

Full Length Research Paper

Using the sustainable livelihood approach to explore determinants of off-farm diversification by land reform beneficiaries in Sanyati District-Mashonaland West Province-Zimbabwe

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The study explored the socio-economic determinants of off-farm diversification by land reform beneficiaries in Sanyati District, Mashonaland West Province, Zimbabwe. The major aim of the study was to establish the reasons for off-farm diversification by resettled farmers. It established sustainability of resettled farmers' livelihoods and investigated farmers' perceptions of agriculture and land reform policy. Although resettled farmers got access to land, large tracts remain idle, indicating that farmers are engaged in livelihood activities other than farming. A cross sectional research design was employed and the data collection instruments were a questionnaire, focus group discussion, and structured interviews. The study found that land reform beneficiaries were diversifying from agriculture to artisanal gold mining, employment, as well as small business ventures. The research established that the livelihoods of Intensive Resettlement Scheme and Model A1 farmers who did not engage in any form of off-farm activities were not sustainable. The study concluded that off-farm diversification was having a negative impact on agricultural productivity and it recommended that government put in place credit facilities to adequately support farmers for the enduring success of the land reform programme.

Key words: Determinants, land reform, off-farm diversification, Sanyati, sustainable livelihood.

INTRODUCTION

Off-farm diversification refers to a farm household's attempt to reduce its vulnerability by having more than one livelihood activity (Cain et al. 2004). In a diversified household, if one productive activity does not provide enough or fails completely, there are other sources of livelihood that the household can fall back on (Janvry and Sadoulet, 2002). However, a household's capacity to

engage in off-farm activities depends on aspects such as level of education, income, assets, size of household and farm size (Matshe and Young, 2004). The traditional image of farm households particularly the land reform beneficiaries has been that they focus exclusively on farming and do not participate in any other off-farm activities (Hall, 2000). The Zimbabwean Government

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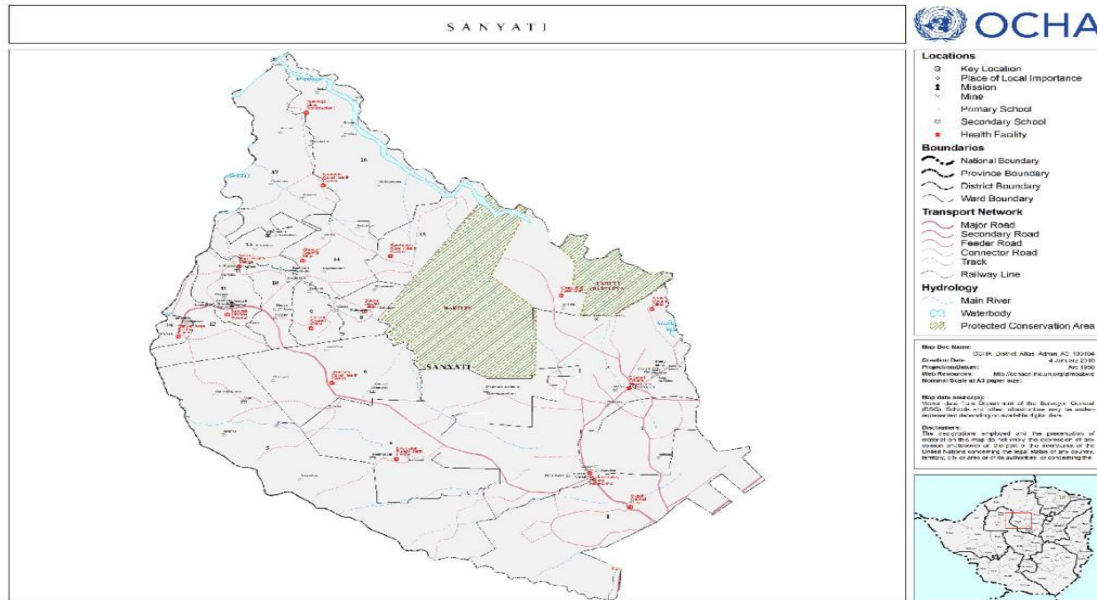


Figure 1. Sanyati district location map.
Source: Wikipedia (2014).

embarked on land reform programmes which comprised the Intensive Resettlement Programme of the eighties and then the Fast Track Land Reform between 1997 and 2004. The objective among others was to economically empower the black majority and so achieve sustainable livelihoods through agriculture (Government of Zimbabwe, 2001). Other objectives were to relieve pressure on the land in the communal areas, encourage better agricultural productivity and thus ensure food security (Government of Zimbabwe, 1981). Through these land reform programmes, resettled farmers got access to land in high potential areas (Rukuni, 2006). However, this land is not being utilised to its maximum potential as evidenced by continued reliance on donor assistance and support and the exportation of grain from neighbouring South Africa, Zambia and Mozambique (Mandizha, 2014). It is on this basis that the research sought to establish the socio-economic determinants of off farm diversification by resettled farmers in Sanyati District with a view to understanding the implications of policy on the livelihoods of resettled farmers in order to encourage maximum utilisation of land resources. The beneficiaries' success in the resettlement areas in terms of agricultural output and livelihood improvement at household level is what this research also seeks to determine. The findings from this study may form a framework to help government in revising the agriculture and land reform policy for the improvement of agricultural productivity and sustainable livelihoods of the land reform beneficiaries. This research will also add on to existing literature on land reform and will provide guidance on land allocations in future land reforms around the world.

