced farm sizes had generated more jobs than had

[31] The manufacturing and education sectors are the second and third contributors of formal employment, accounting for 15 percent and 11 percent respectively. The remaining sectors account for less than 10 percent each of the total share of formal employment (CSO, 2001).

[32] Employment growth in the LSCF sector averaged less than 2.0 percent per annum in the first half of the 1990s before it began to decline from a peak of 334 521 workers in 1995 to 322 680 by 1999 (CSO, 2001).

previously been offered by the dual agrarian structure based on the labour estimates and land use at the time of the survey (2005). Where the LSCF sector employed 167 851 full time workers, the new agrarian structure represents a total of 502 456 permanent workers (annex 7.1), meaning a 199 percent growth in fulltime employment. Land access for peasants and some farm workers has also created opportunities for self employment as own producers, and the utilisation of previously underemployed labour in the communal areas, in addition to guaranteeing their social security and livelihoods. The peasant sector in Zimbabwe's communal areas was characterised by land shortages and high population density which resulted in high underemployment before the implementation of the FTLRP. The redistribution of land allows peasant households to crop more extensively in higher potential agro-ecological regions and to utilise previously underemployed labour in the marginal communal areas. In terms of self employment, field estimates indicate a growth by over 500 000 jobs following the implementation of the FTLRP. Furthermore, numerous opportunities for casual work have been created by the broadening of land access in the former LSCF areas. This implies that, on a macro-scale, additional farm jobs appear to have been created by the FTLRP, although some former farm worker skills are still underutilised due to their low re-employment in new farms. However as discussed the value of the wage jobs created were unviable due to poor working conditions, whilst self employment jobs in the A1 sector have been affected by resource constraints to engage in meaningful agricultural production although some income benefits have been recorded through own consumption of food produced and limited sales to the domestic market. Also important to mention is that the decontrol of natural resource access through the dismantling of property rights in the former LSCF areas has

created some other jobs, such as alluvial gold panning, in districts endowed with the resources, in addition to other activities such as fishing and firewood sale.

The LSCF farms were the lowest employers of labour per unit of cropped area, in comparison to the old resettlement and small scale commercial farming (SSCF) sectors before the FTLRP. The areas cropped in the LSCF, old resettlement scheme and SSCF averaged 88 ha, 1.8ha and 9.5 ha respectively before the FTLRP. Between 1988 and 1997, labour employment in the LSCF sector was below 0.7 workers per cropped hectare, compared to an average of 3.5 and 5.0 workers per hectare in the old resettlement and SSCF sector (GoZ, 2001). The labour utilisation per unit of cropped area in the new resettlement areas has already exceeded the rates prevailing in the former LSCF sector, averaging 1.28 (excluding casual workers) (Table 5.17), meaning greater employment capacity in the reformed agrarian structure.

However it is important to mention that although employment capacity of the LSCF sector was weakening, productivity gains realized through capital intensity contributed immensely to GDP and export sector growth in the economy. For instance agricultural exports grown mostly in the LSCF sector contributed over 40% of the country's total exports (CSO, 2001). Also important to mention is that the gains in productivity in the LSCF sector meant huge profits for farmers but they did not translate into welfare gains for employees as wages remained depressed nor was excess surplus was channeled to improve social services (Loewenson, 1992; Amanor-Wilks, 1995).

Given that land utilisation rates for both cropping and livestock production have not yet reached their optimal levels in newly resettled areas, there is greater scope than is currently being realised for the expansion of the demand for farm labour. The realisation of the employment potential of the new farms depends on the resolution of the production constraints currently being faced on the new farms, which are both internal (farming skills, education, resource endowments, etc.) and external (input shortages, foreign exchange shortages, access to finance, hyperinflation, negative interest rates, etc.) to households, to which economic stabilization is key.

Social protection of re-employed former farm workers and new farm workers

Evidence clearly shows the unviability of farm labour livelihoods in newly resettled areas as reflected in the poor working conditions (wage rates, insecure casualised employment contracts, benefits, leave etc). Whilst there are policy measures to protect farm workers within the labour relations framework as espoused in the *Labour Relations Act (Chapter 28:01)* and through specific agricultural industry agreements under the National Employment Council for the Agricultural Industry of Zimbabwe, these have not been enforced due to the limited presence of government in new resettlement areas. Furthermore, the agricultural workers trade union, GAPWUZ whose main role has been limited to ensure protection of worker rights, has had a decline in membership and thus struggles to reach out in most newly resettled areas (Chambati and Magaramombe, 2008). This has been exacerbated by the fact that the majority of the new A2 farmers also tend

not to be conversant with the labour relations framework and most of them are not members of farmer organisations who represent their interests in collective bargaining agreements as they relate to worker rights.

The social protection policies proposed here are targeted at the A2 farmers who are expected by government policy to engage in commercial agricultural production and should exempt A1 farmers whose land utilisation is primarily meant to enhance household food security and thus guarantee their livelihoods.

To improve the social protection of agricultural workers, there is a need to for the enforcement of the existing labour laws in the new resettlement areas and improve awareness of farm workers rights and employer obligations. Labour relations training programmes could be launched for A2 farmers through their organisations. This process should be accompanied by a parallel process to capacitate new farmers to engage in meaningful agricultural production to enable them to meet their obligations to workers. This is also in line with the study's field observations were new farmers have indicated their inability to pay the gazetted statutory wages associated with permanent work as they are still in transition and are resource constrained. The farm worker trade union needs to revitalize itself with a stronger membership drive in the new farms to capacitate its efforts to lobby government for the enforcement of existing laws. New A2 farmers should be also encouraged to join farmer organisations that represent them in the National Employment Council during collective bargaining.

Access to farming technologies

Among other factors, access to appropriate farm technologies is one of the key constraints to land utilization in new resettlement areas and in turn labour utilization. Ploughing capacity in the form of tractorisation and animal drawn ploughs is a key constraint for large and small farmers especially in Zimbabwe's newly resettled areas and the agricultural sector in general and once available allows more land area can be cropped and in turn enhanced utilization of farm labour. Ownership and access to farm technologies that enhance labour utilization was low in the newly resettled areas amongst both small and medium to large farmers. Field evidence generally showed a direct relationship between farm machinery and equipment endowments and the scale of labour establishment suggesting that increased access of the different appropriate farming technologies is desirable in the short to medium term in the newly resettled areas to enhance the demand for both hired in labour and self employment as own producer. Here we emphasize appropriate technologies as some forms of technologies especially heavy motorised equipment e.g. tractors have historically been known to displace human agricultural labour in the former LSCF sector (see Loewenson, 1992). In the new resettlement areas, although initial indications of the effect of tractorisation point to the enhancement of demand for farm labour, the appropriate levels required needs further research so as to not displace human agricultural labour or divert it to other areas – in the medium to long term.

The unavailability of appropriate farm technologies especially in the newly resettled areas has been noted by the government of Zimbabwe through the launch of Farm Mechanisation Programme in 2006 jointly being implemented by the newly created Ministry of Agricultural Engineering, Mechanisation and Irrigation and the Reserve Bank of Zimbabwe. Under the Farm Mechanisation Programme which is being implemented in phases, the government is imparting farm machinery, mostly power driven implements (tractors, ploughs, combine harvesters, planters etc) and contracting other local supplies for equipment which is manufactured locally for onward distribution to farmers at subsidized prices. Although the Farm Mechanisation Programme is targeted at both small and large farmers, policy pronouncements and resource allocations suggests its bias towards middle and large farmers. For instance, one of the key objectives of the Farm Mechanisation Programme as espoused by the Minister of Agricultural Engineering, Mechanisation and Irrigation is "to modernize agriculture through mechanisation with a special focus on making individual farmers have access to tractors and other important machinery, [with] animal draught power [remaining] side by side with modern equipment (The Herald, 05June 2007). The initial phases have been mostly biased towards the distribution of large power driven implements to large farmers and thus most small farmers (A1 and communal areas) are still to benefit from the programme. In the first phase of the Farm Mechanisation Programme, only heavy equipment which included 925 tractors was distributed to large farmers (MAEMI, 2007). Smallholders began to benefit in the second phase but resource allocation have remained concentrated in heavy equipment distribution for farmers. For instance in the three phases of the programme implemented to date, 2,625 tractors have been distributed to large farmers in comparison

to 100,000 animal drawn ploughs to small farmers, implying that 16.0% of large farmers have received subsidized ploughing capacity compared to 7.0% of the small farmers (MAEMI, 2007).

There is a case for the farm mechanization programme to devote its focus towards labour intensive technologies (hand tools and animal drawn equipment) utilized by small farmers. Beside contributing the largest share of the total number of agricultural producers, as field evidence has shown have the potential of generating more rural employment as they utilize more labour per unit of area cropped in comparison to large farms. Furthermore smallholder farmers in Zimbabwe have historically produced between 70% and 80% of the country staple and thus guaranteeing food security for the nation (Mashingaidze, 1994). Small farmers are also not well resource endowed in comparison to their counterpart large farmers in general and they morally deserve more government support in the form of subsidies.

Skills development in New Resettlement Areas

As highlighted, the majority of workers employed in the new resettled areas are new farm workers with limited experience beyond communal area agriculture. The underutilization of former farm worker skills has also meant that other areas which have ventured into crops/commodities common in the LSCF could be facing skills shortages yet they could be abundant in other areas but are not being deployed. This is exacerbated by the absence

of information for farmers on what and where skills are available and thus incur high search costs in their farm labour recruitment process.

In this regard, the government should launch a farm worker training programme that encompasses both new and former farm workers. The training programme should be geared towards upgrading the skills of former farm workers, whilst new farm workers should be equipped with basic agricultural and labour relations skills to enable them to deliver their mandate in the new resettlement areas. These skills of farm workers should be recognized formally and appropriately graded in new and old commercial farms (Chambati and Moyo, 2003). To ensure that former farm worker skills are not underutilised in new resettlement areas, the government should promote the formation of farm labour recruitment agencies that will disseminate information on skills availability throughout the country to reduce labour search transaction costs (Chambati and Moyo, 2003). Added to this the government should also promote mutual co-existence between new farmers and former farm workers to enable skills utilisation that have been hindered by conflicts and distrust between the two parties. This programme could be implemented collaboratively with farm worker trade union, GAPWUZ, Zimbabwe Commercial Farmers Union (ZCFU) (which draws most of its membership from amongst new farmers) and NGOs supporting farm workers.

Rural service and residential centres

The FTLRP has also presented an opportunity for the restructuring of the labour and land rights of agrarian labourers, which have been problematic since the colonial era (see Clarke, 1977). For instance, the issue of residency or housing access in the LSCF sector has been one of the key structural problems facing farm workers since the colonial era (Clarke, 1977; Loewenson, 1992; Amanor-Wilks, 1995; Kanyenze, 2001; Chambati and Moyo, 2003). The compound system created under LSCF agriculture meant that farm workers were housed in small sections of the private freehold land in farm compounds with insecure residential and agricultural land tenure rights that were linked to their employment contract. Continued residency was guaranteed by maintaining employment links on the farm, whereas the rest of the working class' employment and residential rights are separated by space and time. New A2 farmers also tend to favor the status quo, where only farm workers employed on a particular farm should reside in the former farm compound.

Because they were no standards for the housing that the LSCF sector was supposed to provide for employees, in the majority of cases farm compound housing facilities and support services were poor and sometimes unsuitable for human habitation (Amanor-Wilks, 1995; Magaramombe, 2001, Tandon, 2001; Chambati and Moyo, 2003). Farm compounds were sites of overcrowding, housing more people than were required to perform full and part time agricultural work. A survey conducted in 1994 on 274 LSCFs countrywide found that, although there were 21 462 workers employed in full and part time work, 60 180 people were housed in the compounds, with up to 40 percent of the

farms having an average of five people sharing a single room (Tandon, 2001). Respiratory diseases were common in these sites of labour reserve as about 33 percent of 1 529 farm workers interviewed during this survey complained of bronchitis (Tandon, 2001). Sanitary facilities were almost non-existent in the farm compounds and the spread of communicable disease was rife in the absence of healthcare services for farm workers (see Clarke, 1977; Loewenson, 1992; McIvor, 1995; Rubert, 1997; Tandon, 2001). The provision of social services (housing, health, education etc.) to farm workers was viewed by central government as the responsibility of the employers on their private property although it provided these services in the communal and urban areas. Conversely, the white farmers blamed the poor living conditions of farm workers on the ineffectiveness of the national social security system and government's reluctance to provide incentives (tax breaks and subsidised finance) for farmer investment in social services (Amanor-Wilks, 1995; Kanyenze, 2001; Chambati and Moyo, 2003).

In this regard, the government is recommended to avail land for the creation of rural residential and service centres for farm workers autonomous from new farms (Chambati and Moyo, 2003). The purpose is to delink the residential and employment rights of farm workers which have been attributed to the entrenchment of employer control over agricultural workers (see Clarke, 1977) and ensure secure and decent housing for farm workers. Farm workers should be allocated land for residential purposes (including room for food and nutrition gardens) with access by long term inheritable leases or permits as obtaining in the new farms. To fund the construction of residential centres, the GoZ could

introduce tax holidays or breaks for employers to support farm workers to construct suitable housing (Chambati and Moyo, 2003).

7.4 Concluding Remarks

In conclusion, land reform has created an expanded agricultural labour market with the increased number of potential employers especially in the A2 sector providing an opportunity for agricultural workers to gain incomes through wage and whilst land access in the A1 sector has provided self employment opportunities. However the value of the jobs created to date have been non-viable and require post settlement support for new farmers to expand their resource base (e.g. production finance and equipment) and skills through extension and other forms of training to fully utilise their land and gain sustainable incomes that can in turn be passed on to agricultural workers through sustainable wages and incomes from self employment. The land reform process in Zimbabwe has been a dynamic process and further research is required to track the processes that have affected the agricultural labour market since this study was conducted in 2005. For instance the macroeconomic situation in Zimbabwe has worsened and shortages of critical agricultural inputs such as seed and fertiliser have persisted, whilst some more farms have been acquired by government for resettlement and multiple owned A2 farm have been reallocated. This creates both positive and negative impacts for the agricultural labour market in new resettlement areas.

BIBLIOGRAPHY

Adams, J. (1991) The Rural Labour Market in Zimbabwe', *Development and Change,* Vol. 22, p. 297-320.

Adams, M. (1995) *Land Reform: New Seeds on Old Ground*, London: Overseas Development Institute Working Paper No. 6, October.

Adams, M. (2000). *Breaking Ground: Development Aid for Land Reform*, London: Overseas Development Institute.

Aguilar, F.V. (2005). "Rural Land Struggles in Asia: Overview of Selected Contexts". In Moyo, S. and P. Yeros (eds), Reclaiming *the Land: The Resurgence of Rural Movements in Africa, Asia and Latin America*. London: Zed Books.

Amanor-Wilks, D. (1995) *In Search of Hope for Zimbabwe's Farm Workers.* Harare: Dateline Southern Africa and Panos Institute.

Amanor, K.J. (2002). "Land and Sustainable Development in West Africa". Harare: AIAS Unpublished mimeo.

Arrighi, G. (1970) 'Labour Supplies in a Historical Perspective: A Study of Proletarianisation of African Peasantry in Rhodesia', *Journal of Development Studies*, Vol. 6, No. 3, p. 197-234.

Bardhan, P.K. (1979). "Labour Supply functions in a poor agrarian economy*". American Economic Review*, Vol. 69, p. 73-83.

Barnum, H.N. and L. Squire (1979). *A model of an Agricultural Household: Theory and Evidence*. World Bank Occassional Paper No. 27, Washington DC: World Bank.

Bauer, K. (2000). "Modelling Agricultural Labour Response to Market development during transition". Working Paper 3/1/2000. Belgium: IDARA.

Besley, T. and R. Burgess (2000). "Land Reform, Poverty Reduction, and Growth: Evidence from India. *Quarterly Journal of Economics*, Vol. 115, No. 2, p. 389-430.

Berry, R.A. and W.R. Cline (1979). *Agrarian Structure and Productivity in Developing Countries.* Baltimore: John Hopkins.

Bhalla, S. S. and P. Roy (1988) 'Mis-specification in Farm Productivity Analysis: the Role of Land Quality', *Oxford Economic Papers*, Vol. 40, p. 55-73.

Binswanger, H. P., K. Deninger and G. Feder (1993) 'Power Distortions, Revolt and Reform in Agricultural Land Relations', in J. Behram and T. Srinivasan (eds), *The Handbook of Development Economics* Vol III. Amsterdam: North Holland.

Bond, P. and M. Manyanya (2003) *Zimbabwe's Plunge: Exhausted Nationalism, Neoliberalism and the Search for Social Justice (2nd Edition).* Scottsville, London and Harare: University of Natal Press, Merlin Press and Weaver Press.

Borg, W. and M. Gall (1989). *Educational Research: an Introduction* (fifth edition). New York: Longman.

Bourdillon, M. (2000) 'Introduction', in M. Bourdillon(ed), *Earning a Life: Working Children in Zimbabwe*, Harare: Weaver Press.

Bradstock, A. (2005a). "Changing Livelihoods and Land Reform: Evidence from the Northern Cape Province of South Africa". *World Development*, Vol. 33, No. 11, p. 1979-1992.

Bradstock, A. (2005b). "Land reform and livelihoods in South Africa's Northern Cape Province". *Land Use Policy*, Vol. 23, No. 3, p. 247-259.

van de Brink, R. (2003). "Land Policy and Land Reform in Sub-Saharan Africa: Consensus, Confusion and Controversy". Draft Research Paper.

van de Brink, R., M. de Klerk and H.P. Binswanger (1996). "Rural Livelihoods, fiscal costs and financing options: a first attempt at quantifying the implications of redistributive reform. In van Zyl, J., J. Kirsten and H.P. Binswanger (eds), *Agricultural*

Land Reform in South Africa: Policies, Markets and Mechanisms. Cape Town: Oxford Press.
Bryceson, D. (1999) 'African Rural Labour, Income Diversification and Livelihood Approaches: A Long-Term Development Perspective', *Review of African Political Economy* 80, p. 171-189.
Bryant, C. (1998). "Property Rights for the Rural Poor: the Challenge of Landlessness. *Journal of International Affairs*, Vol. 52, p. 181-200.
Bush, R. (2002), 'Land Reform and Counter-Revolution', In Bush, R. (ed) *Counter Revolution in Egypt's Countryside: Land and Farmers in the Era of Economic Reform*. London: Zed Books.
Centre for Development Enterprise (2008). "Land Reform in South Africa: Getting Back on Track". Johannesburg: Abridged CDE Research No. 16.
Chambati, W. and S. Moyo (2003) 'The Political Economy of Agricultural Labour and Land Reform', Harare: African Institute for Agrarian Studies mimeo.
Chambati, W. and S. Moyo (forthcoming) *The Political Economy of Farm Workers in New Resettlement Areas*, AIAS Monograph Series, Harare: African Institute for Agrarian Studies.
Chambati, W. and G. Magaramombe (2008) 'An Abandoned Question: Farm Workers', in S. Moyo, K. Helliker and T. Murisa (eds), *Contested Terrain: Civil Society and Land Reform in Contemporary Zimbabwe.* Johannesburg: SS Publishing.
Clarke, D. G. (1977) *Agricultural and Plantation Workers in Rhodesia*. Gwelo: Mambo Press.
Cliffe, L. (2000). "Land Reform in South Africa". *Review of African Political Economy*, No. 84, p. 273-286
Chong, Ho Yu (2003). Misconceived relationships between logical positivism and quantitative research. Research Methods Forum, http://www.aom.pace.edu/rmd/2002fourm.html.
Coleman, D. and T. Young (1989). *Principles of Agricultural Economics: Markets and Prices in Less Developed Countries.* Cambridge and New York: Cambridge University Press.
CSO (1984) *Indicator Monitoring Labour Force Survey*. Harare: Government Printers.
CSO (1992) *Zimbabwe National Census 1992*, Harare: Government Printers.
CSO (1998) *Statistical Yearbook 1997*, Harare: Government Printers.
CSO (2001). *Agricultural Production on Large Scale Commercial Farms*. Harare: Government Printers.
CSO (2002) *Zimbabwe National Census 2002*, Harare: Government Printers.
DLA (1997). *White Paper on South African Land Policy.* Department of Land Affairs: Pretoria.
Davies, R. (2004). 'Memories of Underdevelopment: A Personal Interpretation of Zimbabwe's Economic Decline'. In *Zimbabwe. Injustice and Political Reconciliation*, Raftopolous, B. and T. Savage. Cape Town: Institute for Justice and Reconciliation.
Deininger, K. (1999). "Making Negotiated Land Reform Work: Initial experience from Columbia, Brazil and South Africa". *World Development*, Vol. 27, No. 4, p. 651-672.
Dorner, P. (1972) *Land Reform and Economic Development*, Middlesex, Baltimore and Ringwood: Penguin Books.
Dorner, P. and D. Kanel (1971). "The economic case for land reform: employment,

income distribution, and productivity". In Dorner (ed), *Land Economics Monograph Series*, No 3. Madison: Land Economics for the Land Tenure Centre at the University of Wisconsin

Ellis, F. (1992) *Agricultural Policies in Developing Countries*, Cambridge, New York, New Rochelle, Melbourne and Sydney: Cambridge University Press.

