

EVALUATION OF THE IMPACT OF AGRICULTURAL RECOVERY PROGRAMMES ON COMMUNAL FARMING PRODUCTIVITY IN MUDAVANHU WARD 12 OF MASVINGO DISTRICT

Marambanyika Thomas, Mutekwa Timothy, Matsa Mark, and Mapuranga Johannes

ABSTRACT

Increased climatic variability and socio-economic decline due to instability on the political landscape prompted acute food supply shortages in communal Zimbabwe, particularly at the turn of the 21st century. Agricultural recovery programs, though not new in the country, were implemented by central government and Non-Governmental Organizations, with increased vigor in a bid to capacitate smallholder farmers against food insecurity. The paper focuses on whether implemented agricultural recovery programs by Non-Governmental Organizations have improved agricultural yields in communal areas of the Mudavanhu ward in the Masvingo district of Zimbabwe. Rapid rural appraisal was used for data acquisition. The method allowed the researchers and local communities to share information in relation to the effectiveness of CARE International's capacity building strategies. The major components of implemented agricultural recovery programs were conservation farming techniques, crop packs (seeds and other inputs like fertilizers), and skills development. The results showed that the majority of farmers experienced an improvement in productivity of some selected crops due to increased crop hectareage, inputs application intensity, and conservation farming skills. The program's success was also attributed to its gender inclusive nature. Problems, such as late provision of inputs, farmers' abscondment of training workshops, and labor shortages derailed the program implementation. Given the program's rate of success, there is need to consider implementation of similar projects in the impoverished areas.

Keywords: Agricultural recovery program, farming productivity, communal lands

INTRODUCTION

The food supply situation in Zimbabwe has been deteriorating since the year 2000. This can be attributed to a number of factors, including climate change and its associated unpredictable weather patterns, high HIV/AIDS pandemic prevalence, socio-economic decline, and deepening humanitarian crisis (Rukuni, Tawonezvi, Eicher, Munyuki-Hungwe, and Matondi, 2006). In 2002, the country experienced its largest deficit in food productivity since 1980 as there was a seventy percent shortfall in farm output due to early and abrupt end of rains in February (Mudimu, 2008). The result was that seventy percent of rural population was at risk of famine induced starvation. A joint crop and food supply assessment (CSFAM) survey, conducted by Food and Agricultural Organization and World Food Program in June 2007, estimated that the national cereal production for larger and small grains was 44 percent less than 2006 estimates (Red Cross Report, 2008).

In order to revamp and boost the capacities of smallholder farmers in face of climatic shocks and socio-economic meltdown, the government of Zimbabwe spearheaded various agricultural recovery programs (ARP) since the early 1990s to improve communal agricultural production. These varied from intensified extension services, provision of crop packs, and tillage facilities (Munro, 2003). The programs were meant to help the drought affected smallholder farmers recover from repeated severe droughts and the biting socioeconomic challenges that the country was going through. The schemes were mainly earmarked for the resource poor smallholder communal farmers in the in recipient areas (Foti, Muringai and Maunganidze , 2007; Munro, 2003).

However, ARPs under government auspices, since inception of the fast track land reform, have been embroiled in controversy as distribution of inputs was largely based on political affiliation, rather than the farmers' needs or ability to farm. In an endeavor to expand access to ARP schemes among smallholder farmers, Non-Governmental Organizations (NGOs) are augmenting government efforts to enhance communal food security. Whilst ARPs are known to improve land under crop production, their effectiveness to improve agricultural yields is still shrouded under uncertainty as there is no clear evidence of their positive gains, (Foti, et al., 2007; Munro, 2003). In order to bridge the identified knowledge gap to strengthen food policies formulation, the paper examined the approach implemented under CARE International's ARPs, their capacity building strategies, and impact of ARPs on agricultural yields for selected crops in the Mudavanhu communal lands of the Masvingo district.

METHODS AND MATERIALS

Study area

The Mudavanhu ward is found in the Masvingo communal area, (Fig. 1). It is located about 37 kilometers south of Masvingo town. It has an approximate population of 9,980 people and an average density of 43 people per square kilometer (Central Statistical Office (CSO), 2002). About 512 households are under the CARE International agriculture recovery program.

The ward is located in Zimbabwe's semi-arid agro-ecological region IV that receives an average annual rainfall, ranging from 450 mm to 600 mm. Rainfall distribution is uneven as the bulk is recorded between February and March. Severe dry spells are normally experienced in December and January. The seasonal droughts and mid-rainy season dry spells in the region have become more frequent and intense in recent years, as a result of the current global climate change phenomenon that is slowly setting in. The average annual temperature for the district is about 20 degrees Celsius. Average winter air temperatures can be as low as 10 degrees Celsius, whereas summer temperatures can be, at times higher, than 30 degrees Celsius. The altitude of the district ranges from 450 m to 1,240 m above sea level. Moderately shallow deep grey overlaying clay and patches of moderately reddish brown granular clay soil dominates the area.