MATERIALS AND METHODS

Study area

The study was carried out in Sanyati District whose coordinates are 17°57'00"S, 27°18'27"E and is located in Mashonaland West Province (ZNSA, 2013). It spans over 4 832.98 square kilometres, has 18 administrative wards and has a total population of 112 897 (Central Statistics Office (CSO), 2012) as well as a population density of 23.4inh./km² (ZNSA, 2013). It has a humid subtropical climate. The area is in natural region III of Zimbabwe's agro ecological zone. It receives moderate mean annual rainfall ranging between 600-700mm per year. The rainy season is between November and March. Temperatures range between 28 and 32°C and may experience some severe dry spells and a relatively short growing season. The vegetation is predominantly mopani woodland and the main crops grown in the area are mostly cotton, maize, soya beans, groundnuts and sunflower. The district is predominantly a cotton producing area although the production of small grains such as sorghum, millet and rapoko, though not so popular is currently being encouraged by the government. The area is also very rich in gold deposits and the area is characterised by small scale/ artisanal gold mining. Below is a map showing the geographical location of the area under study (Figure 1).

Research design

Considering that data collection involved more than one group, the study employed the cross sectional design. The groups were Intensive Resettlement farmers, Model A1 and Model A2 farmers. This design was employed because it was easier to manage its economy. Triangulation where both qualitative and quantitative approaches are used, offered the prospect of enhanced confidence in the findings. It also captured a more complete, holistic, and contextual portrayal of the three resettlement models. A qualitative approach was relevant to the research as it sought to answer questions by examining various socio political and economic

settings and the individuals who inhabit those settings. The research attempted to understand human behaviour and institutions by getting to know people's values emotions and beliefs. Quantitative data derived from interviews and questionnaires explored the relationship between off-farm activities and land reform.

Target population

The target population consisted of 280 farms in Sanyati District of Mashonaland West that were acquired for resettlement purposes with close to 4000 land reform beneficiaries. There are about 600 Model A2 farmers, 1800 A1 Model farmers and slightly more than 1200 people resettled under the Intensive Resettlement scheme. The strata consisted of Intensive Resettlement farmers, Model A1 and Model A2 farmers in the small and medium scale category for ease of comparison.

Sample and sampling method

Considering that the target population was not homogenous, stratified random sampling was used. Three strata were identified and these comprised the Intensive Resettlement Scheme, Model A1 and Model A2 farmers in the small and medium scale category. 24 farms were purposively selected on the basis of accessibility as follows: 4 Model A2 farms, 8 Intensive Resettlement farms and 12 Model A1 farms as proportionate allocation. Stratified random sampling was adopted in selecting participant households where 5 land reform beneficiaries were randomly selected from each farm. Only small (1-15 ha) and medium scale (15-90 ha) Model A2 farms were used in the study for ease of comparison with the other resettlement models. The primary research instruments used were personal interviews, focus group discussions, questionnaires, as well as the researcher's general observation. Questionnaires were distributed to some farmers whilst personal interviews were conducted with other farmers and AGRITEX officials, as they gave the researcher the freedom to explore reasons and motives.

Data collection

The primary research instruments used were personal interviews, focus group discussions, questionnaires, as well as the researcher's general observation. Questionnaires were distributed to Intensive Resettlement and Model A1 farmers whilst personal interviews were conducted with A2 farmers. A focus group discussion with the AGRITEX officials also formed part of the data collection methods.

Data analysis

The study analysed quantitative data using Excel because the researcher is familiar with it and it is user friendly; it was suitable for the data to be analysed. Data were presented in the form of tables, graphs and charts.

RESULTS AND DISCUSSION

Determinants of off-farm diversification

A focus group discussion with 20 AGRITEX personnel provided a variety of findings. The focus group

discussion revealed that land reform beneficiaries were diversifying to other livelihoods activities besides farming. The most common activities engaged in were artisanal mining, formal and informal employment, small businesses ventures such as selling firewood, buying and selling second hand clothes, brick moulding and hunting (those living close to Hartley Safari). Mubvami (2004) notes that economic activities by land reform beneficiaries that are not necessarily agricultural but land based have a negative effect on the environment through loss of vegetation cover. Wood harvesting has become rampant in areas close to urban areas and Kadoma has been affected by this trend.

It was also established that there were several causes for off-farm diversification chief among these being erratic rainfall that is characterised by delayed onset of the rainy season as well as its uneven distribution in the district. Very high temperatures ranging between 28 to 32°C are experienced in the district between August and December (Feresu, 2010). One participant noted that this has also affected pastures. It was noted by the AGRITEX officials that *'even some wild plant species, particularly those that are palatable to livestock are being affected by the high temperatures'* (Participant 2, 31 July 2015). This is consistent with Manyeruke et al. (2013) who noted that livestock in Sanyati is at risk due to deteriorating pasture conditions.

Low producer prices were cited as another cause for off-farm diversification during the focus group discussion. Low producer prices for cotton and maize offered by private buyers have rendered the agriculture sector in the district non-viable, particularly considering that the district is predominantly a cotton producing area. Non-payment and delayed payment of maize delivered to the Grain Marketing Board has had a serious effect on the farmers' ability to timeously engage in farming activities with disastrous consequences on yield as a result. The prices offered by private buyers who pay cash for maize were not sustainable for agricultural production. The prices range between US\$120 and US\$180 dollars per tonne for maize compared to the US\$325 dollars (CFU, 2010) offered by GMB. The same applies to cotton where the low prices of cotton ranging from US\$0.35 to US\$0.46 per kilogramme has since triggered a decline in land area put under cotton as farmers opt for better paying commodities.