Ellis, F. (1993) *Peasant Economics: Farm Households and Agrarian Development*, Cambridge, New York, New Rochelle, Melbourne and Sydney: Cambridge University Press.

Eckert, J. (1996). "Fifty Hectares and Freedom: Field Crops Options for Small-Scale Farmers in the Western Cape. In Lipton, M., M. de Klerk and M. Lipton (eds), *Land, Labour and Livelihoods in Rural South Africa, Volume One: Western Cape*. Durban: Indicator Press.

Ehrenberg, R.G. and R. Smith (1991). *Modern Labour Economics: theory and public policy* (4th edition). New York: Harper Collins Publishers Inc.

Evenson, R. and H.P. Binswanger (1984). "Estimating labour demand functions for Indian agriculture. In Binswanger H.P. and M.R. Rosenzweig (eds*), Contractual Arrangements, Employment and Wages in Rural Labour Markets in Asia*. New Haven: Yale University Press.

FCTZ (2000) 'Survey of Commercial Farm Worker Characteristics and Living Conditions', Harare: FTCZ unpublished mimeo.

FCTZ (2001) 'The Impact of Land Reform on Commercial Farm Workers' Livelihoods', Harare: FCTZ mimeo.

FCTZ (2002) 'Assessment of the Impact of Land Reform Programme on Commercial Farm Worker Livelihoods', Harare: FCTZ mimeo.

FEWSNET (2005) 'Urban Food Security Remains Critical', www.fews.net/centers/innerSections.aspx?f=zw&m=1001680&pageID=monthliesDoc

Flanagan, R., R. Smith and R.G. Ehrenberg (1989). *Labour Economics and Labour Relations*. Illinois and London: Scott, Foresman and Company.

Frohberg, K. (1994). "An Assessment of the effect of a reform on the Common Agricultural Policy on labour income and outflow". In European commission (eds), *The economics of the Common Agricultural Policy (CAP): European Economy Reports and Studies*, No. 5, p. 180-206.

de Janvry, A. (1981) 'The Role of Land Reform in Economic Development: Policies and Politics', *American Journal of Agricultural Economics*, May, p. 384-392.

Gandure, S. and N. Marongwe (2006) 'Knowledge Review and Gap Analysis Report: Hunger and Vulnerability in Zimbabwe', Johannesburg: Regional Hunger Vulnerability Programme.

Gephart, R. (1999). Paradigms and Research Methods. Research Methods Forum, http://www.aom.pace.edu/rmd/2000fourm.html.

Giddens, A. (1978). "Positivism and its critics". In Bottomore T. and R. Nisbet (eds). *A History of Sociological Analysis*. New York: Basic Books.

Glick, P. (1999) 'Simultaneous Determination of Home Work and Market Work of Women in Urban West Africa' *Oxford Bulletin of Economics and Statistics*, 61 (1).

GoZ, (1980). "Resettlement Policies and Procedures". Harare: Ministry of Lands, Resettlement and Rural Development.

GoZ (1981) *National Manpower Survey 1981 Vol. I.*, Harare: Government Printers, p 49.

GoZ (1982). *Transitional Development Plan, 1982-1985*. Harare: Government Printers.

GoZ (1991). *Framework for Economic Reform, 1991-1995*. Harare: Government Printers

GoZ (1993) *Statutory Instrument 323 of 1993*, Harare: Government Printers.
GoZ (1996) *Labour Relations Act (Chapter 28:01)* (Revised Edition), Harare: Government Printers.
GOZ (1996) *National Social Security Authority Act* (Chapter 17:04) (Revised Edition), Harare: Government Printers.
GoZ, (2001a). "People First, Fostering Social Justice and Economic Growth: Zimbabwe's Land Reform Programme". Harare: Department of Information and Publicity, Office of the President and Cabinet.
GoZ, (2001b). "Land Reform and Resettlement Programme: Revised Phase II". Harare: Ministry of Lands, Agriculture and Rural Resettlement.
Hacking, I. (1983). *Representing and intervening: Introductory topics in philosophy of natural science*. New York: Cambridge University Press.
Hall, R. (2004). "A Political Economy of Land Reform in South Africa". *Review of African Political Economy*, Vol. 31, No. 100, p. 213-227.
Hartnack, A. (2007) 'My Life Got Lost: Farm Workers and Displacement in Zimbabwe', *Journal of Contemporary African Studies*, vol. 23, no. 2. p.173-193
Herbst, J. (1987) *State Politics in Zimbabwe*, Harare: University of Zimbabwe Publications.
Herring, R.J. (1983). *Land to the Tiller: The Political Economy of Agrarian Reform in South Asia*. New Haven: Yale University Press.
HSRC (2003). "Land Redistribution for Agricultural Development: Case Studies in three Provinces. Pretoria: Unpublished Report.
Jamal, V. (1995). *Structural Adjustment and Rural Labour Markets in Africa.* London: St. Martins Press.
de Klerk, M. (1996). "The Sustainable Livelihoods Creation Potential of Small Scale Horticulture in the Western Cape". In Lipton, M., M. de Klerk and M. Lipton (eds). *op.cit*.
Kanyenze, G. (2001) 'Zimbabwe's Labour Relations Policies and their Implications for Farm Workers', in Amanor-Wilks (ed), *Zimbabwe's Farm Workers: Policy Dimensions*, Lusaka: Panos Southern Africa. p. 86-114.
Kanyenze, G. (2007). "The Labour Market, Sustainable Growth and Transformation in Zimbabwe". Harare: Paper Prepared for the Zimbabwe Institute.
Kevane, M. (1994). "Village Labour Markets in Sheikan District, Sudan". *World Development,* Vol. 22, No. 4, p. 830-857.
Kibble, S. and P. Vanlerberghe (2000) 'Land, Power and Poverty: Farm Workers and the Crisis in Zimbabwe, London: CIIR.
Kinsey, B.H. (1999). "Land Reform, Growth and Equity: Emerging Evidence from Zimbabwe's Resettlement Programme". *Journal of Southern African Studies*, Vol. 25, No. 2, p. 173-196.
Kirby, J. (1973). "Venezuela's Land Reform: Progress and Change". *Journal of Interamerican Studies and World Affairs*, Vol. 15, No. 2, p. 205-220.
Kirsten, J. (1996). "The Potential for Creating Additional Livelihoods in Agriculture and the Rural Non-Farm Sector in Semi-Arid Areas: A Case Study in the Northern Province". In Lipton, M., M. de Klerk and M. Lipton (eds). *op.cit*.
Koustoyianis, A. (1977). *Theory of Econometrics* (2nd edition). London: Macmillan Education.
Krishnan, P., T. Gebre Selassie and S. Dercon (1998) *The Urban Labour Market During Structural Adjustment: Ethiopia 1990-97*, CSAE Working Paper 98.9, Oxford: CSAE, University of Oxford.

Lachaud, J-P (1994) *The Labour Movement in Africa*, Geneva: International Institute for Labour Studies.

Lahiff, E. (2008). "Land Reform in South Africa: A Status Report 2008". Cape Town: Programme for Land and Agrarian Studies Research Report 36.

Lahiff, E. (n.d). "Redistributive Land Reform and Poverty Reduction in South Africa". Working Paper for the Research Project on Livelihoods after Land Reform. Programme for Land and Agrarian Studies, University of Western Cape.

Lastarria-Cornhiel, S. (1989). "Agrarian Reforms of the 1960s and 1970s in Peru". In Thiesenhusen, W.C. (ed), *Searching for Agrarian Reform in Latin America*. Boston, London, Sydney and Wellington: Unwin Hyman.

Lastarria-Cornhiel, S. and J. Mehmed-Sanjak, (1999). "Land Tenancy in Asia, Africa and Latin America: A look at the past and a view to the future". Working Paper No. 27. Wisconsin: Land Tenure Center, University of Wisconsin-Madison.

Leavy, J. and H. White (n.d) 'Rural Labour Markets and Poverty in Sub-Saharan Africa', Sussex: Institute of Development Studies, University of Sussex, Unpublished mimeo.

Lindbeck A. and D.J. Snower (1994). "How are product demand changes transmitted to the labour market". *Economic Journal*, Vol. 104, No. 423, p. 366-398.

Lipton, M. (1977). *Rural Poverty and Agribusiness*. Sussex: Institute of Development Studies, University of Sussex.

Lipton, M. (1996). 'Rural Reforms and Rural Livelihoods: The Contexts of International Experience". In Lipton, M., M. de Klerk and M. Lipton (eds), *op.cit*.

Livingstone, I. (1995). Minimum Wage Policy, Rural Development and Poverty Alleviation in Malawi. *Development and Change* Vol. 26. p. 727-752.

Loewenson, R. (1992) *Modern Plantation Agriculture: Corporate Wealth and Labour Squalor*, London and New Jersey: Zed Books.

Low, A. (1986). *Agricultural Development in Southern Africa: Farm Household Economics and Food Crisis*. London: James Currey.

Lyne, M. and M. Darroch (2003). "Land Redistribution in South Africa: Past Performance and Future Policy. University of Wisconsin-Madison BASIS CRSP Research Paper.

MAEMI (2007). "Agricultural Engineering, Mechanisation and Irrigation Strategy Framework, 2008 – 2058". Draft Policy Document. Ministry of Agricultural Engineering, Mechanisation and Irrigation.

Magaramombe, G. (2001) "Housing, Sanitation and Farm Worker Settlements". In Amanor-Wilks, D. (ed), *Zimbabwe's Farm Workers: Policy Dimensions*. Lusaka: Panos Southern Africa

Magaramombe, G. (2003). "An Overview of Vulnerability within the Newly Resettled Former Commercial Farming Areas". Harare: Draft Report prepared for the United Nations Humanitarian Coordinator.

Marongwe, N. (2003). 'Farm Occupations and Occupiers in the New Politics of Land in Zimbabwe'. In Amanda Hammar, Brian Raftopolous and Stig Jensen (eds) *Unfinished Business: Rethinking Land, State and Citizenship in Zimbabwe*, p. 155–90. Harare: Weaver Press.

Masiiwa, M. and L. Chipungu, (2004). 'Land Reform Programme in Zimbabwe: Disparity between Policy Design and Implementation'. In Masiiwa M (ed), *Post Independence Land Reform in Zimbabwe: Controversies and Impact on the Economy*, Harare: Frederich Ebert Stiftung and University of Zimbabwe.

Masoka, N. (1994). "Land Reform Policy and Strategy". In Rukuni, M. and C. Eicher (eds), *Zimbabwe's Agricultural Revolution*. Harare: University of Zimbabwe Press.

Mashingaidze, K. (1994). "Maize Production in Zimbabwe". In Rukuni M. and C. Eicher (eds), *op. cit.*

Matala F and Cheema H.S. (1998). "Nitrogen use efficiency of some Zambian maize hybrids". Unpublished mimeo.

Matshe, I. (2002) 'Impacts of the Fast Track Land Reforms on the Zimbabwe Economy', AIAS Research Paper, Harare: African Institute for Agrarian Studies, Mimeo.

McCusker, B. (2002). "The impact of membership in communal property associations on livelihoods in the Northern Province, South Africa". *Geojournal*, Vol. 56, No. 2, p. pp. 113-122.

McCusker, B. (2004). "Land Use and Cover Change as an Indicator of Transformation on Recently Redistributed Farms in Limpopo Province, South Africa" *Human Ecology*. Vol. 32, No. 1, p. 49-75.

McIvor, C. (1995) 'Zimbabwe: The Struggle for Health: A Community Approach for Farm Workers', London: CIIR.

McReynolds, S. A. (1998) 'Agricultural Labour and Agrarian Reform in El Salvador: Social Benefit or Economic Burden', *Journal of Rural Studies*. Vol. 14, No. 4. p. 459-473.

Mengistae, T. (1998a) *Skill Formation and Job Matching Effects in Wage Growth: The Case of Manufacturing Workers in Ethiopia*, CSAE Working Paper 98.19, Oxford: CSAE, University of Oxford.

Mengistae, T. (1998b) *Wage Rates and Job Queues: Does the Public Sector Overpay in Ethiopia?*, CSAE Working Paper 98.20, Oxford: CSAE, University of Oxford.

Mkandawire, T. (1999) 'Agriculture, Employment and Poverty in Malawi', ILO/SAMAT Paper No. 9. Harare.

Mlambo B. (forthcoming) "The Fast Track Land Reform Programme in Zimbabwe: A Critical Analysis of Changes in Land Tenure Regimes, Land Use and Agricultural Production Trends". Harare: AIAS Monograph.

Moyo S. and P. Ngobese (1991) Issues of Agricultural Employment Development in Zimbabwe, ZIDS Working Paper Series 15, Harare: Zimbabwe Institute for Development Studies.

Moyo, S. (1995) *The Land Question in Zimbabwe*, Harare: SAPES Books.

Moyo, S. (2000) *Land Reform under Structural Adjustment in Zimbabwe: Land Use Change in the Mashonaland Provinces*, Stockholm: Nordic Africa Institute.

Moyo, S. (2001) 'The Land, Land Question and the Peasantry in Southern Africa', Harare: African Institute for Agrarian Studies Draft mimeo.

Moyo, S. (2003) 'Overall Impacts of the Fast Track Land Reform', Harare: AIAS Unpublished mimeo.

Moyo, S. (2007). "Emerging Land Tenure Issues in Zimbabwe". Harare: AIAS Monograph.

Moyo, S. (forthcoming) *African Land Questions, the State and Agrarian Transition: Contradictions of Neoliberal Land Reforms*, Dakar: CODESRIA.

Moyo, S., B. Rutherford and D. Amanor-Wilks (2000) 'Land Reform and Changing Social Relations for Farm Workers in Zimbabwe', *Review of African Political Economy* Vol. 84, No.18. p. 181-202.

Moyo, S. and P. Yeros (2005) 'The Resurgence of Rural Movements under Neoliberalism', in Moyo, S. and P. Yeros (eds), *Reclaiming the Land: The Resurgence of Rural Movements in Africa, Asia and Latin America*, London and Cape Town: Zed Books, David Phillip.

Moyo, S. and P. Yeros (2007) 'The Radicalised State: Zimbabwe's Interrupted Revolution', *Review of African Political Economy*, Vol. 34. No. 111, p. 103-121.

Moyo, S. and W. Chambati (forthcoming) *Emerging Agrarian Class Structure in New Resettlement Areas*, AIAS Monograph, Harare: African Institute for Agrarian Studies.

Moyo, S. (forthcoming). African Land Questions, the State and Agrarian Transition: Contradictions of Neoliberal Land Reforms. Dakar: CODESRIA.

MPSL&SW (1997). "Poverty Assessment Study Survey, 1995/96". Harare.

MPSL&SW, (1998). "Farm Workers Survey Report". Harare: MPSL&SW Unpublished report.

Mwanje, J.I. (2001). Module 1. *Issues in Social Science Research*. Addis Ababa: Organisation for Social Science Research in Eastern and Southern Africa.

Mwanje, J.I. and B. Gottu (2001). Module 2. *Issues in Social Science Research*. Addis Ababa: Organisation for Social Science Research in Eastern and Southern Africa.

Ministry of Lands and Agriculture (2001) 'Agricultural Statistical Bulletin 2000', Harare.

MPSL&SW (1998) 'Farm Workers Survey Report', Harare: MPSL&SW, Unpublished report.

Muir, K. (1994). "Agriculture in Zimbabwe". In Rukuni, M. and C. Eicher (eds), *op. cit*.

Murisa, T. (2007) *Social Organisation in Newly Resettled Areas in Zvimba District*, AIAS Monograph Series, Harare: African Institute for Agrarian Studies.

Mwamadzingo, M. (2003) 'Addressing the Decent Work Deficit in African Agriculture: Priority Issues', Discussion Paper No. 21. Harare: International Labour Organisation Sub Regional Office for Southern Africa.

Newell, A., K. Pandya. and J. Symons. (1997) 'Farm Size and the Intensity of Land Use in Gujarat' *Oxford Economic Papers*, Vol. 49, No. 2, p. 307-315.

Nicholls, W. H. (1969) 'The Transformation of Agriculture in a Semi-Industrialised Country: The Case of Brazil', in E. Thorbecke (ed), *The Role of Agriculture in Economic Development*, New York: Columbia University Press.

Norwegian Refugee Council, (2003), Displaced and Forgotten. Global Internal Displacement Project. Unpublished mimeo.

Paige, J.M. (1996). "Land Reform and agrarian revolution in El Salvador: comment on Seligson and Diskin". *Latin American Research Review*, Vol. 31, No. 2, p. 127-139.

Patnaik, U. (1997). On the Evolution of the Class Agricultural Labourers in India. In *Long Transition: Essays on Political Economy.* New Delhi: Tulika Titles. pp 181-207.

Platteau, J-P. (1995). *Reforming Land Rights in Sub-Saharan Africa: Issues of Efficiency and Equity*. Geneva: United Nations Research Institute for Social Development.

PLRC, (2003). "Report of the Presidential Land Review Committee under the Chairmanship of Dr. C.M.B. Utete: Volume I". Harare: Government Printers.

Oni, S. A. (1997) *The Impact of ESAP on Communal Areas in Zimbabwe*, Harare: Friedrich Ebert and Stiftung.

PLRC, (2003) *Report of the Presidential Land Review Committee under the Chairmanship of Dr. C.M.B. Utete: Volume I*, Harare: Government Printers.

Potts, D. (2000) 'Worker-Peasants and Farmer-Housewives in Africa: The Debate about 'Committed' Farmers'Access to Land and Agricultural Production', *Journal of Southern African Studies*, Vol. 26, No.4, pp 807-832.

Reardon, T. (1997) 'Using Evidence of Household Income Diversification to Inform Study of the Rural No-Farm Labour Market in Africa', *World Development,* Vol. 25, No. 5, p. 735-747.

Rodrik, D. (1995) 'Getting Interventions Right: How South Korea and Taiwan Grew Rich', *Economic Policy XX*, p. 53-97.

Rosenzweig, M. R. (1980) 'Neoclassical Theory and the Optimising Peasant: An Econometric Analysis of Market Family Labour Supply in Developing Countries', *Quarterly Journal of Economics*, Vol. 94, p. 31-56.