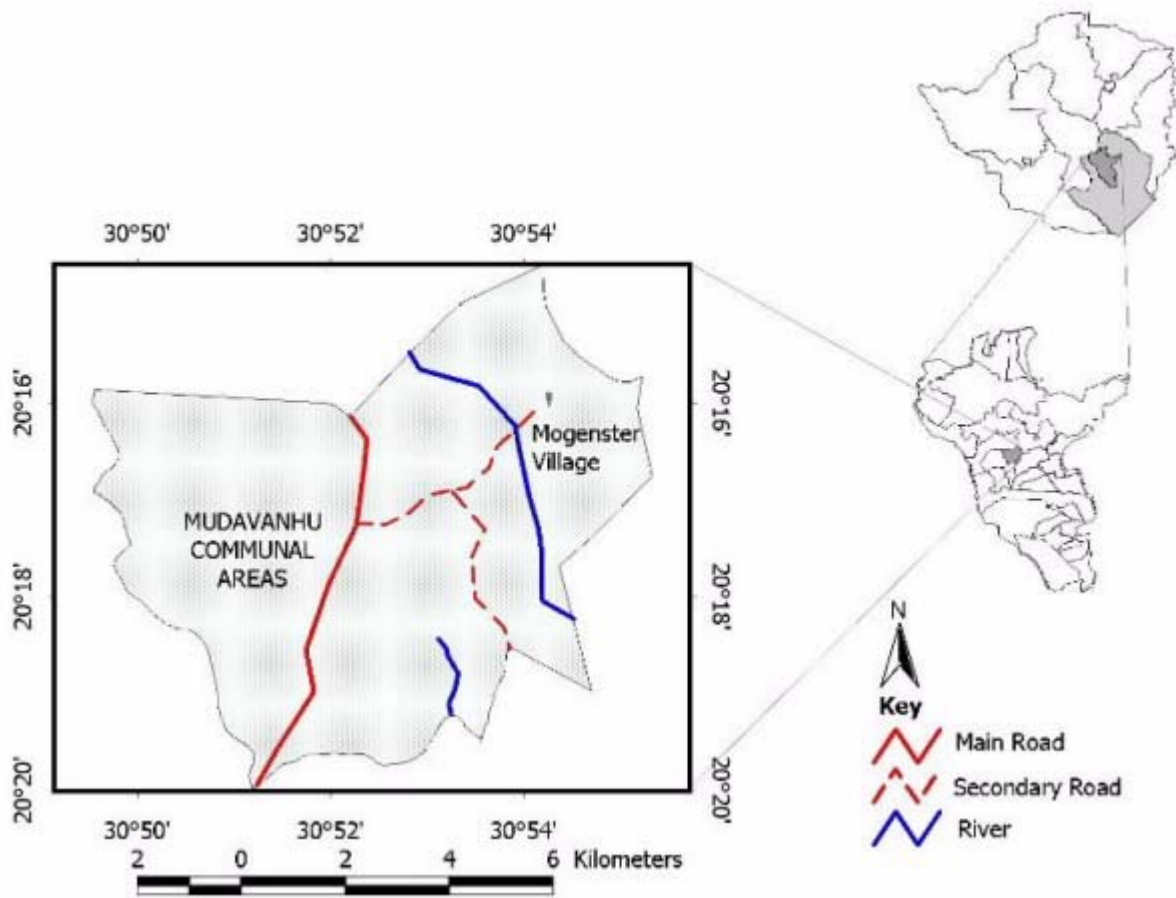


Fig 1: Location of study area (Produced using GIS software)

Methods of data collection

Rapid rural appraisal was used as the cornerstone for information acquisition as it allowed for triangulation, learning from the communities' experiences as well as gathering more detailed information relating to the specific research questions. Semi-structured interviews, direct observations, and questionnaires were chosen instruments for an indepth understanding and analysis of the impact of ARPs on farming productivity. 512 households were beneficiaries to the ARPs. Sixty questionnaires were administered to household heads representing 11,7 percent of 512 beneficiaries. The chosen sample size is slightly above 10% which is believed to be free from errors in classification, more representative of the population and is free from bias and prejudice (Nyariki, 2009). Selection of individual household heads from the field was done using purposive sampling. Semi-structured interviews were carried out with CARE program extension workers and both political and traditional leadership. Direct observations were done to add to and clarify information obtained through semi-structured interviews and questionnaires.

The selected instruments were solicited for information to answer the following research questions: Was there any public consultation in selection of ARP approaches, i.e., crop packs and conservation farming techniques? What skills building approaches are in place to augment smallholders' performance? Who are the beneficiaries of the schemes and criteria used in their selection? What is the impact of the scheme on crop output? What challenges have been met in trying to effectively implement the program?