In addition, some AGRITEX demonstration officers were of the view that land reform beneficiaries were diversifying; they are on the land for speculative reasons. The underutilisation of land then led Moyo (2011) to suggest that under and unutilised land be taxed and incentives be created to bring this land forth for expropriation. Matondi and Dekker (2011) note that others continue to hang onto the land hoping they will get it right in future.

The AGRITEX officials added that some Intensive Resettlement Scheme and Model A1 farmers had

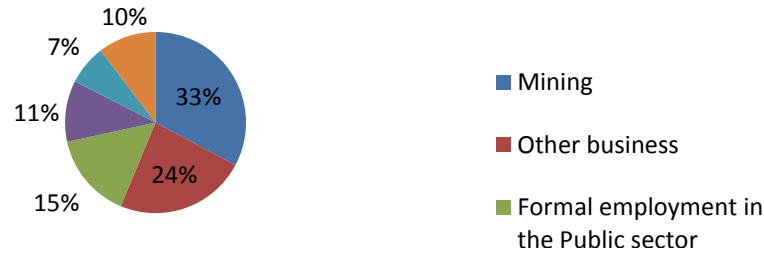


Figure 2. Off farm activities of intensive resettlement farmers.
Source: Researcher’s Data.

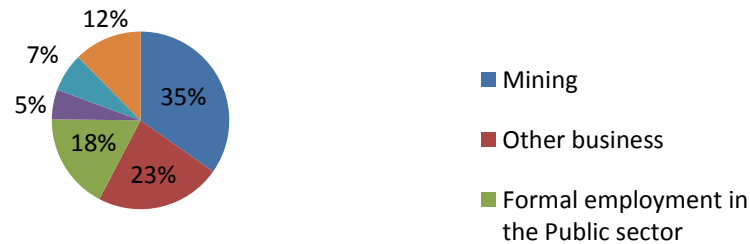


Figure 3. Off farm activities of Model A1.
Source: Researcher’s Data.



Figure 4. Off farm activities of Model A2 farmers.
Source: Researcher’s Data.

developed a dependency syndrome where they expected hand-outs in the form of inputs as well as relief aid. As a result, they were not putting much effort in farming. In 2013 the Government of Zimbabwe launched the National Food and Nutrition Security Policy to ensure adequate food and nutrition security for all people at all times. The initial activities included maize distribution to address shortages (United Nations Zimbabwe, 2013).

From the questionnaire the study established that of the land reform beneficiaries sampled across all models, more than 30% are engaged in artisanal gold mining activities. Mining is the most common off-farm activity. About 24% of Intensive Resettlement scheme farmers, 23% of Model A1 and 29% Model A2 farmers are engaged in other business ventures. The businesses ventured into mostly are clothing and grocery retail, grinding mills as well as transport (pirate taxis). The study found that 33% of the Intensive Resettlement Scheme farmers are engaged in mining activities. The other 24%

concentrate on various business ventures whilst 15% are formally employed in the public sector. About 11% are employed in the private sector ranging from white collar jobs in the nearby towns to blue collar jobs on other farms. Approximately 10% sell firewood whilst 7% are engaged in brick moulding. Figure 2 shows the off-farm activities of the sampled Intensive Resettlement Scheme beneficiaries.

Figure 3 is a pie chart illustrating off-farm activities by Model A1 farmers. The study found that 35% of sampled Model A1 farmers are engaged in mining activities, whilst 23% business people of various disciplines and 18% in the public sector. About 12% sell firewood, 7% are brick moulders and only 5% are in the private sector. Figure 4 is a pie chart showing the off-farm activities of Model A2 farmers in the small and medium scale category. Small and medium scale Model A2 farmers engage in mining activities more than the other farmers in the other resettlement models. This is probably due to the fact that

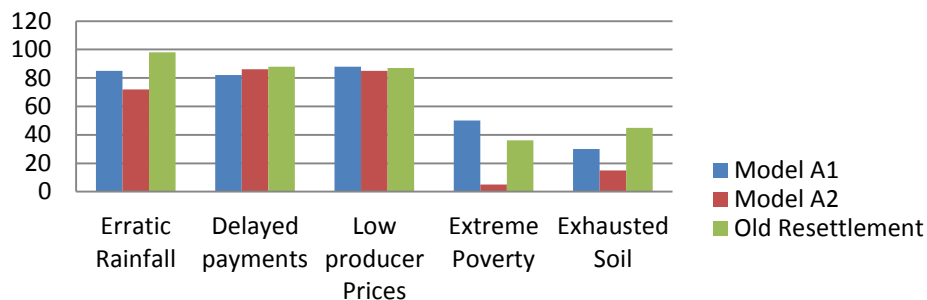


Figure 5. Land reform beneficiaries reasons for off-farm diversification. Source: Field data, (July, 2015).

they have more land on which to peg gold claims. In addition, 29 percent have other businesses that are not related to agriculture and 28% are formally employed in the public sector. Only 6% of the sampled beneficiaries are employed in the private sector. A similar study by Scoones et al. (2010), in Masvingo Province in 2007 revealed that half of the land reform beneficiaries were from communal areas, a third were civil servants and the remaining sixth was made up of business people and former farm workers. This is almost consistent with this research finding where almost 30% of Model A2 farmers are in formal employment.