Roth, M. (1990) 'Analysis of Agrarian Structure and Land Use Patterns in Zimbabwe', *Zimbabwe Agriculture Sector Memorandum*. Harare: World Bank.

Roth, M. (1994) 'A Critique of the Land Acquisition Act', in M. Rukuni and C. Eicher (eds), op. cit.

Rubert, S. (1997) 'Tobacco Farmers and Wage Laborers in Colonial Zimbabwe, 1904-1945', in A. Jeeves and J. Crush, *White Farms, Black Labor: The State of Agrarian Change in Southern Africa, 1910-1950*. Portsmouth, Oxford and Pietermaritzburg: Heinemann, James Currey, University of Natal Press.

Rukuni, M. (2000) 'Land Reform in Zimbabwe: Dimensions of a Reformed Structure', in S. Bowyer-Bower and C. Stoneman (eds), *Land Reform in Zimbabwe: Constraints and Prospects*, London: Ashgate Publishing Limited.

Rukuni, M. (1994) 'The Prime Movers of Zimbabwe's Agricultural Revolution', in M. Rukuni and C. Eicher (eds), op. cit.

Rutherford, B. (1996) ''Traditions' of Domesticity in 'Modern' Zimbabwean Politics: Race, Gender and Class in the Government of Commercial Farm Workers in Hurungwe District', PhD thesis, McGill University. Montreal.

Rutherford, B. (2001) *Working on the Margins: Black Workers, White Farmers in Post Colonial Zimbabwe*, Harare and London: Weaver Press, Zed Books.

Rutherford, B. (2002) 'Labour, Land and Civil Society in Zimbabwe: The Case of Farm Workers', Paper presented at the Institute of Development Studies First Annual Colloquium, 24-25 July 2002. Harare.

Sachikonye, L. (2003) 'The Situation of Commercial Farm Workers after Land Reform in Zimbabwe', Harare: Unpublished Report prepared for FCTZ.

Sachikonye, Lloyd, 2004. 'The Promised Land: From Expropriation to Reconciliation and Jambanja'. In Raftopolous, B. and T. Savage (eds) *Zimbabwe. Injustice and Political Reconciliation*. Cape Town: Institute for Justice and Reconciliation.

Sadomba, W. (2008). "Movements within a Movement: Complexities within the Land Occupations" In Moyo, S, K. Helliker and T. Murisa (eds), *Contested Terrain: Land Reform and Civil Society in Contemporary Zimbabwe*. Pietermaritzburg: S&S Publishers.

Schultz, T. W. (1964). *Transforming Traditional Agriculture*. New Haven: Yale University Press.

Seligson, M. (1995). "Thirty years in transformation in the agrarian structure of El Salvador, 1961-1991". *Latin American Research Review*, Vol. 30, No. 3, p. 43-74.

Sellitz , C., M. Jahoda, M. Deutsch and S. Cook (1946). *Research Methods in Social Relations*. New York: Holt, Rinehart and Winston.

Skoufias, E. (1993). "Seasonal labour utilisation in agriculture: theory and evidence from agrarian households in India". *American Journal of Agricultural Economics*, Vol. 75, pp 20-32.

Strasma, J. (1989). "Unfinished Business: Consolidating Land Reform in El Salvador". In Thiesenhusen, W.C. (ed), *op. cit.*

Sukume, C., P. Matondi and S. Moyo (2003) 'Farm Size, Land Use and Viability', in *Report of the Presidential Land Review Committee Vol. II*. Harare: Government Printers, p. 38-55.

Sunga, I. (2003) 'Emerging Production Systems and Technological Capabilities in Resettlement Areas: A Case Study of Chikomba District', Harare: Unpublished AIAS mimeo.

Tandon, Y. and G. Peta (eds) (2003) *Worker Consciousness and Unionism in*

Zimbabwe: An Organisational Survey of Five Trade Unions, Harare: FES and SEATINI.
The Herald (2005). "Mechanisation: Missing Link Found". 5 June 2005.
Thiesenhusen, W.C. (1989). "Introduction: Searching for Agrarian Reform in Latin America". In Thiesenhusen, W.C. (ed), *op. cit*.
Thiesenhusen, W.C. and J. Melmed-Sanjak (1990). "Brazil's agrarian structure: changes from 1970 through 1980. *World Development*, no. 18, p. 393-415.
Thiesenhusen, W.C.(1995). *Broken Promises: Agrarian Reform and the Latin American Campesino*. Boulder CO: Westview Press.
UNDP (2002) 'Zimbabwe Land Reform and Resettlement: Assessment and Suggested Framework for the Future', Interim Mission Report. Harare: UNDP.
Usher, R. (1997) 'Introduction', in G. Mckenzie, J. Powell and R. Usher (eds) *Understanding Social Research: Perspectives on Methodology and Practice*, London: The Falmer Press, p. 1-7.
Teal, F. (1997) *Real Wage and the Demand for Skilled and Unskilled Labour in Ghana's Manufacturing Sector: 1991-1995*, CSAE Working Paper 97.10, Oxford: CSAE, University of Oxford.
van der Geest, W. and R. van der Hoeven (eds) (1999) *Adjustment, Employment and Missing Institutions in Africa: The Experience of Eastern and Southern Africa*, Geneva: ILO.
Veltmeyer, H. (2005). "The Dynamics of Land Occupations in Latin America". In Moyo, S. and P. Yeros (eds), *op. cit*.
Vienneau, R.L. (2005). "On Labour Demand and the Equilibria of the Firm". *The Manchester School*, Vol. 73, No. 5, p. 612-619
Vhurumuku, E., M. McGuire and V. Hill (1998) 'Survey of Commercial Farm Worker Characteristics and Living Conditions in Zimbabwe: Verification Report', Harare: Agricultural Labour Bureau, Farm Community Trust of Zimbabwe and USAID FEWSNET.
Watchel, H. (1992). *Labour and the Economy* (3rd Edition). Fort Worth: The Dryden Press.
Weiner, D., S. Moyo, B. Munlow and P. O'Keefe. (1985). Land use and agricultural productivity in Zimbabwe. *Journal of Modern African Studies* 23(2). p. 251-85.
Wildschut, A. and S. Hubert (1998). "A Seed not Sown: Prospects for Agrarian Reform in South Africa". German Agro Action and National Land Committee mimeo.
World Bank (1991) 'Zimbabwe's Agricultural Sector Memorandum', Washington D.C: World Bank.
World Bank (2006). "Agricultural Growth and Land Reform in Zimbabwe: Assessment and Recovery Options". Harare: World Bank Green Book.
Yeros, P. (2002) 'The Political Economy of Civilisation: Peasant-Workers in Zimbabwe and the Neo-Colonial World', Ph.D thesis, University of London.
ZCTU (1996). *Beyond ESAP: a Long Term Development Strategy for Zimbabwe.* Harare: ZCTU.
ZHDR (1999) *Zimbabwe Human Development Report 1999*, Harare: UNDP, Poverty Reduction Forum and University of Zimbabwe.
Zimmerman, F. (2000). "Barriers to Participation of the Poor in South Africa's Land Redistribution". *World Development*, Vol. 28, No. 8, p. 1439-1460.

ANNEXURE

Annex 3a: AIAS Household Questionnaire Survey

A. ADMINISTRATIVE INFORMATION

A1. Enumerator's name _____
A2. Date of interview _____
A3. Place of interview _____
A4. Name of informant _____
A5. Start time _____

B. LOCATION DETAILS

B1. Province *1. Mash Central 2. Mash West 3. Mash East 4. Manicaland 5. Masvingo 6. Midlands 7. Mat North 8. Mat South*
B2. District _____
B3. Natural Region _____
B4. Village _____
B5. Chieftainship _____
B6. Headman _____
B7. Original Farm Name _____
B8. Plot Number _____

C. SOCIO-ECONOMIC AND DEMOGRAPHIC DATA

C1. Where were you before being resettled here? *1=CA in this district 2=CA in this province 3= CA from other provinces 4=LSCF in this district 5=LSCF in this province 6=LSCF in another province 7=diaspora 8=urban area 9=place of employment in another area 10=other (specify)*

C2. If CA, do you still maintain it? *1=yes 2=no* *(If no, move to C8)*

C3. If yes, how many people reside there? _____

C4. Reason for maintaining a CA home? *1=to boost production 2=to reduce risk of crop failure 3=in case of eviction 4=because of sentimental values 5=home to part of the extended family 6=other (specify)*

C5. What is the size of the arable plot in CA? _____

C6. Are there any agricultural activities taking place in the CA? *1=yes 2=no*

C7. If yes, please specify? _____
_____

C8. How did you get to know about the resettlement programme? *1=chief 2=media sources 3=other villagers 4=RDC 5=AREX 6=political party structures 7=other specify*

C9. Are you still in professional employment? *1=yes 2=no*

C10. If yes, what is your current profession? _____

C11. If no, what is your previous profession? _____

C12. Period in specified profession 19_____ to _____

C13. Demographic characteristics of the household

Name of Household Member	Sex[1]	Age	Occupation[2]	Marital Status[3]	Education Level Attained[4]	Relationship to Informant[5]	Formal Agricultural Training[6]	Agricultural Experience (Years)	Residency[7]	If off farm specify[8]	Off-farm Work *(specify)*
Informant											

[1] *1=male 2=female*
[2] *1= permanent paid employee 2= casual employee 3= employer 4= pensioner 5=paid family worker 6=unpaid family worker 7= self employed 8=student 9= housewife 10 =preschool 11=other*
[3] *1=married 2=single 3=divorced 4=widowed*
[4] *1= no formal education 2= primary education 3=ZJC 4=ordinary level 5= advanced level 6= tertiary 7=standard six 8=other (specify)*
[5] *1=self 2=child 3=spouse 4=husband 5=relative 6=worker 7=other (specify)*
[6] *1=no formal training 2=certificate 3=master farmer certificate 4=advanced master farmer certificate 5=diploma 6=other (specify)*
[7] *1=on farm 2=off farm*
[8] *1=communal area 2=urban area 3=diaspora 4=other (specify)*

D. LAND BASE IN NEW RESETTLEMENT AREA

D1. Type of Settlement *1= A1 villagised 2=A1 self contained 3=A2 4=A2 peri-urban 5=remaining LSCF*

D2. Size of plot _____

D3. Arable area _____

D4. Total arable cleared _____

D5. Grazing area _____

D6. Predominant type of land *1=dryland 2=wetlands*

D7. Predominant soil types on the plot/farm *1=clay 2=clay-loam 3=sandy-loam 4=sandy soils*

D8. Vegetation type *1=miombo 2=savanna 3=grasslands*

E. PRODUCTIVE & NON-PRODUCTIVE ASSET OWNERSHIP AND ACCESS

E1. Provide the following information on hand tools.

Type	Total Numbers	Type of access/source	
		Owned	*Borrowed*
Hoes			
Axes			
Muttocks			
Picks			
Spades			
Spade forks			
Wheel barrow			
Watering cans			
Knapsack sprayer			
Other *(specify)*			

E2. Provide the following information on animal-drawn implements.

Type	Total Numbers	Type of access/source		No. in working order	Hiring Arrangements *1=cash 2=reciprocal*	Cost of Hire
		Owned	*Borrowed*			
Plough						
Planter						
Ripper						
Ridger						
Cultivator						
Harrow						
Spike Harrow						
Other *(specify)*						

E3. Provide the following information on machinery, power-driven implements and equipment.

Type	Total Numbers	Type of access/source		No. in working order	Hiring Arrangements *1=cash 2=reciprocal*	Cost of Hire
		Owned	*Borrowed*			
Motor-Vehicle						
Tractor						
Tractor Trailer						
Plough						
Planter						
Ripper						
Ridger						
Cultivator						
Harrow						
Heavy Disc Harrows						
Rotavator						
Row-Markers						
ULV Sprayer						
Water Cart/Bowser						
Water Pump						
Dehuller						
Maize Sheller						
Combine Harvester						
Other *(specify)*						

E4. Provide the following information on fixed productive and non-productive assets.

Type	Total Numbers	Type of Access		No. in working order	Maintenance Costs
		Individually Owned	*Shared*		
Irrigation infrastructure					
Dams					
Weir					
Boreholes					
Deep-Well					
Natural River					
Cattle handling facilities					
Dairy parlours					
Grain silos					
Grain dryers					
Dip tank					
Paddocks					
Water storage tanks					
General storage facilities					
Tobacco barns					

Type	Total Numbers	Type of Access		No. in working order	Maintenance Costs
		Individually Owned	*Shared*		
Greenhouses					
Grading Sheds/Pack Houses					
Farm House					
Farm Manager's Residence					
Farm Office					
1-2 Roomed Cottages					
3-6 Roomed Houses					
Other *(Specify)*					

F. LAND TENURE ISSUES

F1. How did you access this piece of land? *1=formally allocated 2=occupation 3=other specify*

F2. When were you formally allocated this piece of land? _____

F3. When did you start farming operations? _____

F4. What kind of access do you have to this piece of land? *1=leasehold 2=permit 3=customary ownership 4=license 5=title holder 6=caretaker 7=self-appropriation (occupation) 8=other (specify)*

F5. If leasehold or permit, were you issued an offer letter by the relevant government authorities? *1=yes 2=no*

F6. Alternatively, do you have title deeds for the property? *1=yes 2=no*

F7. If leasing, do you have any lease agreement papers? *1=yes 2=no*

F8. If no to questions F5, F6 and F7 above, what problems and challenges have you encountered as a result of this? _____
_____
_____
_____

F9. How have you gone around these problems/challenges?
_____
_____
_____

F10. Are there any restrictions stipulated by the lease or permit? *1=yes 2=no*

F11. If yes, please specify? _____
_____
_____

F12. Have you had any communications with relevant authorities with regards to title deeds? *1=yes 2=no*

F13. If yes, please specify_____
_____
_____

F14. Is there anyone else besides you who can use your land or is allowed to use part or all of your land? *1=yes 2=no*

F15. Who has the access? *1=relative/friend 2=squatters 3=former farm workers 4=former LSC farmer 5=other (specify)*

F16. What activities are they involved in? _____
_____
_____

F17. Is there anyone else besides you who has access to natural resources on your land? *1=yes 2=no*

F18. If yes, please specify?_____
_____
_____

F19. Have you been involved in any conflict over your land? *1=yes 2=no*

F20. If yes, with whom? *1=government 2=local authority 3=neighbour 4=war vets 5=former white farmer 6=other (specify)*

F21. What was the source of conflict? *1=boundary dispute 2=access to natural resources 3=access to infrastructure 4=other (specify)*

F22. Have you ever been threatened with eviction? *1=yes 2=no*

F23. If yes, by whom? *1=government 2=local authority 3=neighbour 4=war vets 5=former white farmer 6=other (specify)*

F24. Have you ever been evicted from this farm? *1=yes 2=no*

F25. If yes, by whom? *1=government 2=local authority 3=neighbour 4=war vets 5=former white farmer 6=other (specify)*

F26. If yes, when were you evicted? _____

F27. If yes, from which farm were you evicted? Farm _____ District _____

F28. How many times were you evicted? _____

F29. What were the reasons for the first eviction? *1=too many occupiers 2=land use re-zoned 3=land repossessed by government 4=land given back to original farm owner 5=land taken over by influential individual(s) 6=land reallocated to other beneficiaries 7=other (specify)*

F30. What were the reasons for the second eviction? *1=too many occupiers 2=land use re-zoned 3=land repossessed by government 4=land given back to original farm owner 5=land taken over by influential individual(s) 6=land reallocated to other beneficiaries 7=other (specify)*

F31. How were the eviction threats or evictions resolved?

_____
_____
_____

F32. When did you get back on to the land? _____

G. ASSETS AND INVESTMENTS

G1. List the investments (i.e. buildings, infrastructure, equipment, etc.) you found on the farm when you resettled here?

_____
_____
_____
_____
_____

G2. Were there any dysfunctional infrastructure and/or equipment when you arrived at the farm? *1=yes 2=no*

G3. If yes, did you repair this infrastructure and/or equipment? 1=yes 2=no

G4. If yes, what did you repair? _____
_____
_____

G5. How much were the repair costs? _____

G6. Have you put any investments (i.e. buildings, infrastructure, equipment, etc.) since being resettled here? *1=yes 2=no*

G7. If yes, what investments (i.e. buildings, infrastructure, equipment, etc.) have you put since resettling here?

_____
_____
_____

G8. What were the total investments?

Period	Investment Details	Total Costs

G9. What was the source of finance for the investment? *1=commercial bank 2=own savings 3=GoZ schemes 4=private sector company 5=NGO 6=other specify*

G10. What is your future investment plan and estimated cost? _____
_____
_____

G11. How do you intend to finance the investment plan? _____
_____

H. AGRICULTURAL LABOUR

H1. Do you hire any outside labour for agricultural activities? *1=yes 2=no*

H2. If yes how many are, *(1) permanent workers_____ males _____females*
(2) Casual labour (total average annually) _____

H3. How many of your permanent workers are former LSCF farm workers from this farm? _____

H4. How many permanent workers are former farm workers from other farms? _____

H5. How many of your permanent workers are from the communal areas or other areas? _____

H6. Are you related to any of your permanent farm workers? *1=yes 2=no*

H7. If yes, how many are you related to? _____ permanent _____casual

H8. How did you recruit your permanent farm workers? _____
_____
_____

H9. How did you recruit your casual farm workers? _____
_____
_____

H10. How many of your farm workers currently reside on the farm? permanent ____ casual_____

H11. How many of your farm workers reside outside the farm? permanent _____ casual _____

H12. Where do they reside?

Residency	Permanent	Casual
1. own A1 plots		
2. communal areas		
3. neighbouring farm compounds		
4. other specify		

H13. Are there any other people residing in the farm compound (excluding relatives or dependents of workers) besides those employed on this farm? *1=yes 2=no*

H14. If yes how many? _____

H15. How would you classify these people living on the farm compound who are not employed on this farm?

Class	Number
1. Squatters	
2. Gold panners	
3. Farm workers on neighbouring farms	
4. Retired farm workers	
5. Other *(specify)*	
Total	

H16. Do you employ a farm manager? *1=yes 2=no*

H17. If yes what qualifications does the farm manager hold? *1=no formal training 2=certificate 3=master farmer certificate 4=advanced master farmer certificate 5=diploma 6= degree 7=other specify*

H18. If no, who is responsible for the day-to-day management of the farm?_____

H19. What methods of supervision do you employ for your farm workers?

_____

_____

_____

H20. Work method or mode of allocating tasks for your permanent workers *1=output based (mugwazo) 2=temporal 3=other (specify)*

H21. Work method or mode of allocating tasks for your casual workers *1=output based (mugwazo) 2=temporal 3=other (specify)*

H22. Rank the quality of work performed by your farm workers. *1=excellent 2=good 3=average 4=poor 5=very poor*

H23. What is the average daily wage rate for casuals? _____

H24. What is the average monthly wage rate for full-time (permanent) employees? _____

H25. Are wages gender neutral? *1=yes 2=no*

H26. If not, provide the following information.

Labour Categorization	Average Daily Wage Rate		Average Monthly Wage Rate	
	Male Workers	Female Workers	Male Workers	Female Workers
Casual Employees				
Full-time Employees				

H27. What are the reasons for gender bias in wage rates?

_____

_____

H28. How do you determine the wages of your employees?

_____

_____

_____

H29. What kind of contracts do you have with your workers? *1= verbal 2= written*

H30. What is the nature of the contract? *1=adapted from labour bodies 2=based on ministry labour agreements 3=other (specify)*

H31. Is there any grading system in place for your farm workers? *1=yes 2=no*

H32. If yes, specify the grading criteria

Category	Grading Criteria

H33. What are the skills and wages of your permanent and casual workers?