Findings from the questionnaire as well as interviews with the sampled land reform beneficiaries provided similar results from the outcome of the focus group discussion. More than 80% of Model A1, Model A2 and Intensive Resettlement Scheme farmers highlighted low producer prices as well as delayed payments for maize deliveries to the Grain Marketing Board (GMB). The non-viability of the agriculture sector as a result, has led to the farmers engaging in other economic activities. The depressed producer price for cotton pegged at USD\$0.30 per kilogram has had a negative impact on the economic situation of farmers in Sanyati District. This is primarily because Sanyati is predominantly a cotton producing area. The soil type, temperatures and rainfall experienced in the area are not ideal for other cash crops such as tobacco. Maize, groundnuts and soya beans are mostly grown at a subsistence level by Model A1 and Intensive Resettlement Scheme beneficiaries. Those that sold their produce to the GMB, although the prices were reasonable, have been disappointed as they have not been paid within reasonable time. Figure 5 is a graph illustrating the determinants of off-farm diversification by land reform beneficiaries from the findings of the questionnaire.

More than 80% of Model A1 and Intensive Resettlement Scheme farmers cited erratic rainfall as a reason for diversification. *'There are no irrigation facilities on most A1 farms and where they exist, they are not functional as infrastructure has been vandalised. We do not have the financial muscle to resuscitate the equipment'* (Respondent

11, 31 July 2015). Gonese et al. (2002) noted government's capacity to assist the newly settled farmers with necessary infrastructure and social services as a serious challenge. About 48% of Model A2 farmers cited erratic rain fall and another 42% cited security of tenure as a reason for diversification. Of all the Intensive Resettlement Scheme and Model A1 farmers, security of tenure was not an issue.

Extreme poverty was cited by more than 40% of A1 farmers as a reason for off-farm diversification. They acknowledged that although land had been availed to them, they did not have sufficient means to work the land. According to ZNSA (2013) 76% of rural households are poor. The absence of draught power and finance for inputs was forcing them to look for employment elsewhere, engage in other forms of economic activity such as artisanal gold mining, selling firewood and hunting. However the proceeds from these activities were not sufficient to lift them from poverty, as they were living hand to mouth. Kang'ethe and Serima (2014) note that resettled small scale farmers have remained poor despite perhaps affording to get food for consumption due to low capacities to drive farming. Matondi and Dekker (2011) concur that on average cattle wealth has halved over the past decade resulting in a profound increase in the number of poor among newly resettled farmers.

From interviews with the farmers as well as observation, close to 60% of sampled Model A1 farmers expressed contentment. *"The move to new plots has made a significant difference to our social lives because we used to be very crowded and the soils back in the communal areas were exhausted"* (Respondent 13, 2015). Homesteads comprising of reasonable dwellings of 4 roomed brick houses, blair toilets, sheds and livestock comprising cattle, goats, free range chickens, guinea fowl and pigeons were observed for the majority of Model A1 and Intensive Resettlement Scheme farmers. However there was concern that most of the farmers were selling off their assets in order to meet their basic financial needs. *"The harsh economic environment is forcing us to sell our livestock to pay for children's school fees and other basic needs."* Respondent 27, July 2015.

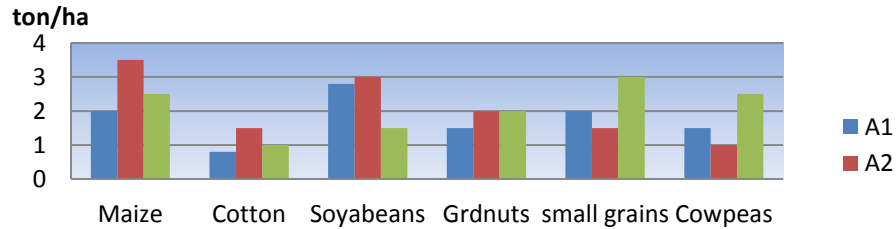


Figure 6. Crop Production by Land Reform Beneficiaries (2014-2015 season).
Source: Field data, (July, 2015).

Impact of off-farm activities on agriculture production in Sanyati District

Another outcome of the focus group discussion with AGRITEX officials was that generally Sanyati District's agricultural productivity has declined over the past few years. However this decline varied according to crop and area within the district. After the FTLRP most small holder farmers shifted from producing traditional crops such as maize to more drought resistant crops (Ministry of Economic Affairs, 2014). According to AGRITEX (2014), maize has declined from an average of 1.5 tonnes per hectare to 0.7 tonnes per hectare over the past two years. Furthermore cotton has declined from an average output of 0.7 to 0.4 tonnes per hectare. The production of small grains has also declined from 1.5 to 0.9 tonnes per hectare. However there was a slight increase in maize production from 1 to 2.2 tonnes per hectare of maize in wards 4, 5 and 6 due to conservation agriculture practices as well as early planting done by farmers in those areas. From interviews with the land reform beneficiaries (Figure 6), the study found that the main crops grown in Sanyati District are maize, cotton, soya beans, groundnuts, cowpeas and small grains such as rapoko, sorghum and millet. Maize output averaged 1.5 tonnes/ha for Model A1 farmers, 2.5 tonnes per ha for Intensive Resettlement farmers and 3.5 tonnes per ha for Model A2 farmers. These findings vary from the statistics that the AGRITEX officials provided.