Category	Total	No. Men	No. Women	Youths *>16 and single*	Children *(0-15 yrs)*	Average Wage Per Month/Task *(specify units)*

H34. What other benefits are you provided by your employer?

Benefit	Acknowledgement *1=yes 2=no*	Specify (quantities or values)
1 Housing		
2 Fuel		
3 Food rations		
4 Health insurance		
5 Land to grow crops		
6 Land to graze		
7. Annual leave		
8. Protective clothing		
9. Funeral assistance		
10. Other *(specify)*		

H35. Have you encountered a situation in which you failed to execute tasks due to labour shortages? *1=yes 2=no*

H36. If yes, during which periods (and for which farming activities) do you encounter labour bottlenecks?

_____

_____

_____

H37. If yes, what do you think are reasons for the labour shortages?

_____

_____

_____

H38. What coping strategies did you employ to avert the labour shortages?

_____

_____

_____

H39. Do you need additional labour to meet your current agricultural demands? *1=yes 2=no*

H40. What constraints do you face in trying to get additional labour?

_____

_____

_____

H41. Besides the labour provided by your employees, what other labour services are you engaging for your farming activities (e.g. skilled labour consultancy services, management contracts, labour gangs etc.). *1=yes 2=no*

H42. If yes, what services are you engaging and for what activities?

_____
_____
_____

H43. Who provides these services? *1=former farm workers 2=remaining white LSCF 3=A1 farmers 4=people from surrounding communal area 5=other (specify)*

H44. What is the predominant payment format? *1=cash 2=in kind (grain, soap, etc.)*

H45. How do you settle labour disputes between you and your workers?

_____
_____
_____
_____

H46. Are you aware of the Ministry of Justice initiative that enables resettled farmers to hire prison farm labour? *1=yes 2=no*

H47. Have you benefited from this initiative? *1=yes 2=no*

H48. What are the procedures for accessing this service?

_____
_____
_____

H49. Are you a member of any labour-related agricultural unions? *1=yes 2=no*

H50. If yes, please specify

_____
_____

H51. Do any of your family members/ relatives participate in household agricultural production activities? *1=yes 2=no*

H52. If yes, how many?

Member	Number	
	Male	Female
Spouse		
Adults		
Minor children (0 – 15 yrs)		
Others		

H53. Which members of the household perform paid agriculture work outside the household, during which periods and what is the approximate time spent?

Member	Number	Period[1]	Time spent (days) per year
HH head			
Spouse			
Adult Member1			
Adult Member2			
Minor Child1			
Minor Child2			
Other specify			

[1] *1=agricultural production season 2=agricultural off-season 3=throughout the year 4=other (specify)*

H54. Are you involved in off-farm income generating activities? *1=yes 2=no*

H55. If yes, what off-farm income generating activities are you involved in?

Type of activity	Are you involved? *1=yes 2=no*	Seasonality of Activity *1=all year round 2=rainy season 3=dry season*	When is it done? (Months) *1=January 12=December*	Who in the household is involved?[1]	Income realized per year (ZW$)	Who decides the use of the income[2]
Gold panning						
Firewood selling						
Collecting river/pit sand for sale						
Wildlife harvesting						
Wood carving						
Stone carving						
Tailoring						
Basketry						
Bricklaying						
Pottery						
Vending of new & second-hand clothes						
Beer brewing						
Carpentry						
Repair work						
Others *(specify)*						

[1]*1=hh head 2=spouse 3=son 4=daughter 5=brother 6=sister 7=mother 8=father 9=other (specify)*
[2]*1=hh head 2=spouse 3=son 4=daughter 5=brother 6=sister 7=mother 8=father 9=other (specify)*

I. LAND USE AND AGRICULTURAL PRODUCTION

I1. Trend analysis of land use patterns *(ranked in order of importance).*

Land Uses		
Previous Land Uses	*Current Land Uses*	*Proposed Future Land Uses*

I2. Who makes the day-to-day decisions on this farm? *1=male HH 2=female HH 3=spouse 4=manager 5=other (specify)*

I3. Who makes the overall planning, production and marketing decisions on this farm? *1=male HH 2=female HH 3=spouse 4=manager 5=other (specify)*

I4. What type of land are you currently using for crop production purposes? *1=land previously cleared and used by former owner 2=virgin (recently cleared) land 3=re-growth*

I5. Rating of arable land *vis à vis* soil quality. *1=good 2=average 3=poor*

I6. Predominant soil type in arable plots. *1=clay 2=clay-loam 3=sandy-loam 4=sandy soils*

Crop Production

I7. What dry land and irrigated crops did you grow in the last season?

Crop	Reason for Growing Crop[1]	Area		Output (MT/kgs/bags) *(specify units)*		Amount retained (MT/kgs/bags) *(specify units)*	Quantity sold (MT/kgs/bags) *(specify units)*	Unit Price	Marketing channel[2] *(indicate as many as appropriate)*	Reason for Choosing Marketing Channel[3]
		Dryland	*Irrigated*	*Dryland*	*Irrigated*					
Maize										
Wheat										
Cotton										
Tobacco										
Groundnuts										
Millet										
Sorghum										
Rapoko										
Sunflower										
Soyabeans										
Sweet potatoes										
Sugar cane										
Citrus										
Other *(specify)*										

[1] *1=GoZ directive 2=own consumption 3=profitability of venture 4=compatibility with available equipment 5=influenced by past land uses 6=to ensure land sustainability 7=inputs easily available 8=other (specify)*

[2] *1=GMB 2=Cottco 3=neighbouring farmers 4=middlemen 5=local area 6=export 7=local agro-processor 8=other (specify)*

[3] *1=statutory requirement 2=provides inputs 3=offer higher prices 4=proximity to market 5=accessibility to market 6=no alternative 7=other (specify)*

I8. Are there any horticultural crops that you grew last season? *1=yes 2=no*

I9. If yes, provide the following details.

Crop	Reason for Growing Crop[1]	Area (Ha)				Total Output (MT/kgs/bags) *(specify units)*	Amount Retained (MT/kgs/bags) *(specify units)*	Sales (MT/kgs/bags)		Income Realized ZWD	
		Irrigated	*Dryland*	*Greenhse*	*Total*			*Local*	*Export*	*Local*	*Export*
Baby corn											
Pumpkins											
Watermelons											
Okra											
Tomatoes											
Rape											
Onions											
Peas											
Green beans											
Gem Squash											
Honey dew											
Cut flowers											
Potatoes											
Paprika											
Other *(specify)*											

[1] *1=GoZ directive 2=food security 3=foreign currency generation 4=profitability of venture 5=compatibility with available equipment 6=influenced by past land uses 7=to ensure land sustainability 8=other (specify)*

I10. Where do you sell your horticultural produce?

Crop	Marketing channel[1]

[1]*1=neighbouring farmers 2=local area 3=nearest town or city 4=agro-processing company 5=export 6=other specify*

I11. What are your reasons for choosing particular marketing channels?

_____
_____
_____

I12. Have you failed to access alternative marketing channels in the past? *1=yes 2=no*

I13. If yes, what are your reasons for failing to access alternative marketing channels?

_____
_____
_____

I14. Did you get access to any market information in the last season? *1=yes 2=no*

I15. If yes, what was the source of market information? *1=other farmers 2=retail outlets 3=wholesale markets 4=electronic media 5=magazines/newspapers 6=other specify*

I16. Have you faced or are you facing any constraints in marketing your output? *1=yes 2=no*

I17. If yes, please specify_____
_____
_____

I18. How did you transport your produce to the market? *1=own facility specify 2=hired facility specify*

I19. New marketing channels in resettlement areas (A1, A2, former LSCS) for crop output.

_____
_____
_____

I20. What are the characteristics of the new marketing channels?

_____
_____
_____
_____

I21. Does the following policies affect your farm management decisions?

Dependent Factors	Effect on Decision-Making Process			
	Government/RBZ Support Prices *1=yes 2=no*	Previous Season's Price Announcement *1=yes 2=no*	Pre-season Price Announcement *1=yes 2=no*	Mid-season Price Announcement *1=yes 2=no*
Size of cropping area				
Amount of inputs to be acquired				
Size of loan to be borrowed				
Type of food crops to be grown				
Type of cash crops to be grown				
Number of full-time employees				
Number of casual workers				
Amount of produce to be stored				
Amount of produce diverted to other uses				
Amount of produce to be marketed				
Marketing channel to be utilized				

I22. Do you have a Government of Zimbabwe designated land use plan? *1=yes 2=no*

I23. Is the land suitable for your current enterprises? *1=yes 2=no*

I24. If no, please explain why? _____
_____
_____

I25. Does the farm size affect your level of production? *1=yes 2=no*

I26. If yes, please explain in what way_____
_____
_____

I27. Are you engaged in contract farming? *1=yes 2=no*

I28. If yes, crops and companies involved, benefits and challenges for contract farming.

Crops Involved	Companies Involved	Benefits[1]	Challenges[2]
Maize Grain			
Maize Seed			
Cotton			
Sorghum			
Sunflower			
Soyabeans			
Tobacco			
Sugar cane			
Tea			
Coffee			
Citrus			
Other *(specify)*			

[1] *1=provision of tillage services 2=supply of inputs 3=provision of credit 4=absorption/marketing of output 5=other (specify)*
[2] *1=limited ploughed hectareages 2=late supply of inputs 3=inadequate credit 4=poor prices 5=other (specify)*

I29. Are you involved in any out-grower scheme? *1=yes 2=no*

I30. If yes, crops and companies involved, benefits and challenges for out-grower schemes.

Crops Involved	Companies Involved	Benefits[1]	Challenges[2]
Maize Grain			
Maize Seed			
Cotton			
Sorghum			
Sunflower			
Soyabeans			
Tobacco			
Sugar cane			
Tea			
Coffee			
Citrus			
Other *(specify)*			

[1] *1=provision of tillage services 2=supply of inputs 3=provision of credit 4=absorption/marketing of output 5=other (specify)*
[2] *1=limited ploughed hectareages 2=late supply of inputs 3=inadequate credit 4=poor prices 5=other (specify)*

I31. Have your crop enterprises been affected by drought? *1=yes 2=no*

I32. If yes, what was the impact?
_____
_____
_____

I33. Major rainfall patterns in the area during the last three seasons *1=late start to the rainy season 2=mid-season droughts 3=short rainy season 4=a combination of the above 5=other (specify)*

I34. Impact of drought on local farming systems *1=reduced crop output 2=reduced livestock numbers 3=both 4=other (specify)*

I35. Coping strategies employed by farmer *1=reduced cropping area 2=utilize less inputs in crop production 3=reduced stock numbers 4=trans-located livestock to areas with better grazing 5=sought formal employment 5=remained in formal employment 6=sold assets 7=engagement in non-farm income generating activities such as gold panning 8=other (specify)*

I36. Do you sometimes sublet your arable land to other farmers for cropping purposes? *1=yes 2=no (If no, move to I43)*

I37. If yes, which cash and food crops are involved? *(circle as many as appropriate) 1=tobacco 2=cotton 3=sugar beans 4=paprika 5=wheat 6=maize 7=sunflower 8=groundnuts 9=other (specify)*

I38. Common beneficiaries of such arrangements *1=urban dwellers 2=communal area farmers 3=neighbouring A1 plot holders 4=other (specify)*

I39. Why are you involved in this activity?_____
_____

I40. What benefits are derived from this activity?_____
_____

I41. What are the arrangements? *1=cash payments for services rendered 2=sharing of outputs 3=reciprocal arrangements 4=other (specify)*

I42. If arrangement is based on cash settlements, what is the fee structure (cost per unit?) Z$_____

I43. What are the general and specific crop production constraints that you have encountered?

_____
_____
_____
_____

Livestock Production

I44. Livestock composition and dynamics.

Type of livestock	Numbers	Source[1]	Livestock sales during previous season	Income realized during previous season	Marketing channel used[2]	Livestock losses during previous season	Reason for loss[3]
Breeding cows							
Bulls							
Steers							
Heifers							
Beef herd							
Dairy herd							
Donkeys							
Goats							
Pigs							
Poultry							
Other *(specify)*							

[1] *1=purchased from former LSC farmer 2=purchased from neighbouring plot 3=moved from communal area 4=received from government's restocking programme 5=other (specify)*
[2]*1=CSC 2=middlemen 3=local butcheries 4=neighbouring farmers 5=export 6=other specify*
[3]*1=death 2=theft 3=other (specify)*

I45. Nature of livestock sales *1=on-hoof or live weight sales 2=sales after slaughter*

I46. Major livestock/beef buyers *1=corporate buyers 2=slaughter houses 3=local butcheries 4=neighbouring farmers 5=other (specify)*

I47. Do you know the carrying capacity of your grazing land? *1=yes 2=no*

I48. If yes, what is the carrying capacity of your grazing land? _____LU/Ha

I49. Is the grazing adequate for your current livestock enterprise? *1=yes 2=no*

I50. Do you use a particular grazing management system for your livestock? *1=yes 2=no*

I51. If yes, state the type of grazing management system _____

I52. If no, did you use any grazing management system before? *1=yes 2=no*

I53. Explain why you abandoned this grazing management system.

_____
_____

I54. Do you use any supplementary feeds *1=yes 2=no*

I55. If yes, what do you use for supplements? _____

I56. Do you have any livestock watering points? *1=yes 2=no*

I57. If yes, how many? _____

I58. Disease management practices.

Disease Management Strategy	Adherence to Practice *1=yes 2=no*	Frequency[1]	Service Providers[2]
Dipping			
De-worming/Dosing			
Diagnosis & Treatments			
Other *(specify)*			

[1] *1=weekly 2=forty-nightly 3=monthly 4=quarterly 5=once in 6 months 6=once a year*
[2] *1=own service 2=Department of Veterinary Services 3=Department of Livestock Development 4=other (specify)*

I59. What is the frequency of your contact with the local veterinary officer? *1=weekly 2=forty-nightly 3=monthly 4=quarterly 5=once in 6 months 6=once a year 7=never*

I60. Is the veterinary officer helpful? *1=yes 2=no*

I61. Reason _____

I62. Have your livestock enterprises been affected by drought? *1=yes 2=no*

I63. If yes, what was the impact? _____
_____
_____

I64. Do you sometimes keep livestock on behalf of other farmers? *1=yes 2=no (If no, move to I71)*

I65. If yes, what livestock species and numbers are involved in this arrangement?

Type of livestock	Numbers
Cattle	
Donkeys	
Goats	
Pigs	
Poultry	
Other *(specify)*	

I66. Source of animals kept on the farm *1=communal areas 2=old resettlements 3=purchase areas 4=other (specify)*

I67. Why are you involved in this activity?
_____
_____
_____

I68. What benefits are derived from this activity?

_____
_____
_____

I69. What are the arrangements? *1=cash payments for services rendered 2=sharing of outputs 3=reciprocal arrangements 4=other (specify)*

I70. If arrangement is based on cash settlements, what is the fee structure (cost per unit?) Z$_____

I71. What are the general and specific livestock production constraints that you have encountered?

_____
_____
_____
_____

Non-Agricultural Land Uses

I72. What alternative land use options are you currently utilizing?

Alternative Land Use Options	Current Use	
	1=yes	2=no
1. Wildlife/Eco-tourism		
2. Non-Agricultural Land Uses		
i. Brick moulding		
ii. Using farm as weekend home		
iii Industrial/Commercial e.g. tractor repairs		
iv Gold panning activities		
iii. Others *(specify)*		
3. Renting Out Land to Others		
i. Keeping livestock for others		
ii. Subleasing arable land for cropping		
iii. Others *(specify)*		

J. AGRICULTURAL INPUTS

Crop Inputs

J1. For each of the crops that you grew last season, what levels, where and how did you access the inputs for last season?

Crop	Type of access							
	Purchase				Input schemes			
	Inputs	Quantity (kg)	Cost ($)	Source[1]	Name of scheme	Quantity (kg)	Cost ($)	Source[2]
Maize	Seed							
	Agrochemicals							
	Fertiliser							
Cotton	Seed							
	Agrochemicals							
	Fertiliser							

Tobacco	Seed							
	Agrochemicals							
	Fertiliser							
Soyabeans	Seed							
	Agrochemicals							
	Fertiliser							
Sunflower	Seed							
	Agrochemicals							
	Fertiliser							
Other 1	Seed							
	Agrochemicals							
	Fertiliser							
Other 2	Seed							
	Agrochemicals							
	Fertiliser							

[1] *1=local agro-dealer/retailer 2=nearest town 3=Harare 4=other (specify)*
[2] *1=GMB 2=ARDA 3=Dept of Irrigation 4=private sector 5=NGOs 6=international donors 7=other (specify)*

J2. Did you face any constraints in accessing crop inputs? *1=yes 2=no*
J3. If yes, please specify?
_____
_____
_____

Livestock Inputs
J4. For each of the livestock enterprises, what levels, where and how did you access the inputs last season?

Livestock	Type of access							
	Purchase				Input schemes			
	Inputs	Quantity (kg)	Cost ($)	Source[1]	Name of scheme	Quantity (kg)	Cost ($)	Source[2]
Cattle	Stockfeeds							
	Vet chemicals							
Pigs	Stockfeeds							
	Vet chemicals							
Goats	Stockfeeds							
	Vet chemicals							
Poultry	Stockfeeds							
	Vet chemicals							
Other 1	Stockfeeds							
	Vet chemicals							
Other 2	Stockfeeds							
	Vet chemicals							

[1] *1=local agro-dealer/retailer 2=nearest town 3=Harare 4=other (specify)*
[2] *1=Livestock Development Trust 2=CSC 3=private sector 4=NGOs 5=international donors 6=other (specify)*
J5. Do you use your own grain for feeding livestock? *1=yes 2=no*

J6. Did you face any constraints in accessing livestock inputs? *1=yes 2=no*

J7. If yes, please specify?

_____
_____
_____
_____

Energy Inputs

J8. Rank the household's major sources of energy.

Energy Type	Rank[1]	Source[2]	Average cost per month[3]	Absolute requirements	Amount received	Shortfall
Electricity						
Coal						
Firewood						
Solar						
Fuel (diesel)						
Other *(specify)*						

[1]*1=mostly used*
[2]*1=ZTA 2=TIMB 3=TGT 4=FDT 5=Forestry Company 6=on farm 7=Noczim 8=private suppliers 9=other (specify)*
3 Restricted to average cost per month during the agricultural season.

J9. Are there any special procurement arrangements for electricity, fuel, coal, firewood etc for your farming requirements? *1=yes 2=no*

J10. What are the special procurement arrangements?

Energy Type	Special procurement requirements
Electricity	
Coal	
Firewood	
Solar	
Fuel (diesel)	
Other *(specify)*	

J11. Did you face any challenges in meeting your energy requirements? *1=yes 2=no*

J12. If yes, what are the challenges you faced in meeting your energy requirements?

_____
_____
_____
_____

J13. If yes, what coping strategies did you employ to counter the challenges?

_____
_____

_____
_____

Tillage Support
J14. What was the type and area tilled during the 2004/05 season?

Draught power source	Area planned *(specify units)*	Area tilled *(specify units)*	Hiring cost per unit	Source of finance
Own animals				
Own tractor				
DDF tillage unit				
ARDA tillage unit				
Private service providers				

J15. Did you face any challenges in meeting your tillage requirements? *1=yes 2=no*

J16. If yes, what are the challenges you faced in meeting your tillage requirements?
_____
_____
_____

J17. If yes, what coping strategies did you employ to counter the challenges?
_____
_____
_____

Financial Support
J18. Did you use your financial resources for farming activities during the last season? *1=yes 2=no*

J19. If yes how much? ZW$ _____ and what did you use it for? _____
J20. Did you access finance for specific crop production during the 2004/05 season? *1=yes 2=no*

J21. If yes please complete the following table for the 2004/05 season.