This is probably because the respondents inflated their yield per hectare in order not to present a bad impression. Output was lowest for Model A1 farmers since they do not practice conservation farming which requires minimum inputs yet very labour intensive. In addition the limited financial resources to purchase adequate inputs were cited as another reason for low yields.

"It is not feasible to practice conservation agriculture due to its nature which is labour intensive. Labour in this area is very expensive and there is no way to practice it on 6 ha. What we need are inputs to be productive." Respondent 41 (5 August, 2015)

Most Intensive Resettlement Scheme farmers practice

conservation agriculture, hence their yields are better. This is consistent with the outcome of the focus group discussion where maize output had increased in wards 4, 5 and 6. Kinsey (2004) noted that there had been negative evaluations both within and outside government that the intensive resettlement programme had failed to have a positive impact on agricultural productivity and rural income. However results of the study indicate otherwise.

Model A2 farmers have the best yields due to mechanisation as well resources for inputs. Most Model A2 farmers noted that output would be better if water was adequate.

"The only solution to the rainfall issue is to plant early or invest in irrigation infrastructure." Respondent 56, (6 August 2015).

Soya beans are the next most popular crop grown in the district. Output is highest among the Model A2 farmers with an average yield of 3 tonnes per ha, Model A1 farmers' average yield is 2.8 tonnes per ha and Intensive Resettlement farmers' average output is 1.5 tonnes per hectare. Soya beans has become a better alternative to cotton and Model A1 farmers are eager to grow it as it can perform with little or no fertilizer. The low yield from the Intensive Resettlement Scheme farmers is probably due to technical expertise of growing the crop.

The research showed that output from small grains was 2 tonnes per ha for Intensive Resettlement Scheme farmers, 2.7 tonnes per ha for Model A2 farmers and 2 tonnes per ha for Model A1 farmers. Model A1 and Model A2 mostly grow sorghum which has a commercial market, whereas millet and rapoko are grown by the Intensive Resettlement Scheme farmers to ensure food security in the event of drought.

Ground nuts and cowpeas are grown on a very small scale by all land reform beneficiaries although output is highest among the Intensive Resettlement Scheme and Model A2 farmers. The few farmers who continue to grow cotton yield between 1 and 1.5 tonnes per ha. This is because farmers who grow the crop usually do so under contract farming, therefore all the necessary inputs comparing various crop production output among land reform beneficiaries for the 2014 -2015 season. Figure 7

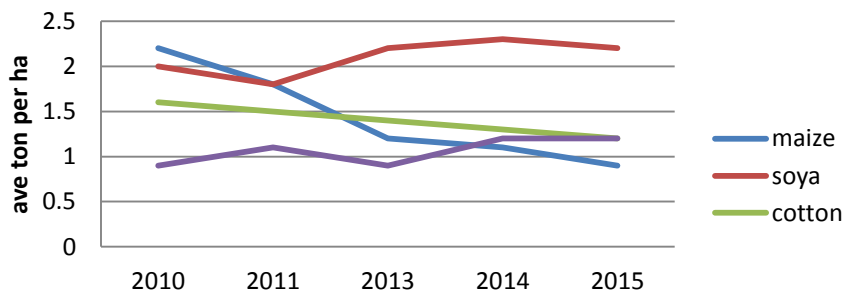


Figure 7. Trend of Crop Productivity 2010- 2015 in Sanyati District
Source: AGRITEX Sanyati District.

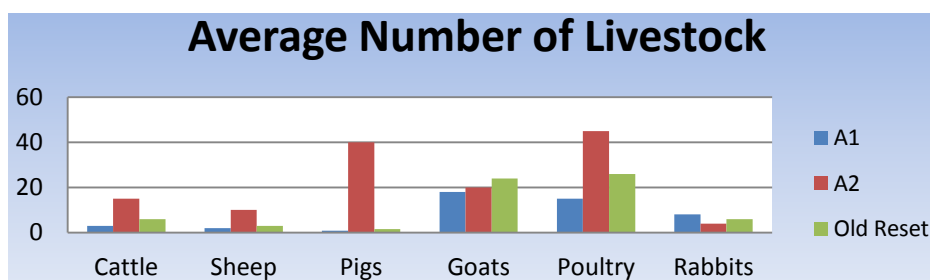


Figure 8. Average number of livestock per household.
Source: Researcher's data.

is another graph showing the trend in crop productivity for Sanyati District. Findings from the study show that off-farm activities have had both positive and negative impacts on agriculture production for Model A2, Model A1 and Intensive Resettlement Scheme farmers. This has also influenced the trend in crop productivity over the past 5 years in the district as illustrated in Figure 7. Maize and cotton production have been on the decline since 2010. Small grain production has fluctuated slightly over the years whereas soya beans declined in 2011 though it has begun to increase gradually since.

Interviews with the land reform beneficiaries revealed that formal employment in the public sector has presented opportunities to source agriculture inputs such as fertilizers and seed from various institutions. Formal employment in the private sector has enabled some farmers to access loans from their employers, which they have invested in agriculture inputs. *“I am privileged that my employer has a lending facility which I have used to get a loan and I have invested the money in my farming operations, of cause I could have bought a car, sofas or anything else.”* (Respondent 48 August 2015). Some have been able to save money from their monthly earnings and bonuses in order to purchase agriculture inputs. The profits from other business ventures have also been invested in agriculture and farm development. Others have gotten into contract farming. Kang’ethe and Serima (2014) note that through contract farming small

scale farmers were given the opportunity to overcome barriers of entry into crop and animal specific sectors.