Crop	Source of funding[1]	Amount	Repayment period	Interest rate	Are you servicing loan[2]

[1]*1= government scheme 2=private company 3=commercial bank 4=relatives and friends 5=cooperatives 6=savings clubs 7=other*
[2]*1=yes 2=no*

J22. Have you accessed any livestock finance since plot uptake? *1=yes 2=no*

J23. If yes, please complete the following table?

Year	Source[1]	Amount	Repayment period	Interest rate	Are you servicing

					loan[2]
2001					
2002					
2003					
2004					
2005					

[1]*1= government scheme 2=private company 3=commercial bank 4=relatives and friends 5=cooperatives 6=savings clubs 7=other*
[2]*1=yes 2=no*

J24. Did you access other non-commodity specific finance (including for equipment & infrastructural development)? *1=yes 2=no*

J25. If yes, please complete the following table?

Use of loan/funds	Source of funding[1]	Amount	Repayment period	Interest rate	Are you servicing loan[2]

[1]*1= government scheme 2=private company 3=commercial bank 4=relatives and friends 5=cooperatives 6=savings clubs 7=other*
[2]*1=yes 2=no*

J26. Did you face any challenges in accessing financial assistance? *1=yes 2=no*

J27. If yes, what were the challenges?

_____
_____
_____

J28. What coping strategies did you employ to counter the challenges?

_____
_____
_____

J29. Do financial institutions accept your lease/permit/offer letter as collateral security? *1=yes 2=no*

J30. Have you borrowed against your lease/permit/offer letter? *1=yes 2=no*

J31. Are there restrictions on what can be used by funds sourced from loans? *1=yes 2=no*

J32. Are you facing any challenges in servicing your loans? *1=yes 2=no*

J33. If yes, what challenges are you facing? _____
_____
_____
_____

J34. Have you ever defaulted on a loan? *1=yes 2=no*

J35. If so, how was this settled?

_____
_____
_____

K. WATER RESOURCES MANAGEMENT

K1. Do you hold a water permit? *1=yes 2=no*

K2. If yes, what is the cost of water per unit? _____

K3. If yes, what are the specifications? _____
_____
_____
_____

K4. Do you have irrigation on this plot? *1=yes 2=no*

K5. If yes, what type of irrigation infrastructure do you have? *1=drip 2=overhead 3=centre pivot 4=canal 5=other specify*

K6. Is the irrigation infrastructure operational? *1=yes 2=no*

K7. If not, please give reasons why its not operational _____
_____
_____

K8. If operational, what is the area under irrigation? _____ha

K9. Who is responsible for maintaining irrigation infrastructure? _____
_____
_____

K10. Are you getting any assistance with your irrigation system? *1=yes 2=no*

K11. If yes, what type of assistance are you getting? *1=finance 2=rehabilitation 3=maintenance 4=training 5=inputs provision 6=other (specify).*

K12. Who offers this assistance? *1=Department of Irrigation 2=ZINWA 3=Arex 4=ARDA 5=Agribank 6=Other (specify).*

K13. Are there circumstances in which neighbouring plot holders access irrigation water through legitimate water permit holders on the same farm? *1=yes 2=no*

K14. If yes, what are the arrangements? _____
_____
_____
_____

K15. Are you facing any irrigation-related constraints? *1=yes 2=no*

K16. If yes, what constraints are you facing? _____
_____
_____
_____

L. HEALTH, FOOD, WATER AND SANITATION

L1. What is the household's main source of drinking and cooking water?
1= piped tap water 2= communal tap 3= borehole 4=deep well 5= shallow well 6=spring 7=river/stream 8=dam 9=Other (specify)

L2. Location of main water source *1=within own plot 2=within neighbouring plot 3=within original farm compound 4=within neighbouring farm 5=other (specify)*

L3. Is the water treated? 1=*yes 2=no 3=sometimes*

L4. If yes, give details_____

L5. What is the distance to this household's main water source? _____km

L6. Is this water adequately available all the time in enough quantity?
1= yes, everyday and all year 2=only some days and times not enough 3=generally scarce

L7. What type of sewage disposal does this household mostly use? *1 =flush toilet 2= Blair toilet 3 =pit latrine 4 bush toilet*

L8. How do you dispose of your refuse?
(i)_____
(ii)_____
(iii) _____

L9. Do you get any advice on environmental hygiene? *1=yes 2=no*

L10. If yes, who provides the service? _____
_____

L11. In the past month has any family member suffered from illness? *1=yes 2=no*

L12. List any household members who have been sick during the past year?

Household Member's Age	Household Member's Sex	How serious *1=very serious 2=not serious*	Suspected problem *1=malaria 2=diarrhoea 3=respiratory infection 4=STD'S 5=witchcraft 6=Other (specify)*	Treatment option utilized *1= clinic 2=traditional healer 3=church 4=Did not seek treatment 5=Other (specify)*	Transport mode *1=foot 2=cart 3=car 4=ambulance 5=Other (specify)*	Amount paid	Were drugs available *1=yes 0=no*

M. HIV/AIDS
M1. Are you aware of the existence of HIV/AIDS? *1=yes 2=no*

M2. Are you aware of the different means of HIV/AIDS transmission? *1=yes 2=no*

M3. What do you consider as the major means of HIV/AIDS transmission? *1=unprotected sex 2=needles/sharps 3=blood transfusion 4=parent-to-child transmission 5=other (specify)*

M4. What diseases or health conditions are related to HIV/AIDS in this area? *1=malaria 2=diarrhoea 3=respiratory infections 4=STDs 5=other (specify)*

M5. What is your source of information about HIV/AIDS?

Source	1=yes 2=no
Radio	
TV	
Newspaper	
Health workers	
Friends/relatives	
NGOs	
Other (specify)	

M6. Which of these is the most important source of information? *1=radio 2=TV, 3=newspaper 4=health workers, 5= friends/relatives, 6=NGOs 7=Other(specify)*

M7. Why is this the most important source of information?

_____

_____

M8. Within the past year, how many people from your household and labour force have died or are ill because of HIV/AIDS-related infections?

Relation	Total number of people	Number who have died of AIDS-related infections		Numbers who are ill due to HIV-related complications	
		Male	*Female*	*Male*	*Female*
Household members					
Labour Force					

M9. How visible are the following impacts of HIV/AIDS on this farm?

Impact	Visibility Of impact
High mortality	
Loss of labour	
Reduced investment in agriculture	
Reduced cropping area	
Reduced input use	
Disruption of agricultural extension services	

1= very visible 2=visible 3= not visible

M10. Prevention methods used by farmers.

_____

_____

M11. Coping strategies employed by farmers in dealing with HIV/AIDS.

_____

_____

_____

M12. Coping strategies employed by farmers in managing agricultural production in light of the prevalence of HIV/AIDS.

_____
_____
_____

M13. How visible are the following impacts of HIV/AIDS in this area?

Impact	Visibility Of impact
Loss of intergenerational knowledge	
Loss of specialized skills	
Reduced household purchasing power	
Enhanced gender-based land imbalances due to patriarchal inheritance systems.	
Shortage of support services *(e.g. extension workers, veterinary assistants, etc)*	
Change in demographics *(fewer people, no young people, orphan-headed households, etc)*	
Impact on households and enterprises dependent entirely on family labour	
Impact on enterprises that are labour intensive throughout the season	
Impact on enterprises with marked labour peaks in part(s) of the production season	
Impact on enterprises that depend on skilled and experienced staff	
Impact on enterprises that have high operational costs and high input costs	
Impact on enterprises that expose farmers or farm workers to high risk sexual behaviour	

1= very visible 2=a little visible 3= not visible

M14. Impact of HIV/AIDS on the livelihoods of farm workers.

_____
_____
_____
_____

M15. What social practices and farming enterprises make farming communities vulnerable to HIV infection? *1=polygamy 2=spouse inheritance 3=agro-processing units that are gender biased in their labour recruitment policy 4=temporal marriages/co-habitation 5=other (specify)*

M16. HIV/AIDS training and support programmes in the area.

_____
_____
_____
_____

M17. Other notable HIV/AIDS interventions in the area.

_____
_____

M18. Based on your perception, comment on the following issues.

State of HIV/AIDS Interventions in the Area	Personal Assessment *1=yes 2=no*	Services Provided	Service Providers
Available in the area			
Adequate for the area			
Relevant to local needs			

N. SOCIAL GROUPS, NETWORKS AND FARMER ORGANISATIONS

Social Groups and Networks

N1. According to your perception, is there existence of a class structure within this farming community? *1=yes 2=no*

N2. If yes, what are the approximate proportions of each social grouping within this farming community?

Class	Major Characteristics According to Informant's Perceptions	Estimate Proportion [%]

N3. Are there any class struggles between the different social groupings? *1=yes 2=no*

N4. If yes, what is the nature of these struggles?

_____
_____
_____
_____

N5. Are there any observed linkages between communal and new resettlement areas? *1=yes 2=no*

N6. If yes, nature of linkages between communal and new resettlement areas (circle as many as appropriate)
1=RA farmers benefiting from labour resources within neighbouring communal areas
2= RA farmers utilizing productive resources (e.g. draft power animals + equipment) based in neighbouring communal areas
3=RA farmers sourcing inputs from agro-dealers based in neighbouring communal areas
4=RA students enrolled in schools in neighbouring communal areas
5=RA household members benefiting from health facilities in neighbouring communal areas
6=other (specify)

N7. Are there any observed reverse linkages between the new resettlement areas and communal areas? *1=yes 2=no*

N8. If yes, nature of reverse linkages (circle as many as appropriate)

1=human mass movements from communal areas into new RAs
2=CA farmers benefiting from grazing resources within new resettlement areas
3=CA household members harvesting firewood from new resettlement areas
4=RAs serving as markets for livestock in neighbouring communal areas
5=other (specify)

N9. Are there any inter-linkages between original farm units? *1=yes 2=no*

N10. If yes, nature of observed inter-linkages (circle as many as appropriate)
1=sharing of social service infrastructure e.g. schools, clinics, etc.
2=sharing of natural resources e.g. grazing land
3=sharing of productive infrastructure and/or facilities e.g. dip tanks, boreholes, dams, etc
4=sourcing of labour from neighbouring farms
5=commercial services e.g. hiring of tractors
6=other (specify)

N11. Are there any intra-linkages between units (plots) within original farm units? *1=yes 2=no*

N12. If yes, nature of observed intra-linkages (circle as many as appropriate)
1= sharing of productive infrastructure and/or facilities e.g. dip tanks, on-farm dams, etc.
2=sharing of non-productive infrastructure and/or facilities e.g. farm compounds
3=reciprocal hiring arrangements for farming tools, implements and equipment
4=reciprocal labour-sharing arrangements e.g. land preparation, harvesting
5=combined farming operations e.g. establishment of tobacco seedbeds
6=membership in common agricultural and social groups
7=sharing of advice and information
8=sharing of seed and other planting material
9=other (specify)

N13. Do you or other farmers offer services to other farmers in the community? *1=yes 2=no*

N14. If yes, what type of services are offered, what are the arrangements and at what price?

Type of Services Offered	Confirmation *1=yes 2=no*	Arrangements[1]	Prices per unit
Provision of agricultural advice to fellow farmers			
Provision of professional consultancy services			
Commercial activities e.g. land preparation, combine harvesting, etc.			
Other *(specify)*			

[1] *1=cash payments for services rendered 2=sharing of outputs 3=reciprocal arrangements 4=other (specify)*

N15. If you are offering consultancy services, nature of consultancy services *1=sourcing of labour 2=production contracts 3=farm management 4=marketing of output 5=other (specify)*

Agricultural Research

N16. Are there any agricultural research programmes targeted at newly resettled areas? *1=yes 2=no*

N17. If yes, specify.

Organizations Involved	Local Research Programmes	Existence of Adaptive Research Trials *1=yes 2=no*	Number of Farmers Involved in Adaptive Research Trials	Frequency of Contact with Research Personnel *1=not at all 2=rarely 3=sometimes 4=always*	Appropriateness of Research Programmes to Local Needs *1=yes 2=no*

N18. Challenges facing the local agricultural research system (ranked in order of severity).
(i)_____
(ii)_____
(iii)_____

Formal Public Agricultural Extension Services

N19. Do you have access to formal public agricultural extension services? *1=yes 2=no (If no, move to N38)*

N20. Formal public agricultural extension system found in the area.

Source of Advice	Extension Contact *1=yes 2=no*	Do you pay any charges *1=yes 2=no*	Predominant Extension Approach *1=group approach 2=individual farmer visits*	Frequency of contacts *1=not at all 2=rarely 3=sometimes 4=always*	Rating of service *1=excellent 2=good 3=average 4=poor 5=very poor*
Arex					
ARDA					
Dept of Veterinary Services					
Dept Livestock & Development					
Dept Irrigation & Tech Services					
Dept Natural Resources					
Forestry Commission					
Other *(specify)*					

N21. Predominant agricultural extension approach used in the area *1= group approach 2=individual farmer visits*

N22. Group agricultural extension methods used in the area (circle as many as appropriate)
*1=farmer field schools 2=field days 3=look & learn tours 4=radio listening groups 5=study groups 6=master farmer groups 7=group discussions 8=demonstrations 9=mass media 10=other (specify)*_____

N23. Individual agricultural extension methods used in the area (circle as many as appropriate)
1=individual farm visits 2=office calls 3=telephone 4=letters

N24. Do any of the public extension service providers provide targeted extension services? *1=yes 2=no*

N25. If yes, who is targeted by public extension service providers?
*1=plot holders 2=farm managers 3=farm workers 4=plot holders & farm managers 5=plot holders & farm workers 6=farm managers & farm workers 7=all 3 groups 8=other (specify)*_____

N26. If yes, what crops are targeted by the public extension system? *1=tobacco 2=cotton 3=sugar beans 4=paprika 5=wheat 6=maize 7=sunflower 8=horticulture 9=other (specify)*

N27. Overall rating of public agricultural extension coverage.
1=excellent 2=good 3=average 4=poor 5=very poor

N28. How would you rate the strength of the linkages between researchers, extension personnel and the local farming community? *1=excellent 2=good 3=average 4=poor 5=very poor*

N29. How would you rate the effectiveness of the feedback mechanism within the public agricultural extension system? *1=excellent 2=good 3=average 4=poor 5=very poor*

N30. Individual perception of the appropriateness of public agricultural extension recommendations and /or advice
1=excellent 2=good 3=average 4=poor 5=very poor

N31. Notable new technologies introduced by the public agricultural extension system
_____
_____
_____
_____

N32. Overall rating of the effectiveness of the public agricultural extension system
1=excellent 2=good 3=average 4=poor 5=very poor

N33. Factors affecting the effectiveness of communication within the public agricultural extension system
1=inappropriate recommendations 2=use of inappropriate channels 3=questionable credibility of source 4=language barrier 5=other (specify)

N34. What other barriers do you think exist in accessing agricultural information?
_____
_____
_____

N35. How can these barriers be overcome?
_____
_____
_____

N36. Challenges facing the public agricultural extension system (ranked in order of severity).
(i)_____
(ii)_____
(iii)_____

N37. Possible solutions to these challenges
(i)_____
(ii)_____
(iii)_____

N38. Given limited public resources, are you prepared to access public agricultural extension information on a cost-recovery basis? *1=yes 2=no*

N39. Alternatively, are you prepared to access public agricultural extension information on a fully commercialised basis? *1=yes 2=no*

Private, NGO and Informal Agricultural Extension Networks

N40. Do you have access to private, NGO and informal agricultural extension networks? *1=yes 2=no (If no, move to N59)*

N41. Private, NGO and informal agricultural extension system found in the area.

Source of Advice	Extension Contact *1=yes 2=no*	Do you pay any charges *1=yes 2=no*	Predominant Extension Approach *1=group approach 2=individual farmer visits*	Frequency of contacts *1=not at all 2=rarely 3=sometimes 4=always*	Rating of service *1=excellent 2=good 3=average 4=poor 5=very poor*
Private input companies*(specify)*					
NGOs*(specify)*					
Farmer organizations *(specify)*					
Relatives & Friends					
Neighbouring farmers					
Local Opinion Leaders					
Other *(specify)*					

N42. Predominant agricultural extension approach used in the area *1= group approach 2=individual farmer visits*

N43. Group agricultural extension methods used in the area (circle as many as appropriate)
*1=farmer field schools 2=field days 3=look & learn tours 4=radio listening groups 5=study groups 6=master farmer groups 7=group discussions 8=demonstrations 9=mass media 10=other (specify)*_____

N44. Individual agricultural extension methods used in the area (circle as many as appropriate)
1=individual farm visits 2=office calls 3=telephone 4=letters

N45. Do any of the private and NGO extension service providers provide targeted extension services? *1=yes 2=no*

N46. If yes, who is targeted by private and NGO extension service providers?
*1=plot holders 2=farm managers 3=farm workers 4=plot holders & farm managers 5=plot holders & farm workers 6=farm managers & farm workers 7=all 3 groups 8=other (specify)*_____

N47. If yes, what crops are targeted by the private and NGO extension system? *1=tobacco 2=cotton 3=sugar beans 4=paprika 5=wheat 6=maize 7=sunflower 8=horticulture 9=other (specify)*

N48. Overall rating of agricultural extension coverage
1=excellent 2=good 3=average 4=poor 5=very poor

N49. How would you rate the strength of the linkages between researchers, extension personnel and the local farming community? *1=excellent 2=good 3=average 4=poor 5=very poor*

N50. How would you rate the effectiveness of the feedback mechanism within the private and NGO agricultural extension system? *1=excellent 2=good 3=average 4=poor 5=very poor*

N51. Individual perception of the appropriateness of private and NGO agricultural extension recommendations and /or advice *1=excellent 2=good 3=average 4=poor 5=very poor*

N52. Notable new technologies introduced by the private and NGO agricultural extension system

_____
_____
_____
_____

N53. Overall rating of the effectiveness of the private and NGO agricultural extension system
1=excellent 2=good 3=average 4=poor 5=very poor

N54. Factors affecting the effectiveness of communication within the private and NGO agricultural extension system *1=inappropriate recommendations 2=use of inappropriate channels 3=questionable credibility of source 4=language barrier 5=other (specify)*

N55. What other barriers do you think exist in accessing agricultural information?

_____
_____
_____

N56. How can these barriers be overcome?

_____
_____
_____

N57. Challenges facing the private and NGO agricultural extension system (ranked in order of severity).
(i)_____
(ii)_____
(iii)_____

N58. Possible solutions to these challenges
(i)_____
(ii)_____
(iii)_____

N59. What is the nature and format of informal agricultural extension networks in the area?

_____
_____
_____

N60. What institutions and/or organizations fall within the farmer's circle of confidence?

_____

Farmer Groups/Institutions

N61. In this community are there any farmer groups or organizations? *1=yes 2=no*

N62. If yes can you please name them and their main activities?

Group name	Type of group[1]	Role	Year formed	Estimate No. of men	Estimate No. of women

[1]1=savings 2=loan group 3=farmer organization 4=extension group 5=social work group 6=war veterans 7=production based group 8=other (specify)

N63. Does any household member belong to a farming or non-farming group? *1=yes 2= no*

N64. If yes, complete the details below

Household member	Sex	Group name	Type of group	Position in the group	Benefit

N65. Are there any projects people implement as a community in this area (e.g. conservation groups, grazing schemes, poultry, irrigation, community woodlots) *1=yes 2=no*

N66. If yes, please explain

Project	When planning started	When implementation Started	Main activity	Member involved	Project status[1]

[1]Status *1=planning phase 2= in progress 3=complete 4= on hold*

N67. Are any of the following formal and/or informal institutions available in your area?