Those that have successfully engaged in mining have bought livestock and improved their homes, hence presenting a better outlook. From the questionnaire, there is an average of 15 cattle per Model A2 household, 6 cattle per intensive resettlement household and 3 cattle per Model A1 household. Almost every household that responded have more than 10 poultry, and at least 2 goats. Figure 8 shows a bar graph illustrating the average numbers of livestock of the land reform beneficiaries across all resettlement models.

However, off-farm activities have also cost agriculture production in a number of ways. First, farming is a full time business and requires a lot of attention if maximum results are to be expected. Off-farm activities are consuming much of the farmers’ time. ‘Cell phone farming’ where beneficiaries are not hands on in farm activities, is common practice and this is affecting productivity negatively. Also, considering that off-farm activities are taking a lot of farmer’s time, they are not able to timeously engage in land preparation, planting, weeding, pest control and even harvesting which also affects the overall yield.

The study also noted that farmers who are engaged in off-farm activities such as selling firewood, buying and selling Chinese products, brick moulding and hunting and yet not making sufficient to invest in agriculture are

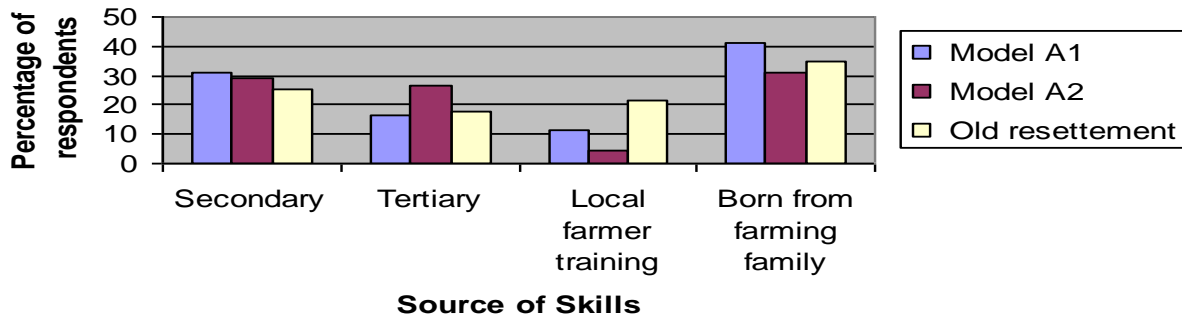


Figure 9. Land reform beneficiaries agriculture knowledge and skills.
Source: Research data.

responsible for the low averages yields recorded. One such farmer pointed out that “*there is need for more government intervention to capacitate us in order that we may be productive on the land so that we do not spend a lot of time doing other livelihood activities*” (Respondent 33 August 2015). Such households, from observation, have little if anything produced and so the cycle of poverty continues.

Sustainability of land reform beneficiaries livelihoods

A livelihood is described as sustainable when it can cope with and recover from stress and shocks maintain and enhance its capabilities and assets and provide sustainable livelihood opportunities for the next generation (Cousins and Scoones, 2010). The research explored the land reform beneficiaries’ livelihood assets at household level in Sanyati District. The assets which comprise of human, social, natural, physical and financial assets were compared to desired livelihood outcomes against the vulnerabilities in order to gauge the sustainability of the farmers’ livelihoods. Findings from the exploration of assets are outlined below.

Cross tabulations done on the different land reform models according to agriculture knowledge and skills, extent of land utilisation and size of households showed different results for the different models. Of the land reform beneficiaries who responded to the questionnaire, 41.2% of Model A1 farmers attributed their farming knowledge to what they learnt from being raised in a farming set up in the communal areas. About 31.2% of the A1 farmers acknowledged secondary school agriculture as their source of skills, whereas 16.4% had tertiary training at either, Mlezu, Gwebi or Chibero Agriculture Training Colleges. Only 11.2% had local farmer training and acquired Master Farmer certificates among the Model A1 farmers. Figure 9 shows a bar graph showing land reform beneficiaries’ agriculture knowledge and skills.

Of the Model A2 farmers who responded to the questionnaire, 31.2% attributed their farming knowledge

to being raised in a farming family. About 28.8% took agriculture as a subject at secondary school and only 4.48% attributed their farming skills to local farmer training. On the other hand, of the farmers from the Intensive Resettlement Scheme, 21% had Master Farmer certificates, 25.6% did agriculture at secondary school level and 34.8% had farming backgrounds, whereas only 18% had learnt agriculture at tertiary level. From these findings secondary school agriculture has had a very positive impact in equipping individuals with skills that have found relevance in the land reform programme. These findings are further illustrated in the form of bar graphs. These finding are almost consistent with Scoones et al. (2010), who noted that in Masvingo Province, 46% of land reform beneficiaries had Master Farmer certificates and 91% had been to education of form three and above. From the findings, land reform beneficiaries at household level are equipped with human assets in the form of agriculture skills at various levels as well as able bodied family members. Figure 10 shows land utilisation by land reform beneficiaries across all resettlement models also considering the average size of the plots as well as size of household. From the questionnaire the study found that there is an average of 6 people per household for Model A1, 9 people per household for Intensive Resettlement Model and an average of 5 people per Model A2 household. In all the cases there are at least 3 people aged between 13 and 60 years. Model A1 and Intensive Resettlement have the least amount of hired labour and family members are the source of labour, whereas Model A2 has the most frequency of hired labour. This is because Model A2 plots are larger and were designed to be operated commercially and beneficiaries had to apply and prove their capabilities to run the farm before they were allocated. Table 1 summarises the land reform beneficiaries’ household background. Following interviews with the land reform beneficiaries the following livelihood outcomes were noted. The researcher also used observation to compare what was said against what was observed with regard to ascertaining the sustainability of the resettled farmer’s livelihoods.

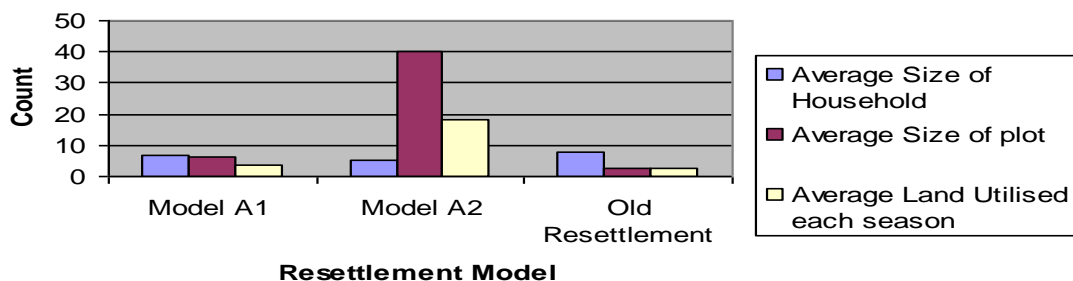


Figure 10. Land utilisation by land reform beneficiaries.
Source: Research data.

Table 1. Summary of land reform beneficiaries' household background.

	Model A1	Model A2	Old resettlement
Average size of household	6	5	9
Average numbers of school going children	3	3	4
Hired labour (most frequent response)	Sometimes	Yes	No
Average size of plot	6 Ha	20 Ha	3 Ha
Percentage land size utilised every year	60%	50%	100%

Source: Field Data, (July, 2015).

Table 2. Coping strategy effectiveness for $\geq 60\%$ of the respondents.

Livelihood Outcomes	Model A1	Model A2	Intensive resettlement
Children's school fees	2	5	4
Food and clothing	4	5	4
Home Improvement	3	4	3
Inputs for next season	2	4	3
Purchase of livestock	3	4	4
Purchase of farm implements	2	3	3
Construction	2	5	4

Source: Field data (July, 2015).

5 - All the time / every year, 4 - Quite often / every other year, 3 - Once in a while / once in 3 years, 2 - Hardly at all / in over 4 years, 1 - Never.

The study shows that Model A2 farmers' livelihoods are the most sustainable as evidenced by the fact that most are able to prepare for the next season unassisted as there is little credit on the market for farming. They are better able to absorb the stress and shocks of erratic rainfall, delayed payment by GMB and depressed producer prices. As a result they are in a better position to diversify from cotton to other crops such as sesame, beef, poultry and pig production as well as horticultural products making them less vulnerable.

Intensive Resettlement farmers and Model A1 farmers have failed the sustainability test. They have human assets in the form of labour and agriculture skills that are complemented by AGRITEX extension services. Additionally social networks in the form of village administration and leadership and natural assets in the form of the land, wildlife, water, gold and biodiversity,

they are strongly lacking the physical assets such as good roads, irrigation infrastructure and electricity. Financial assets are also inadequate as there is no credit available from banks or any other institution. Findings from the questionnaire and interviews with the farmers revealed that 80% of Model A1 and Intensive Resettlement Scheme beneficiaries are barely able to afford sending their children to school. They cannot adequately set aside resources for the next season and most rely on government support, which is barely able to produce meaningful yields (10 kg seed, 50 kg Compound D and 50 kg Ammonium Nitrate). The off-farm activities they engage in provide income to only to ensure the next meal. Their vulnerability contexts are very high and are not sufficiently able to absorb the stress and shocks mentioned in the first section. Table 2 compares the livelihood outcomes of the land reform beneficiaries

against coping strategy effectiveness.

Land reform beneficiaries' perceptions

Of the land reform beneficiaries who responded to the questionnaire and those interviewed across all the resettlement models, 100% were in support of the land reform programme. About 90% of Model A1 farmers responded that they were now better off than they were in their former settings. Just 6% said their lives had not changed much, whereas 4% remarked that they were worse off for various reasons. This is consistent with (Moyo, 2011) who noted that land redistribution also brought along increased access to and better distribution of the benefits from natural resources such as water, indigenous forests and wildlife, as well as other social advantages realised from such resources. Some individuals gained more direct access to these resources than others.

Of the Intensive Resettlement Scheme farmers who were sampled, 100% said that they are better off than they were in the communal areas and issues related to poverty and food insecurity are a result of one not working hard enough since the major resource which is land had been availed. Commenting on the issue of failing to pay school fees for their children, failing to improve their homes and farms and diversifying to other income generating ventures, a beneficiary responded as follows:

"The economic challenges that Intensive Resettlement Scheme farmers are facing are not a permanent situation. We have done well in the past during the eighties and late nineties. We could afford to send our children to boarding schools through cotton farming. If God is gracious and gives us rain we will farm other crops since cotton has let us down." (Respondent 78, 23 July 2015).

Of the Model A2 farmers sampled 100% were of the view that the land reform programme had adequately dealt with the issue of poverty and food security at household level.