Institution	Availability *1=yes 2=no*	Current or Expected Role	Number in Position	
			Male	Female
Formal Institutions				
1. Chief				
2. Headman				
3. Spirit medium				
4. Ward councillor				
5. Vidco chairperson				
6. AREX officer				
7. Department of Natural Resources				
8. Management Committee				
9. Parents Teachers Association				
10. War Veterans Committee				
11. Land Officers				

Informal Institutions				
12. Political leader				
13. Opinion leader				

N68. Are you a war veteran? *1=yes 2=no*

N69. Are you an office bearer in any political party? *1=yes 2=no*

N70. If yes, what is your position? _____ and at what level? _____

O. CHALLENGES FACING THE NEW FARMER

O1. In the following table, rank the three (3) greatest challenges you think your household has faced since being resettled.

1=most severe

Challenge	Year one	Year two	Current Season
Unavailability of credit			
Unavailability of inputs			
High price of inputs			
Lack of draught power, implements and equipment			
Labour bottlenecks			
Lack of markets for agricultural produce			
High transport costs			
Challenges brought about by HIV/AIDS			
Recurrent droughts			
Land conflicts			
Other *(specify)*			

O2. For each of the challenges, please suggest possible solutions.

Challenge	Possible Solution	Who should be responsible[1]
Unavailability of credit		
Unavailability of inputs		
High price of inputs		
Lack of draught power, implements and equipment		
Labour bottlenecks		
Lack of markets for agricultural produce		
High transport costs		
Challenges brought about by HIV/AIDS		
Recurrent droughts		
Land conflicts		
Other *(specify)*		

[1] *1=Government 2=Individual farmers 3=Farmer groups 4=NGOs 5=Private companies 6=Other (specify)*

O3. Previous year's net income range in Z$

1	2	3	4	5
0 – 30 million	30,1 – 60 million	60,1 – 90 million	90,1 – 120 million	120,1 - 150 million

6	7	8	9	10
150,1 – 180 million	180,1 – 210 million	210,1 – 240 million	240,1 – 270 million	+ 270 million

O4. End time _____

O5. Total time taken _____

Annex 3.1b: AIAS Farm Worker Questionnaire Survey

A. ADMINISTRATIVE INFORMATION

A1. Enumerator's name _____

A2. Date of interview_____

A3. Place of interview_____

A4. Start time_____

B. LOCATION DETAILS

B1. Province *1= Mash Central 2= Mash West 3= Mash East 4= Manicaland 5= Masvingo 6= Midlands 7= Mat North 8= Mat South*

B2. District_____

B3. Village_____

B4. Chieftainship_____

B5. Headman_____

B6. Farm Name_____

B7. Plot Number_____

B8. Other site where farm worker household might be stationed? _____

C. SOCIO-ECONOMIC AND DEMOGRAPHIC DATA

C1. Family Name _____

C2. Demographic characteristics of the household

HH member name	Sex[1]	Age	Current Occupation[2]	Previous Occupation[3]	Do you have a 2nd job[4]	If yes please specify	Marital status[5]	Education level attained[6]	Relationship to Informant[7]	Farming Training[8]	Paid Agric. Experience (Years)	Residency[9]	If off farm, specify[10]
Informant													

[1] *1=male 2=female*
[2] *1= permanent paid farm worker 2= casual farm worker 3=retired farm worker 5=unpaid family worker 6=unemployed 7= self employed 8=student 9= housespouse 10 =preschool 11=other*
[3] *1= permanent paid worker 2= casual farm worker 3=retired farm worker 5=unpaid family worker 6=unemployed 7= self employed 8=student 9= housespouse 10 =preschool 11=other*
[4] *1=yes 2=no*
[5] *1=married 2=single 3=divorced 4=widowed*
[6] *1= no formal education 2= primary education 3=ZJC 4=ordinary level 5= advanced level 6= tertiary 7=.standard 6*
[7] *1=child 2=spouse 3=husband 4=relative 5=other specify*
[8] *1=no formal training 2=certificate 3=master farmer certificate 4=advanced master farmer certificate 5=diploma 6=other specify*
[9] *1=on farm 2=off farm*
[10] *1=farm compound on where l work 2=neighbouring farm compound 3=plot subdivision where l work 4=communal area 5=other specify*

C3. What is your place of birth? *1=Zimbabwe 2=Mozambique 3=Zambia 4=Malawi 5=other*
C4. Where was your father born? *1=Zimbabwe 2=Mozambique 3=Zambia 4=Malawi 5=other* (If Zimbabwe, please move to C7)
C5. If originally from outside Zimbabwe, are you a citizen/national of your respective country? *1=yes 2=no*
C6. If no, do you consider yourself a Zimbabwean? *1=yes 2=no*
C7. Do you possess Zimbabwean identity documents? *1= yes 2=no*
C8. If no, what are the reasons for not possessing identity documents?
_____
_____
_____
_____

D. SITUATION OF FARM WORKERS
D1. Did you work in the LSCF sector before the FTLRP? *1=yes 2=no* (If no move to E1)
D2. Where were you previously employed?
Province *1= Mash Central 2= Mash West 3= Mash East 4= Manicaland 5= Masvingo 6= Midlands 7= Mat North 8= Mat South*
D3. District _____
D4. Farm Name_____
D5. Period (year)_____ to _____
D6. What was the total labour force at your previous work of employment? _____
D7. What was your preference during the FTLRP? *1=re-employment 2=resettlement 3=retrenchment package 4=repatriation 5=relocate to communal area 6=other specify*
D8. What is your current preference during the FTLRP? *1=re-employment 2=resettlement 3=retrenchment package 4=repatriation 5=relocate to communal area 6=other specify*
D9. Did your former employer pay you terminal benefits and entitlements? *1=yes 2=no*
D10. If yes, were you paid in full? *1=yes 2=no*
D11. How much did you receive in terminal benefits? ZW$_____
D12. What happened to your former work mates after the FTLRP?
1= Re-employed by new farmers 2= Gained access to land 3= Relocated to communal area 4= Relocated to informal settlements 5= Remained in the LSCF compound 6= Relocated to urban centres/towns 7= Repatriated to neighbouring countries

E. LAND ACCESS AND HOUSEHOLD AGRICULTURAL PRODUCTION

E1. Where do you have access to land?

Variable	Communal Area	Place of employment	FTLRP area
Access *1=yes 2=no*			
Province[1]			
District			
Scheme[2]			
Residential (specify units)			
Arable Area (specify units)			
Grazing Area (specify units)			

[1]*1= Mash Central 2= Mash West 3= Mash East 4= Manicaland 5= Masvingo 6= Midlands 7= Mat North 8= Mat South*
[2]*1=A1 villagised 2=A1 self contained 3=A2*

If no access to land in the FTLRP Area move to E5
E2. If you have access to land in the new resettlement area, how were you allocated the land? *1=registered with traditional chief 2=registered with District Administrator 4=occupation 5=war veterans 6=other specify*
E3. Why did you go through this channel for land allocation?
_____
_____
_____

E4. If former farm worker, did you disclose your status as a former farm worker when you were allocated under the FTLRP? *1=yes 2=no*

E5. Do you maintain a communal home? *1=yes 2=no*

E6. If yes, why do you maintain a communal area home? *1=retirement 2=in case of loss of employment 3=area of origin 4=married there 5=other specify*

E7. Who is responsible for maintaining your communal area home? *1=spouse 2=children 3=relatives 4=employees 5=other specify*

E8. Do you practice own household agricultural (crops/livestock) production activities? *1=yes 2=no (*If no move to F1)

E9. If yes, where are you practicing own household agricultural production activities? *1=communal area 2=own A1 plot 3=farm where employed 4=rented A1 plot 5=other specify*

E10. Which crops did you grow in the last season?

Crop	Area	Quantity harvested (MT/kgs)	Quantity sold (MT/kgs)	Income realised (ZW$)	Marketing channel[1]	Quantity retained
Maize						
Groundnuts						
Sweet potatoes						
Vegetables						
Other specify						

[1]*1=GMB 2=Cottco 3=neighbouring farmers 4=middlemen 5=local area 7=other specify*

E11. What kind of livestock do you have?

Type of livestock	Numbers			Livestock sales in the last season	Income realized (ZW$)	Marketing Channel[1]
	Communal Area	Place of employment	Own FTLRP plot			
Cattle						
Goats						
Poultry						
Donkeys						
Pigs						
Other specify						

[1]*1=CSC 2=middlemen 3=local butcheries 4=neighbouring farmers 5=other specify*

E12. Do any of your family members participate in household agricultural production activities? *1= yes 2=no*

E13. If yes, how many members participate in household agricultural production activities?

Member	Number
HH head	
Spouse	
Adult children	
Minor children (below 16 years of age)	
Other relatives	

E14. Do you hire labour outside the household for your own agricultural activities? *1=yes 2=no*

E15. If yes, what kind of labour do you hire for your own agricultural activities? *1=permanent 2=casual 3=piece work/maricho 4=other specify*

E16. How many workers are you currently employing for your own agricultural activities? _____

F. AGRICULTURAL WAGE EMPLOYMENT OF FARM WORKER HOUSEHOLD

F1. Which members of the household perform paid agricultural work outside the household?

Member name	Sex[1]	Age	Previous job[2]	Type of employment[3]	Nature of contract[4]	Type of work/skills of HH member[5]	Years in agric. wage employment	Where do they work?[6]
HH head								
Spouse								

[1]*1=male 2=female*
[2]*1=paid communal area agricultural worker 2=unpaid communal area family worker 3=former farm worker 4=unemployed 5=other specify*
[3]*1=permanent employee 2=casual employee 3=piece work 4=other specify*
[4] *1=written 2=verbal*
[5]*1=general hand 2=semi-skilled 3=skilled*
[6]*1=farm where we reside 2=neighbouring A2 farm 3=neighbouring A1 farm 4=communal areas 5=white LSCF*

F2. Is your experience from your previous job relevant in your current job? *1=yes 2=no*

F3. If yes, please indicate the areas in which you are using your experience from your previous job?

_____

_____

F4. If no, are there any cases where you are applying your experience from your previous job outside your current place of employment? *1=yes 2=no*

F5. If yes please indicate the cases were you are using your experience from your previous job?

_____

_____

_____

F6. Are you involved in the provision of organized labour services (specific short assignments as teams)? *1=yes 2=no* (If no, move to F12)

F7. If yes, who leads the group?

_____

_____

F8. How does your team source for jobs? *1=approach farmers 2=approached by farmers 3=advertise for services 4=other specify*

F9. How are you paid for your group labour services? *1=cash 2=food rations 3=other specify*

F10. Are payments shared equitably between the group members? *1=yes 2=no*

F11. If no, how are the payments shared between group members?

_____

_____

_____

F12. Are you or any of your household members related to your respective employers? *1=yes 2=no*

F13. Is there any grading system for workers at your place of employment? *1=yes 2=no*

F14. If yes, specify the grading criteria?

_____

_____

_____

F15. How are you paid for your labour services? *1=cash 2=food 3=clothes 4=other specify*

F16. Please specify the nature of payment?

_____

_____

_____

F17. What is the interval of your payments? *1=daily 2=weekly 3=monthly 4=other specify*

F18. Do you encounter any problems in getting your payments? *1=yes 2=no*

F19. If yes, what problems do you encounter in getting your payment? *1= not paid on time 2= not paid fully at once 3= payments erratic 4=other specify*

F20. How much are you currently earning on a monthly basis? ZW$_____

F21. What other benefits are you provided by your employer?

Benefit	Do you get it? *1=yes 2=no*	Specify
1 Housing		
2 Fuel		
3 Food rations		
4 Health insurance		
5 Land to grow crops		
6 Land to graze		
7. Annual leave		
8. Protective clothing		
9. Funeral insurance		
10. Other specify		

F22. Do you engage in payment negotiations with the employer? *1=yes 2=no* (If no, move to F25)

F23. If yes, what type of negotiations do you engage? *1=individual 2=group 3=other specify*

F24. What action is taken by workers if negotiations fail? *1=demonstrations 2=quitting 3=other specify*

F25. If no, how are your wages determined? *1=employer determined 2=government regulations 3=market rates/wages paid by other farmers 4=employee determined 5=other specify*

F26. What time do you start work _____ and end _____work?

F27. How long are the breaks? Tea _____hrs lunch _____hrs

F28. Do you sometimes work over the weekend and/or after working hours? *1=yes 2=no*

F29. If yes, how are you compensated for the extra time spent on work activities? *1=overtime pay 2=given days off by employer 3=other specify*

F30. What are the working arrangements on your current place of employment? *1=temporal 2=output based (mugwazo)*

F31. If temporal, how many hours do you work? _____hrs

F32. If output based, specify arrangements for different activities?

Activity	Example	Criteria
Weeding	25 lines	
Harvesting	2 x 50kg	
Grading		
Packaging		
Planting		
Other specify		

F33. What kinds of methods are used to supervise your work? *1=physical beatings 2=negotiation 3=assignments specified 4=other specify*

F34. Have you had any labour disputes with your employer? *1=yes 2=no* (If no move to F37)

F35. If yes, please give details on the nature of the disputes?

_____

_____

_____

F36. How was the labour dispute resolved?

_____
_____
_____

F37. Is there an active agricultural union in this area? *1=yes 2=no* (If no, move to F39)

F38. If yes, what activities is the agricultural union involved in? *1=resolution of labour disputes 2=wage negotiation 3=worker education 4=other specify*

F39. Are you or any of your family members of an agricultural workers union? *1=yes 2=no* (If no, move to F41)

F40. If yes, which agricultural workers union are you a member? *1=GAPWUZ 2=Zimbabwe Agricultural Workers Union 3=other specify*

F41. Do you have a workers committee on this farm? *1=yes 2=no*

F42. If yes, what is the role of the workers committee?

_____
_____
_____

F43. If former farm worker, how do you compare your current working conditions with those of your previous employer? *1=better 2=worse 3=similar*

F44. Is there any support provided by your employer in case of injury at the workplace? *1=yes 2=no*

F45. If yes, what kind of support is provided to employees who are injured at the workplace? *1=medical fees 2=transport to hospital 3=drugs 4=other specify*

F46. Have you been injured at the work place this current year? *1=yes 2=no* (If no, move to G1)

F47. If yes, please describe the nature of injury?

_____
_____
_____

F48. If yes, were you provided with any support from the employer after the injury? *1=yes 2=no*

F49. If yes, what kind of support were you provided? *1=medical fees 2=transport to hospital 3=drugs 4=other specify*

G. RESIDENCY AND TENURE SECURITY OF AGRARIAN LABOUR HOUSEHOLD

G1. What kind of housing facilities do you have? *1=brick and asbestos 2=pole and dagga 3=compound dormitory 4=other specify*

G2. Who is the owner of the housing facilities you are currently using? *1=self 2=employer 3=state 4=other specify*

G3. For you to reside here, do you have to work on this farm? *1=yes 2=no*

G4. If yes, please specify

_____
_____
_____
_____

G5. Have you been threatened with eviction from your residency since the beginning of the FTLRP? *1=yes 2=no* (If no, move to G8)

G6. If yes, by whom? *1= government 2=A1 farmers 3=A2 farmers 4=white LSCF 5=other specify*

G7. How were the eviction threats resolved?

_____
_____
_____
_____

G8. Have you been actually evicted from your residency since the beginning of the FTLRP? *1=yes 2=no* (If no, move to G11)

G9. If yes, by whom? *1= government 2=A1 farmers 3=A2 farmers 4=white LSCF 5=other specify*

G10. How was the eviction resolved?

_____
_____
_____
_____

G11. Has there been any violent confrontation between former farm workers and new farmers on this farm? *1=yes 2=no*

G12. If yes, what was the source of the violent confrontation? *1=farm compound residency 2=access to land 3=refusal by former farm workers to work for new farmers 4=stock theft 5=tree cutting 6=other specify*

G13. Are there any natural resources that you are allowed to utilize on this farm? *1=yes 2=no*

G14. If yes, which natural resources are you allowed to utilize on this farm? *1=thatching grass 2=fisheries 3=firewood 4=alluvial gold 5=other specify*

G15. Are there any natural resources that you are not allowed to utilize on this farm? *1= yes 2=no*

G16. If yes, which natural resources are you not allowed to utilize on this farm? *1=thatching grass 2=fisheries 3=firewood 4=alluvial gold 5=other specify*

G17. Why are you not allowed to access these natural resources?

_____
_____
_____

G18. What is the household main source of drinking and cooking water?
1=individual piped tap water 2= communal tap 3= borehole/deep well 5= shallow well 6=river/stream/dam 7= other

G19. What is the distance to this household's main water source? _____km

G20. What type of sewage disposal does this household mostly use? *1 =flush toilet 2= Blair toilet 3=pit latrine 4= bush toilet*

G21. How do you dispose of your litter?
1=farm garbage service 2=throw in vacant plots 3=throw pit 4=burn 5=other specify

G22. Do you get an advice on hygiene? *1=yes 2=no*

G23. If yes, from whom? *1=farm health worker 2=employer 3=Rural District Council 4=other workers 5=other specify*

H. HOUSEHOLD FOOD SECURITY

H1. Rank your sources of food? 1=major source

Source of food	Rank
Purchase	
Food rations from employer	

Food aid	
Food for work	
Other specify	

H2. How many meals does your household consume per day? *1=one 2=two 3=three 4=other specify*

H3. In the last three days, what food did your household eat?

Day	Morning	Afternoon	Evening
Day 1			
Day 2			
Day 3			

H4. Are there any food aid assistance programmes targeting farm workers in this area? *1=yes 2=no*

H5. If yes, have you benefited from the food aid assistance programmes? *1=yes 2=no*

H6. If yes, who is the providing food aid assistance? *1=government 2=donors 3=NGOs 4=rural district council 5=private companies 6=other specify*

H7. Do you know of any other household on this farm that has benefited from food aid assistance? *1=yes 2=no*

H8. What is your major source of energy?
1=electricity 2=paraffin 3=firewood 4=coal 5=other specify

I. HIV/AIDS

I1. In the past month has any family member suffered from illness or injury? *1=yes 2=no*

I2. List any household members who have been sick for the past month?

Member name	How serious *1=very 2=serious 3=not serious*	Major symptoms *1=malaria 2=diarrhoea 3=respiratory infection 4=STD'S 5=witchcraft*	Institution used *1= clinic 2=traditional healer 3=church (apostolic sects) 4=did not seek treatment 5=other specify*	Transport mode *1=foot 2=cart 3=car 4=ambulance*	Amount paid	Were drugs available *1=yes 2=no*

I3. Are you aware of the existence of HIV/AIDS? *1=yes 2=no*

I4. Are you aware of the different means of HIV/AIDS transmission? *1=yes 2=no*

I5. What symptoms are related to HIV/AIDS? *1=malaria 2=diarrhoea 3=respiratory infection 4=STD'S 5=other specify*

I6. What is your source of information about HIV/AIDS?

Source	Is it a source of information? 1=yes 2=no
Radio	
TV	
Newspapers	
Health workers	
Friends/relatives	
NGOs	
Farm owner	
Other specify	

I7. Which of these is the most important source of information on HIV/AIDS? *1=radio 2=TV, 3=newspapers 4=health workers, 5= friends/relatives, 6=NGOs 7=other*

I8. Within the past year, how many people from your household and farm have died or are ill because of HIV/AIDS?