"Income from farming was better than that from formal employment, regardless of the harsh economic environment we are operating in. Agriculture returns could be better with the availability of affordable credit for the purchase of inputs and farm equipment." (Respondent 56, 25 July 2015).

However, almost half of the Model A2 farmers who were interviewed expressed concern on the issue of security of tenure. They cited clause no.7 of the Model A2 offer letter. It states that:

The Minister reserves the right to withdraw or change this offer if he deems it necessary or if you are found in breach of any of the set conditions. In the event of a withdrawal or change of this offer, no compensation arising from this offer shall be claimable or payable whatsoever. A study by Matondi and Dekker (2011) in Mazowe (Zimbabwe) found that due to tenure insecurity, newly settled farmers were less willing to invest in conserving their natural resources

AGRITEX personnel's perceptions

During the focus group discussion with AGRITEX personnel, it emerged that the policy on land reform has improved the livelihoods of most its beneficiaries although there are some who appear not to be serious about farming. They cited issues of productivity among Model A1 farmers.

"There are quite a number of Model A1 and A2 farmers who appear to be holding on to land for speculative reasons since their plots have been lying fallow for a number of years now". (Respondent 5, 31 July 2015).

Matondi and Dekker (2011) note that new settlers were juggling their livelihoods through hanging on to land and pretending to use it.

Another respondent noted that:

"Some Model A1 farmers are not eager to participate in demonstration exercises conducted by the AGRITEX officers. It is mostly the elderly who attend training and demonstrations among Model A1 beneficiaries as the youth are not interested". Respondent 9, (31 July 2015)

Some AGRITEX officials were of the view that the policy on land reform was not being effective in alleviating poverty among all the land reform beneficiaries although there are some who are doing quite well in the new settings.

"The absence of affordable credit to invest in farming is the major drawback for most land reform beneficiaries. Engaging in other income generating ventures such as mining, selling firewood, was generating income enough to only meet the basic needs." (Respondent 18, 31 July 2015).

There was general consensus that the land reform programmes were not being totally effective at economically empowering people since more than 50% of the Model A1 and Intensive Resettlement Scheme beneficiaries were facing serious economic hardships. The absence of affordable credit for agriculture and other supporting facilities have been the draw back for the success of the policy.

Conclusions

Off-farm activities are an important factor in household economies and food security as they affect the performance of agriculture (Asmah, 2011). A number of conclusions were arrived at: First the study concluded that depressed producer prices of cotton and the low prices offered for maize by private buyers were the some of the reasons for off-farm diversification. In addition, delayed payment of maize deliveries to the Grain Marketing Board, the harsh economic environment coupled with the absence of affordable credit for farming were other reasons noted. Erratic rainfall pattern characterised by long dry spells, due to climate change and variability was another reason that Intensive Resettlement Scheme, Model A1 and Model A2 land reform beneficiaries in Sanyati District were engaged in off-farm activities. The most common off-farm activities were gold mining and small business ventures unrelated to farming as well as formal and informal employment in Kadoma. Artisanal gold mining was the most popular off-farm activity among most the land reform beneficiaries, because it was perceived to be more viable than farming. From the research data and findings, the study concluded that overall off-farm activities have had a negative impact on agricultural productivity, with ripple effects on food security at household level particularly amongst Model A1 and Intensive Resettlement Scheme farmers. It also been observed that off-farm activities have cost agricultural production in terms of time, dedication and commitment. Crop yields per ha among the Model A1 and A2 resettlement models have been on the decline in the district over the past 3 years, with the exception of Intensive Resettlement Scheme model, which registered a slight growth due to conservation farming.

The research further established that of the majority of the Intensive Resettlement Scheme and Model A1 farmers livelihoods were not sustainable when they relied solely on agriculture. This is because they were failing to cope, and recover from the shock and stresses of the difficult economic environment. Most were selling off their assets in order to get by. The off-farm activities they engaged in only generated enough to meet very basic needs. Most Model A2 farmers' livelihoods are sustainable since off-farm activities are a livelihood strategy that was cushioning them from the stresses and shocks of the socio economic and natural environment. From observation, the research concluded that off-farm activities by all resettlement models allowed greater access to income. Increased access to off-farm activities has therefore lead to positive indirect effects on the sustainability of farmer's livelihoods.

Recommendations

Land reform is incomplete unless there is access to land and a set of institutional reforms that would facilitative

agricultural competitiveness of beneficiaries (Adams and Howell, 2001). Based on the findings the study recommends that Government facilitates for offer letters of all resettlement schemes to be used as security or collateral when seeking financial support from banking institutions for investment in farm inputs and infrastructure projects. The repayment intervals should be synchronised with harvesting and marketing and not monthly or otherwise. That way the indigenous Zimbabweans would have been economically empowered through land as a valuable resource.

Given that the study established that most land reform beneficiaries' major issues were related to unavailability of resources to purchase inputs for crop production, the study recommends that Government subsidise the price of fertilizers and seed to make them affordable. The Government usually assists Model A1 and Intensive Resettlement Scheme farmers through the Presidential Input Scheme, the study recommends that adequate inputs to cover at least an acre should be distributed to the benefiting households.

Moreover there are other crops such as sesame (*runinga*), black and white-eyed cowpeas that have a ready export market. These crops are suitable for the climatic and soil conditions in Sanyati and require very little rainfall and inputs. Free-range chicken farming is also becoming very popular. There is need to inform farmers about these and other options accompanied by relevant training so that farmers adapt to the ever-changing climatic conditions and ensure sustainable livelihoods.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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