Relation	Numbers who have died of AIDS related illnesses		Numbers who are ill of AIDS related illness		Total number of people
	Male	Female	Male	Female	
Family					
Farm					

I9. Have you missed work to attend to a funeral or tend to household member/relative sick from HIV/AIDS in the last month? *1=yes 2=no*

I10. If yes, how many times did you miss work in the last the month? _____days

I11. What methods are you employing to protect yourself and your family from HIV/AIDS? *1=being faithful 2=use of condoms 3=abstinence 4=counselling 5=other specify*

I12. What social practices and farming enterprises make farm worker households vulnerable to HIV infection? *1=polygamy 2=spouse inheritance 3=agro-processing units that are gender biased in their labour recruitment policy 4=temporal marriages/co-habitation 5=other (specify)*

I13. In the last year have you sold any assets to meet costs related to HIV/AIDS? *1=yes 2=no*

I14. Are there any HIV/AIDS assistance programmes targeting farm workers in this area? *1=yes 2=no* (If no, move to J1)

I15. If yes, who is providing the HIV/AIDS assistance programmes? *1=government 2=donors specify_____ 3=NGOS specify _____ 4=RDCs 5=other specify*

I16. What kind of assistance is being provided to affected households under the HIV/AIDS programmes? *1=food rations 2=counselling services 3=sex education 4=drugs 5=awareness campaigns 6=care giver training 7=other specify*

I17. Based on your perception, comment on the following issues.

State of training and support programmes	Personal Assessment *1=yes 2=no*	If yes, who provides this service?
Available in the area		
Adequate for the area		
Relevant to local needs		

J. SOCIAL INSTITUTIONS AND AGRARIAN LABOUR HOUSEHOLDS

J1. Are the following institutions available in your area and what roles do they and should play?

Institution	Availability *1=yes 2=no*	Roles	Expected Roles
1. Chief			
2. Headman			
3. Spirit medium			
4. Ward councillor			
5. Vidco chairperson			
6. War Veterans Committee			
7. Labour Relations Officer			
8. Member of Parliament			
9. District Administrator			

10. Local Development Committees			
11. Other Specify			

K. NON FARM RURAL LABOUR/ALTERNATIVE LIVELIHOOD STRATEGIES

K1. Are you involved in non-farm paid labour activities? *1=yes 2=no*

K2. If yes, what non-farm paid labour activities are you involved in?

Type of activity	Are you involved 1=yes 2=no	Is activity carried all year round 1=yes 2=no	If no, when is it done? (Months)	Approximate time spent on these activities per month (days)	Total time spent per year on these activities (months/days)	Who in the household is involved?[1]	Are they involved full time? 1=yes 2=no	Income realized per month (ZW$)
Gold panning								
Firewood selling								
Collecting river/pit sand for sale								
Wildlife harvesting								
Wood carving								
Stone carving								
Tailoring								
Basketry								
Bricklaying								
Pottery								
Beer brewing								
Carpentry								
Repair work								
Others specify								

[1] *1=hh head 2=spouse 3=son 4=daughter 5=brother 6=sister 7=mother 8=father 9=other*

K3. Why are you involved in these non-farm labour activities?

_____
_____
_____

K4. Are there any constraints you are facing in engaging in non-farm paid labour activities? *1=yes 2=no*

K5. If yes, what constraints are you facing in engaging in non-farm paid labour activities?

_____
_____
_____
_____

K6. Can you please rank the five most important non-farm activities that are common in this area?

Type of activity	Rank 1=most households are involved in this activity	Estimated proportions of households are involved in this activity on this farm?
Gold panning		
Firewood selling		
Collecting river/pit sand for sale		
Wildlife harvesting		
Wood carving		
Stone carving		
Tailoring		
Basketry		
Bricklaying		
Pottery		
Beer brewing		
Carpentry		
Repair work		
Others specify		

K7. On this farm are there any former farm workers who have moved permanently into full time non-farm paid labour activities? *1=yes 2=no*

K8. If yes, what is the estimated proportion? _____

K9. What activities are they involved in?

_____
_____
_____
_____

K10. Are shortages of farm labour being experienced in this area? *1=yes 2=no*

K11. If yes, what do you think are the reasons for the labour shortages?

_____
_____
_____

K12. Do you have any other sources of income besides farm and non-farm labour activities? *1=yes 2=no*

K13. If yes, what are the sources of incomes and how often do you receive such income?

Source of income[1]	How often do you receive such income?[2]	How much did you receive during following time periods (ZW$)			
		January - March	April - June	July - September	October-December

[1]*1=remittances from relatives and friends 2=government social welfare programmes 3=donors 4=NGOs 5=private companies 6=other specify*

[2]*1=weekly 2=monthly 3=quarterly 4=half yearly 5=annually 6=other specify*

L. CHALLENGES FACING FARM WORKER HOUSEHOLDS

L1. Have you faced any challenges since the beginning of the FTLRP? *1=yes 2=no*

L2. If yes, what challenges have you faced as a farm worker household and please rank the challenges you faced and will face in the coming year?

1=most severe 5=least severe

Challenge	Did you face it? 1=yes 2=no	Year one	Year two	Current
Poor wages				
Poor working conditions				
HIV/AIDS				
Insecurity of residential tenure				
Landlessness				
Inaccess to farm natural resources				
Land conflicts				
Poor social relations with new farmers				
Food security				
Other specify				
Other specify				

L3. For each of the challenges, please suggest possible solutions.

Challenge	Possible Solution	Who should be responsible[1]
Poor wages		
Poor working conditions		
HIV/AIDS		
Insecurity of residential tenure		
Landlessness		

Inaccess to farm natural resources		
Land conflicts		
Poor social relations with new farmers		
Food security		
Other specify		
Other specify		

1=government 2=farmers 3=NGOs 4=private companies 5=other specify

End Time _____

Total Time Taken_____

Annex 4.1 Level of Labour Use and Access to Productive Hand Tools, A1 Model

Type of Asset	Labour Use Level	HH with Asset Access		Avg. No. of Assets Accessed	Type of Access				No. in Sample
					Owned		Borrowed		
		No. of HH	% of HH		No. of HH	% of HH	No. of HH	% of HH	
Hoe[1]	Lowest	51	92.72	5.22	51	92.72	-	-	55
	Low	81	97.59	6.60	81	97.59	-	-	83
	Medium	21	100.0	7.62	21	100.0	-	-	21
	High	31	100.0	8.03	31	100.0	-	-	31
	Highest	16	94.12	9.41	15	88.24	1	5.88	17
	Total	200	96.62	6.78	199	96.14	1	0.48	207
Axe[2]	Lowest	50	90.91	2.07	50	90.91	-	-	55
	Low	80	96.39	2.55	80	96.39	-	-	83
	Medium	21	100.0	2.95	21	100.0	-	-	21
	High	31	100.0	2.87	31	100.0	-	100.0	31
	Highest	16	94.12	2.88	16	94.12	-	-	17
	Total	200	96.62	2.54	200	96.62	-	-	207
Mattock[3]	Lowest	17	30.91	0.36	17	30.91	-	-	55
	Low	47	56.63	0.75	47	56.63	-	-	83
	Medium	18	78.26	1.38	18	78.26	-	-	21
	High	28	90.32	1.42	28	90.32	-	-	31
	Highest	7	41.18	0.71	7	41.18	-	-	17
	Total	117	56.52	0.81	117	56.52	-	-	207
Pick[4]	Lowest	32	58.18	0.80	31	58.18	1	-	55
	Low	56	67.47	0.89	55	67.47	1	1.20	83
	Medium	18	85.71	1.29	18	85.71	-	-	21
	High	27	87.10	1.35	27	87.10	-	-	31
	Highest	15	88.24	2.12	15	88.24	-	-	17
	Total	148	71.50	1.08	146	71.50	2	1.0	207
Spade[5]	Lowest	32	58.18	0.91	32	58.18	-	-	55
	Low	46	55.42	0.94	46	55.42	-	-	83
	Medium	12	57.14	1.14	12	57.14	-	-	21
	High	26	83.87	2.00	26	83.87	-	-	31
	Highest	11	64.71	1.41	9	52.94	2	11.76	17
	Total	127	61.35	1.15	125	60.38	2	1.0	207
Wheel Barrow[6]	Lowest	23	41.82	0.55	23	41.82	-	-	55
	Low	58	69.88	0.80	58	69.88	-	-	83
	Medium	19	90.47	1.10	18	85.71	-	-	21
	High	27	87.10	1.13	27	87.10	-	-	31
	Highest	14	82.35	1.12	13	76.47	1	5.88	17
	Total	141	63.12	0.84	140	67.63	1	0.48	207
Knapsack sprayer[7]	Lowest	17	30.91	0.36	17	30.91	-	-	55
	Low	36	43.37	0.49	35	42.17	1	1.20	83
	Medium	10	47.62	0.52	10	47.62	-	-	21
	High	20	64.52	1.13	20	64.52	-	-	31
	Highest	9	29.03	1.12	8	47.06	1	5.88	17
	Total	92	44.44	0.61	90	43.48	2	1.0	207

ANOVA Results

1. Level of labour use by average no. of hoes accessed, F=5.9, 4 d.f., p=0.00 (significant at 0.05)
2. Level of labour use by average no of axes accessed, F=2.497, 4 d.f., p=0.04 (significant at 0.05)
3. Level of labour use by average no. of mattocks accessed, F=9.88, 4 d.f, p=0.00 (significant at 0.05)
4. Level of labour use by average no. of picks accessed, F=6.671, 4 d.f., p=0.00 (significant at 0.05)
5. Level of labour use by average no. of spades accessed, F=4.925, 4 d.f., p=0.00 (significant at 0.05)
6. Level of labour use by average no. of wheelbarrows accessed, F=5.71, 4 d.f., p=0.00 (significant 0.05)
7. Level of labour use by average no. of knapsack sprayers accessed, F=5.15, 4 d.f., p=0.00 (significant at 0.05)

Annex 4.2 Level of Labour Use by Access to Productive Hand Tools, A2 Model

Type of Asset	Labour Use Level	HH with Asset Access		Avg. No. of Assets Accessed	Type of Access				No. in Sample
					Owned		Borrowed		
		No. of HH	% of HH		No. of HH	% of HH	No. of HH	% of HH	
Hoe[1]	Lowest	9	100.0	7.22	9	100.0	-	-	9
	Low	24	92.31	8.96	24	92.31	-	-	26
	Medium	7	100.0	5.86	7	100.0	-	-	7
	High	26	100.0	10.04	26	100.0	-	-	26
	Highest	28	100.0	11.86	28	100.0	-	-	28
	Total	94	97.92	9.76	94	97.92	-	-	96
Axe[2]	Lowest	9	100.0	2.44	9	100.0	-	-	9
	Low	24	92.31	2.88	24	92.31	-	-	26
	Medium	7	100.0	2.57	6	85.71	1	14.29	7
	High	26	100.0	2.65	26	100.0	-	-	26
	Highest	28	100.0	3.43	28	100.0	-	-	28
	Total	94	97.92	2.92	93	96.88	1	1.04	96
Mattock[3]	Lowest	5	55.56	0.67	5	55.56	-	-	9
	Low	19	73.08	1.04	19	73.08	-	-	26
	Medium	4	57.14	0.86	4	57.14	-	-	7
	High	20	76.92	1.65	20	76.92	-	-	26
	Highest	23	82.14	1.68	23	82.14	-	-	28
	Total	71	73.96	1.34	71	73.96	-	-	96
Pick[4]	Lowest	8	88.89	1.22	8	88.89	-	-	9
	Low	15	57.69	0.73	15	57.69	-	-	26
	Medium	5	71.43	1.00	5	71.43	-	-	7
	High	20	76.92	1.62	20	76.92	-	-	26
	Highest	25	89.29	1.89	25	89.29	-	-	28
	Total	73	76.04	1.38	73	76.04	-	-	96
Spade[5]	Lowest	6	66.67	1.56	6	66.67	-	-	9
	Low	20	76.92	1.19	20	76.92	-	-	26
	Medium	5	71.43	1.00	5	71.43	-	-	7
	High	17	65.38	1.42	16	61.54	1	3.85	26
	Highest	26	92.86	2.93	26	92.86	-	-	28
	Total	74	77.08	1.78	73	76.04	1	1.04	96
Wheel Barrow[6]	Lowest	7	77.78	1.00	7	77.78	-	-	9
	Low	21	80.77	1.12	21	80.77	-	-	26
	Medium	5	71.43	0.71	5	71.43	-	-	7
	High	23	88.46	1.27	23	88.46	-	-	26
	Highest	26	92.86	1.46	26	92.86	-	-	28
	Total	82	85.42	0.76	82	85.42	-	-	96
Knapsack sprayer[7]	Lowest	7	77.78	0.89	7	77.78	-	-	9
	Low	14	53.85	0.88	14	53.85	-	-	26
	Medium	3	42.86	0.57	3	42.86	-	-	7
	High	17	65.38	1.50	17	65.38	-	-	26
	Highest	24	92.31	2.07	23	92.31	1	3.57	28
	Total	64	66.67	1.38	63	65.63	-	-	96

Source: AIAS Zvimba District Household Baseline Survey (2005)

ANOVA Results

1. Level of labour use by average no. of hoes accessed, F=2.51, 4 d.f., p=0.04 (significant at 0.05)
2. Level of labour use by average no. of axes accessed, F=1.13, 4 d.f., p=0.347 (not significant at 0.05)
3. Level of labour use by average no. of mattocks accessed, F=2.58, 4 d.f, p=0.04 (significant at 0.05)
4. Level of labour use by average no. of picks accessed, F=3.32, 4 d.f., p=0.01 (significant at 0.05)
5. Level of labour use by average no. of spades accessed, F=4.861, 4 d.f., p=0.00 (significant at 0.05)
6. Level of labour use by average no. of wheelbarrows accessed, F=1.505, 4 d.f., p=0.207 (not significant 0.05)
7. Level of labour use by average no. of knapsack sprayers accessed, F=2.946, 4 d.f., p=0.02 (significant at 0.05)

Annex 4.3 Level of Labour Use by Access to Productive Animal Drawn Tools, A1 Model

Type of Asset	Labour Use Level	HH with Asset Access		Avg. No. of Assets Accessed	Type of Access				No. in Sample
					Owned		Borrowed		
		No. of HH	% of HH		No. of HH	% of HH	No. of HH	% of HH	
Plough[1]	Lowest	24	43.64	0.53	21	38.18	3	5.45	55
	Low	46	55.42	0.67	46	55.42	-	-	83
	Medium	17	80.95	1.14	17	80.95	-	-	21
	High	21	67.74	0.87	19	61.29	2	6.45	31
	Highest	8	47.06	0.71	7	41.18	1	5.88	17
	Total	116	56.04	0.71	110	53.14	6	2.90	207
Planter[2]	Lowest	4	7.27	0.07	4	7.27	-	-	55
	Low	8	9.64	0.10	8	9.64	-	-	83
	Medium	3	14.29	0.14	3	14.29	-	-	21
	High	4	12.90	0.13	4	12.90	-	-	31
	Highest	4	21.05	0.29	3	17.65	1	5.88	17
	Total	23	11.11	0.12	22	10.63	1	0.48	207
Ripper[3]	Lowest	1	1.81	0.02	1	1.81	-	-	55
	Low	3	3.61	0.04	3	3.61	-	-	83
	Medium	2	9.52	0.10	2	9.52	-	-	21
	High	1	3.22	0.03	1	3.22	-	-	31
	Highest	2	11.76	0.12	2	11.76	-	-	17
	Total	9	4.34	0.04	9	4.34	-	-	207
Ridger[4]	Lowest	2	3.64	0.00	2	3.64	-	-	55
	Low	3	3.61	0.01	3	3.61	-	-	83
	Medium	1	4.76	0.05	1	4.76	-	-	21
	High	1	3.23	0.00	-	-	1	3.23	31
	Highest	3	17.65	0.00	1	5.88	2	11.76	17
	Total	10	4.83	0.01	7	3.38	3	3.38	207
Cultivator[5]	Lowest	13	23.63	0.25	12	23.63	1	1.82	55
	Low	34	161.44	0.42	34	161.44	-	-	83
	Medium	9	42.86	0.48	9	42.86	-	-	21
	High	14	45.16	0.48	12	38.71	2	6.45	31
	Highest	7	41.18	0.47	7	41.18	-	-	17
	Total	77	37.20	0.40	74	35.75	3	1.45	207
Harrow[6]	Lowest	8	14.54	0.16	7	12.73	1	1.82	55
	Low	10	12.05	0.13	10	12.05	-	-	83
	Medium	7	33.3	0.33	7	33.3	-	-	21
	High	5	16.13	0.16	5	16.13	-	-	31
	Highest	5	29.41	0.35	5	29.41	-	-	17
	Total	35	16.91	01.8	34	16.43	1	0.48	207

Source: AIAS Zvimba District Household Baseline Survey (2005)

ANOVA Results

1. Level of labour use by average no. of ploughs accessed, F=2.88, 4 d.f., p=0.02 (significant at 0.05)
2. Level of labour use by average no. of planters accessed, F=1.55, 4 d.f., p=0.187 (not significant at 0.05)
3. Level of labour use by average no. of rippers accessed, F=1.16, 4 d.f, p=0.330 (not significant at 0.05)
4. Level of labour use by average no. of ridgers accessed, F=1.050, 4 d.f., p=0.383 (not significant at 0.05)
5. Level of labour use by average no. of cultivators accessed, F=1.417, 4 d.f., p=0.230 (not significant at 0.05)
6. Level of labour use by average no. of harrows accessed, F=1.709, 4 d.f., p=0.149 (not significant 0.05)

Annex 4.4 Level of Labour Use by Access to Productive Animal Drawn Tools, A2 Model

Type of Asset	Labour Use Level	HH with Asset Access		Avg. No. of Assets Accessed	Type of Access				No. in Sample
					Owned		Borrowed		
		No. of HH	% of HH		No. of HH	% of HH	No. of HH	% of HH	
Plough[1]	Lowest	4	44.44	0.67	4	44.44	-	-	9
	Low	8	30.77	0.38	7	30.77	1	3.85	26
	Medium	2	28.57	0.29	2	28.57	-	-	7
	High	14	53.85	0.69	14	53.85	-	-	26
	Highest	15	53.57	0.75	15	53.57	-	-	28
	Total	43	44.79	0.59	42	43.75	1	1.04	96
Planter[2]	Lowest	1	11.11	0.11	1	11.11	-	-	9
	Low	3	11.54	0.15	3	11.54	-	-	26
	Medium	0	0.00	0.00	0	0.00	-	-	7
	High	3	11.54	0.12	3	11.54	-	-	26
	Highest	4	14.29	0.14	2	7.14	2	7.14	28
	Total	11	11.46	0.13	9	9.38	2	2.08	96
Ripper[3]	Lowest	0	0.00	0.00	0	0.00	-	-	9
	Low	0	0.00	0.00	0	0.00	-	-	26
	Medium	0	0.00	0.00	0	0.00	-	-	7
	High	0	0.00	0.00	0	0.00	-	-	26
	Highest	2	7.14	0.07	2	7.14	-	-	28
	Total	2	2.08	0.02	2	2.08	-	-	96
Ridger[4]	Lowest	0	0.00	0.00	0	0.00	-	-	9
	Low	0	0.00	0.00	0	0.00	-	-	26
	Medium	0	0.00	0.00	0	0.00	-	-	7
	High	4	15.38	0.08	4	15.38	-	-	26
	Highest	5	17.86	0.07	4	14.29	1	3.57	28
	Total	9	9.38	0.04	8	8.33	1	1.04	96
Cultivator[5]	Lowest	2	22.22	0.22	2	22.22	-	-	9
	Low	7	26.92	0.27	7	26.92	-	-	26
	Medium	0	0.00	0.00	0	0.00	-	-	7
	High	11	42.31	0.46	11	42.31	-	-	26
	Highest	10	35.71	0.46	10	35.71	-	-	28
	Total	30	31.25	0.35	30	31.25	-	-	96
Harrow[6]	Lowest	2	22.22	0.22	2	22.22	-	-	9
	Low	3	11.54	0.12	3	11.54	-	-	26
	Medium	0	0.00	0.00	0	0.00	-	-	7
	High	9	34.12	0.42	8	30.77	1	3.85	26
	Highest	9	32.14	0.39	7	25.00	2	7.14	28
	Total	23	23.96	0.28	20	20.83	3	-	96

Source: AIAS Zvimba District Household Baseline Survey (2005)

ANOVA Results

1. Level of labour use by average no. of ploughs accessed, F=1.21, 4 d.f., p=0.312 (not significant at 0.05)
2. Level of labour use by average no of planters accessed, F=0.265, 4 d.f., p=0.900 (not significant at 0.05)
3. Level of labour use by average no. of rippers accessed, F=1.240, 4 d.f, p=0.300 (not significant at 0.05)
4. Level of labour use by average no. of ridgers accessed, F=0.799, 4 d.f., p=0.529 (not significant at 0.05)
5. Level of labour use by average no. of cultivators accessed, F=1.407, 4 d.f., p=0.238 (not significant at 0.05)
6. Level of labour use by average no. of harrows accessed, F=1.958, 4 d.f., p=0.296 (not significant 0.05)

Annex 4.5: Level of Labour Use by Access to Productive Motorised Assets, A1 Model

Type of Asset	Labour Use Level	HH with Asset Access		Avg. No. of Assets Accessed	Type of Access				No. in Sample
					Owned		Borrowed		
		No. of HH	% of HH		No. of HH	% of HH	No. of HH	% of HH	
Motor vehicle[1]	Lowest	0	0.00	0.00	0	0.00	-	-	55
	Low	3	3.61	0.04	3	3.61	-	-	83
	Medium	1	4.76	0.05	1	4.76	-	-	21
	High	10	32.26	0.48	10	32.36	-	-	31
	Highest	4	23.53	0.35	4	23.53	-	-	17
	Total	18	8.70	0.12	18	8.70	-	-	207
Tractor[2]	Lowest	1	1.82	0.02	0	0.00	1	1.82	55
	Low	3	3.61	0.04	2	2.41	1	1.20	83
	Medium	2	9.52	0.10	1	4.76	1	4.76	21
	High	5	16.13	0.16	3	9.68	2	6.45	31
	Highest	3	17.65	0.29	3	17.65	-	-	17
	Total	14	6.76	0.08	9	4.35	5	2.41	207
Tractor trailer[3]	Lowest	0	0.00	0.00	0	0.00	-	-	55
	Low	0	0.00	0.00	0	0.00	-	-	83
	Medium	2	9.52	0.14	1	4.76	1	4.76	21
	High	3	9.68	0.13	2	6.45	1	3.23	31
	Highest	4	23.53	0.24	3	17.65	1	5.88	17
	Total	9	4.35	0.05	6	2.90	3	1.45	207
Tractor plough[4]	Lowest	1	1.82	0.02	0	0.00	1	1.82	55
	Low	6	7.23	0.08	5	6.02	1	1.20	83
	Medium	2	9.52	0.10	1	4.76	1	4.76	21
	High	3	9.68	0.10	2	6.45	1	3.23	31
	Highest	3	17.65	0.18	2	11.76	1	5.88	17
	Total	15	7.25	0.08	10	4.83	5	2.41	207
Tractor ridger[5]	Lowest	0	0.00	0.00	0	0.00	-	-	55
	Low	1	1.20	0.01	1	1.20	-	-	83
	Medium	1	4.76	0.05	1	4.76	-	-	21
	High	0	0.00	0.00	0	0.00	-	-	31
	Highest	2	11.76	0.18	2	11.76	-	-	17
	Total	4	1.93	0.02	4	1.93	-	-	207
Water bowser[6]	Lowest	0	0.00	0.00	0	0.00	-	-	55
	Low	1	1.20	0.01	1	1.20	-	-	83
	Medium	0	0.00	0.00	0	0.00	-	-	21
	High	2	6.45	0.10	1	3.23	1	3.23	31
	Highest	3	17.65	0.29	3	17.65	-	-	17
	Total	6	2.90	0.04	5	2.41	1	0.48	207
Water pump[7]	Lowest	1	18.18	0.02	1	18.18	-	-	55
	Low	0	0.00	0.01	0	0.00	-	-	83
	Medium	0	0.00	0.00	0	0.00	-	-	21
	High	4	12.90	0.19	3	9.68	1	3.23	31
	Highest	4	23.23	0.29	3	17.65	1	5.88	17
	Total	9	4.35	0.06	7	3.38	2	0.97	207

Source: AIAS Zvimba District Household Baseline Survey (2005)

ANOVA Results

1. Level of labour use by average no. of motor vehicles accessed, F=9.827, 4 d.f., p=0.00 (significant at 0.05)
2. Level of labour use by average no. of tractors accessed, F=3.93, 4 d.f., p=0.00 (significant at 0.05)
3. Level of labour use by average no. of tractor trailers accessed, F=5.01, 4 d.f, p=0.00 (significant at 0.05)
4. Level of labour use by average no. of tractor ploughs accessed, F=1.178, 4 d.f., p=0.322 (significant at 0.05)
5. Level of labour use by average no. of tractor ridgers accessed, F=3.689, 4 d.f., p=0.00 (significant at 0.05)
6. Level of labour use by average no. of water bowsers accessed, F=4.582, 4 d.f., p=0.00 (significant 0.05)
7. Level of labour use by average no. of water pumps accessed, F=5.083, 4 d.f., p=0.00 (significant at 0.05)

Annex 4.6 Level of Labour Use by Access to Productive Motorised Assets, A2

Type of Asset	Labour Use Level	HH with Asset Access		Avg. No. of Assets Accessed	Type of Access				No. in Sample
					Owned		Borrowed		
		No. of HH	% of HH		No. of HH	% of HH	No. of HH	% of HH	
Motor vehicle[1]	Lowest	3	33.33	0.33	3	33.33	-	-	9
	Low	8	30.77	0.58	8	30.77	-	-	26
	Medium	0	0.00	0.00	0	0.00	-	-	7
	High	13	50.00	0.65	13	50.00	-	-	26
	Highest	19	67.86	1.11	18	64.29	1	3.27	28
	Total	43	44.79	0.69	42	43.75	1	1.04	96
Tractor[2]	Lowest	3	33.33	0.33	2	22.22	1	11.11	9
	Low	7	26.92	0.27	4	15.38	3	11.53	26
	Medium	1	14.29	0.14	0	0.00	-	-	7
	High	10	38.46	0.50	10	38.46	-	-	26
	Highest	20	71.42	1.00	19	67.86	1	3.57	28
	Total	41	42.71	0.54	36	37.5	5	5.21	96
Tractor trailer[3]	Lowest	2	22.22	0.22	2	22.22	-	-	9
	Low	2	7.69	0.08	2	7.69	-	-	26
	Medium	0	0.00	0.00	0	0.00	-	-	7
	High	5	19.23	0.23	5	19.23	-	-	26
	Highest	18	64.29	0.82	17	65.38	1	-	28
	Total	27	28.13	0.34	26	27.08	1	1.04	96
Tractor plough[4]	Lowest	3	33.33	0.33	2	22.22	1	11.11	9
	Low	5	19.23	0.19	4	15.38	1	3.85	26
	Medium	1	14.29	0.14	1	14.29	-	-	7
	High	10	38.46	0.50	10	38.46	-	-	26
	Highest	17	65.38	0.64	16	57.14	1	3.57	28
	Total	36	37.5	0.42	33	34.38	3	3.13	96
Tractor ridger[5]	Lowest	0	0.00	0.00	0	0.00	-	-	9
	Low	0	0.00	0.00	0	0.00	-	-	26
	Medium	0	0.00	0.00	0	0.00	-	-	7
	High	3	3.85	0.12	3	3.85	-	-	26
	Highest	8	28.57	0.29	7	25.0	1	3.57	28
	Total	11	11.46	0.11	10	10.42	1	1.04	96
Water bowser[6]	Lowest	0	0.00	0.00	0	0.00	-	-	9
	Low	1	3.85	0.04	1	3.85	-	-	26
	Medium	0	0.00	0.00	0	0.00	-	-	7
	High	1	3.85	0.04	1	3.85	-	-	26
	Highest	10	35.71	0.43	8	28.57	2	7.14	28
	Total	12	12.5	0.15	10	10.42	2	2.08	96
Water pump[7]	Lowest	0	0.00	0.00	0	0.00	-	-	9
	Low	2	7.69	0.12	1	3.85	1	3.85	26
	Medium	0	0.00	0.00	0	0.00	-	-	7
	High	4	15.35	0.15	4	15.35	-	-	26
	Highest	11	42.31	0.61	11	42.31	-	-	28
	Total	17	17.71	0.25	16	16.67	1	1.04	96

Source: AIAS Zvimba District Household Baseline Survey (2005)

ANOVA Results

1. Level of labour use by average no. of motor vehicles accessed, F=3.405, 4 d.f., p=0.01 (significant at 0.05)
2. Level of labour use by average no. of tractors accessed, F=5.35, 4 d.f., p=0.00 (significant at 0.05)
3. Level of labour use by average no. of tractor trailers accessed, F=8.989, 4 d.f, p=0.00 (significant at 0.05)
4. Level of labour use by average no. of tractor ploughs accessed, F=2.869, 4 d.f., p=0.02 (significant at 0.05)
5. Level of labour use by average no. of tractor ridgers accessed, F=3.728, 4 d.f., p=0.00 (significant at 0.05)
6. Level of labour use by average no. of water bowsers accessed, F=5.657, 4 d.f., p=0.00 (significant 0.05)
7. Level of labour use by average no. of water pump accessed, F=3.674, 4 d.f., p=0.00 (significant at 0.05)

Annex 4.7 Level of Labour Use by Multiple Ownership of Hand Tools

Level of Labour Use	Implements Owned (Number and % of Households)																				
	0			1			2			3			4			≥5			Total		
A1																					
Lowest	4	7.3*	5.7**	0	0.0	0.0	4	7.3	66.7	5	9.1	41.7	14	25.5	70.0	28	50.9	17.3	55	100.0	26.6
Low	2	2.4	28.6	0	0.0	0.0	2	2.4	33.3	5	6.0	41.7	4	4.8	20.0	70	84.3	43.2	83	100.0	40.1
Medium	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	1	4.8	8.3	1	4.8	5.0	19	90.5	11.7	21	100.0	10.1
High	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	1	3.2	8.3	1	4.8	5.0	29	93.5	17.9	31	100.0	15.0
Highest	1	5.9	5.9	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	16	94.1	9.9	17	100.0	8.2
Total	**7**	3.4		**0**	0.0		**6**	2.9		**12**	5.8		**20**	9.7		**162**	78.3		**207**	100.0	
A2																					
Lowest	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	1	11.1	14.3	8	88.9	9.4	9	100.0	9.4
Low	1	3.8	100.0	0	0.0	0.0	1	3.8	100.0	0	0.0	0.0	2	7.7	28.6	22	84.6	25.6	26	100.0	27.1
Medium	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	1	14.3	50.0	1	14.3	14.3	5	71.4	5.9	7	100.0	7.3
High	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	1	3.8	50.0	2	7.7	28.6	23	88.5	27.1	26	100.0	27.1
Highest	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	1	3.6	14.3	27	96.4	31.8	28	29.2	29.2
Total	**1**	1.0		**0**	0.0		**1**	100.0		**2**	2.1		**7**	7.3		**85**	88.8		**96**	100.0	

*row percentage; **column percentage; ***total percentage

Level of labour use by asset multiple ownership: hand tools (A1 model), Pearson Chi-Square=40.108 d.f.=16, p=001 (significant at 0.05)

Level of labour use by asset multiple ownership: hand tools (A2 model), Pearson Chi-Square=40.108 d.f.=16, p=001 (significant at 0.05)

Annex 4.8 Level of Labour Use by Multiple Ownership of Animal Drawn Implements

Level of Labour Use	Implements Owned (Nunber and % of Houeholds)																				
	0			1			2			3			4			≥5			Total		
A1																					
Lowest	33	60.0*	37.1**	7	12.7	20.6	8	14.5	17.0	4	7.3	19.0	1	1.8	11.1	2	3.6	28.6	55	100.0	26.6
Low	35	42.2	39.2	12	14.5	35.3	22	26.5	46.8	7	8.4	33.3	6	7.2	66.7	1	1.2	14.3	83	100.0	40.1
Medium	2	9.5	2.2	7	33.3	20.6	6	28.6	12.8	4	19.0	19.0	1	4.8	11.1	1	4.8	14.3	21	100.0	10.1
High	10	32.3	11.2	8	25.8	23.5	8	25.8	17.0	3	9.7	14.3	1	3.2	11.1	1	3.2	14.3	21	100.0	10.1
Highest	9	52.9	10.1	0	0.0	0.0	3	17.6	6.4	3	17.6	14.3	0	0.0	0.0	2	11.8	28.6	17	100.0	8.2
Total	**89**	43.0		**34**	16.4		**47**	22.7		**21**	10.1		**9**	4.3		**7**	3.4		**207**	100.0	
A2																					
Lowest	5	55.6	9.8	2	22.2	16.7	0	0.00	0.00	1	11.1	8.3	1	11.1	11.1	0	0.0	0.0	9	100.0	9.4
Low	18	69.2	35.3	1	3.8	8.3	3	11.5	30.0	3	11.5	25.0	1	3.8	11.1	0	0.0	0.0	26	100.0	27.1
Medium	5	71.4	9.8	2	28.6	16.7	0	0.00	0.00	0	0.00	0.00	0	0.0	0.0	0	0.0	0.0	7	100.0	7.3
High	12	46.2	23.5	1	3.8	8.3	4	15.4	40.0	4	15.4	33.3	4	15.4	44.4	1	3.8	50.0	26	100.0	27.1
Highest	11	39.3	21.6	6	21.4	50.0	3	10.7	30.0	4	14.3	33.3	3	10.7	33.3	1	3.6	50.0	28	100.0	29.2
Total	**51**	53.1		**12**	12.5		**10**	10.4		**12**	12.5		**9**	9.4		**2**	2.1		**96**	100.0	

*row percentage; **column percentage

Level of labour use by animal drawn implements (A1 model), Pearson Chi-Square=33.286 d.f.=20, p=031 (significant at 0.05)

Level of labour use by animal drawn implements (A2 model), Pearson Chi-Square=17.614 d.f.=20, p=631 (not significant at 0.05)

Annex 4.9 Level of Labour Use by Multiple Ownership of Power Driven Implements

Level of Labour Use	Implements Owned (Nunber and % of Houeholds)																				
	0			1			2			3			4			≥5			Total		
A1																					
Lowest	53	96.4*	29.6**	1	1.8	11.1	1	1.8	11.1	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	55	100.0	26.6
Low	75	90.4	41.9	1	1.2	11.1	5	6.0	55.6	0	0.0	0.0	1	1.2	100.0	1	1.2	12.5	83	100.0	40.1
Medium	19	90.5	41.9	1	4.8	11.1	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	1	4.8	12.5	21	100.0	10.1
High	12	70.6	6.7	1	5.9	11.1	3	9.7	33.3	1	3.2	100.0	0	0.0	0.0	2	6.5	25.0	31	100.0	15.0
Highest	12	70.6	6.7	1	5.9	11.1	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	4	23.5	50.0	17	100.0	8.2
Total	**179**	86.5		**9**	4.3		**9**	4.3		**1**	0.5		**1**	0.5		**8**	3.9		**207**	100.0	
A2																					
Lowest	5	55.6	12.2	1	11.1	8.3	0	0.0	0.0	2	22.2	28.6	1	11.1	20.0	0	0.0	0.0	9	100.0	9.4
Low	16	61.5	39.0	4	15.4	33.3	2	7.7	28.6	2	7.7	28.6	1	3.8	20.0	1	3.8	4.2	26	100.0	27.1
Medium	6	85.7	14.6	0	0.0	0.0	1	14.3	14.3	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	7	100.0	7.3
High	9	34.6	22.0	4	15.4	33.3	3	11.5	42.9	2	7.7	28.6	2	7.7	40.0	6	23.1	25.0	26	100.0	27.1
Highest	5	17.9	12.2	3	10.7	25.0	1	3.6	14.3	1	3.6	14.3	1	3.6	20.0	17	60.7	70.8	28	100.0	29.2
Total	**41**	42.7		**12**	12.5		**7**	7.2		**7**	7.3		**5**	5.2		**24**	25.0		**96**	100.0	

*row percentage; **column percentage

Level of labour use by asset multiple ownership: power driven implements (A1), Pearson Chi-Square=49.153 d.f.=20, p=000 (significant at 0.05)

Level of labour use by asset multiple ownership: power driven implements (A2), Pearson Chi-Square=41.892 d.f.=20, p=003 (significant at 0.05)

Annex 7.1 Overall Employment Impact of FTLRP

Farm Class	No. of Farms/ Employers	Avg. Farm Size (Ha)[1]	Wage Employment						Family Labour/Self Employment		Aggregate Labour[3]
			Avg. Fulltime Workers /Farm	Avg. Part Time Workers /Farm	Ave. total Wage Workers/Farm	Est. Total Fulltime Workers	Est. Total Part Time Workers	Est. Total Wage Workers	Avg. workers/ Farm	Est. Total farm workers	
PAST SCENARIO, 1996											
Smallholders											
CA	1 100 000	15	na	na	na	na	na	na	2.5	2 750 000	2 750 000
Old Resettlement	75 000	51	na	na	na	na	na	na	2.5	187 500	187 500
Small to medium commercial											
Old SSCF	8 000	175	na	na	na	na	na	na	na	na	na
LSCF[2]	6 600	2 000	25.4	25.2	50.68	167 851	166 670	334 521	2	13 200	347,721
Total Jobs						**167 851**	**166 670**	**334 521**		**2 950 700**	**3 285 221**
NEW SCENARIO, 2005[4]											
Smallholders											
CA	1 100 000	15	na	na	na	na	na	na	2.5	2 750 000	2 750 000
Old resettlement	75 000	51	na	na	na	na	na	na	2.5	187 500	187 500
A1	141 656	41	2.0	5.99	7.99	283 312	848 519	1 131 831	3.6	509 961	1 641 792
Small to medium commercial											
Old SSCF	8 000	175	na	na	na	na	na	na	na	na	na
Small A2	14 072	71	6.6	17.29	23.89	92 875	243 305	336 180	1.7	23 922	360 102
Large A2	1 500	600	25.4	25.2	50.7	38 100	37 800	75 900	2	3 000	78 900
Remaining LSCF											
White LSCF	700	871	25.4	25.2	50.7	17 780	17 640	35 420	2	2 754	74 429
Black LSCF	1 440	625	25.4	25.2	50.7	36 576	36 288	72 864	2	2 880	75 744
Corporate Estates	874	1 874	25.4	25.2	50.7	34 173	34 173	68 346	na	na	44 223
Total Jobs						**502 456**	**1 217 725**	**1 720 541**		**3 480 017**	**5 200 558**
Net Jobs						**334 605**	**1 051 055**	**1 386 020**		**529 317**	**1 915 337**

Sources: CSO (2001); Chambati and Moyo (2003); AIAS Field Estimates (2005/6); World Bank (2006)

1. Includes grazing land
2. Includes corporate estates, state and individual farms
3. Aggregate labour is a summation of total wage and family or self employed labour
4. Labour estimates on new farms are based on current land use and production
na – not available