RESULTS AND DISCUSSION

Demographic characteristics of the respondents

Men constitute fifty-eight percent of beneficiaries' population. Traditionally, men are recognized as heads of families; hence they register and collect farm implements on behalf of their families. Women had a significant proportion of forty-two percent, as they could access inputs on behalf of their absentee husbands, or were widowed, and/or empowered single mothers. Ninety-six percent of the farm holders' age is above twenty-six and, from this section, sixty-five percent are above forty-six years. The reason for age variations was that young people had migrated to urban centers and neighboring countries in search of employment, especially before the formation of the inclusive government in mid-February 2009.

The average household size for the area was six people; comprised of parents, children, and relatives. Observations confirmed that the old people were staying with their grandchildren, who were left behind HIV/AIDS victims. Children provided the much needed labor during land preparation, planting, weeding, and harvesting. Eighty-six percent of the populations reached at least ordinary level. Farm ownership was through inheritance and fragmentation of existing plots. Seventy-seven percent of the farmers joined ARP at the initial implementation stage. Only twenty-three percent joined in successive years, due to ignorance, the 'wait and see' attitude as a result of scepticism concerning the benefits and success of the program, and/or they started staying in the ward following the program implementation. Only twelve percent of the twenty-three late joiners were residing in the area at ARPs' inception.

Activities and plans implemented under agricultural recovery programs

In the Mudavanhu communal area, other than distributing crop packs that were composed of seeds and fertilizers, CARE International added another dimensions of conservation farming practice in order to achieve sustainable agriculture. Conservation farming was the major component of CARE International's ARP. Conservation farming, in this case, included methods, such as construction of tied ridges and infiltration pits as rainwater harvesting technologies, crop rotation, zero tillage, and planting of vertiver nurseries.

Conservation farming allowed farmers to commence land preparation shortly after harvesting. This enabled farmers to do early farming at the onset of the rainy season. Consequently, labor was equitably spread over the years. Conservation farming was done in a manner that the farmers would achieve the five major components of this practice, which included proper land preparation, following of regionally-specific planting standards, controlling weeds, mulching, and rotating crops. Conservation farming was augmented by the skills training workshops and provisions of seed and fertilizer inputs. Consultation with local people was done in selection of plans implemented under this ARP and this enhanced its acceptability and adoption.

Conservation farming

The research revealed that ninety-four percent of the people under the agriculture recovery program practiced conservation farming. Crop rotation was the most embraced technique under conservation farming, due to its less labor intensive nature. Water harvesting technologies, such as tied ridges and infiltration pits, were also adopted such that farmers could efficiently and effectively use water, which was a bit scarce since the area is located in the agro-ecological region IV, where rainfall figures are relatively low. Zero tillage was not favored by most farmers, except a few without adequate draught power, because it was regarded as laborious. Farmers acknowledged that the conservation farming was a very effective tool in increasing agricultural productivity with less sophisticated methods that are not capital intensive (Fig 2). Evidence throughout field observations show that farmers were leaving crop residue as manure for the next farming season. The remaining six percent of households, mainly headed by aged farmers above sixty-five, resorted to traditional methods of farming, which included the use of seeds from previous harvests.

Crop packs

Farm holders get seed and inorganic fertilizer inputs from CARE International as part of their capacity building efforts. Beneficiaries of ARP in Mudavanhu were chosen through a grading system based on the wealth status of households. Poor and vulnerable households were identified as those without livestock, widows, orphans, and/or those without any known source of income. Local and traditional leadership also assisted enumerators with the screening and drawing up of the final list of intended beneficiaries. Poor households, constituting of thirty-nine percent of the total population, were given full benefits of the program. That is, the total package of crop packs consisting of seeds and fertilizers' aid. The remaining population of sixty-one percent chose between inorganic fertilizer and seed, of which thirty-three percent opted for fertilizer and twenty-eight percent received seeds. Inorganic fertilizers were also needed to replenish nutrients in their agricultural soils of poor quality. Farmers who opted for inorganic fertilizer indicated that the commodity was expensive and scarce on the market. Secondly inorganic fertilizer can successfully boost productivity of traditional crops, especially if seeds are selected from previous season' yields. Lastly, there was inadequate organic manure from livestock which used to be the major source fertilizer.

Target crops under agricultural recovery programs

Notwithstanding the fact that the crops grown varied from household to household, all families grew maize, followed by sixty percent of families who grew sweet potatoes. In Zimbabwe, let alone in this rural community, maize is the staple food crop, whilst sweet potatoes act as substitute for bread. Other crops grown include millet, sorghum, groundnuts, and roundnuts. These were chosen because of their high tolerance and adaptability to semi-arid conditions prevailing in the area. Groundnuts were grown for sale and for peanut butter, millet and sorghum for "sadza", as well as for beer brewing.

Impact of scheme on crop productivity

Farmers indicated that there was an improvement in farm output since the implementation of the program. Yields for various crops under the scheme increased significantly (Fig 2). Maize output almost doubled from approximately 120 tons in the 2004 - 2005 season to 203 tons in 2008 - 2009 season, for the whole ward. These output figures translate into an

enhancement of household maize grain yield from 2,3 tons to 3,9 tons over the four year period. Evidence from research showed that tonnage for maize could have more than doubled if all farmers had joined the program at its inception. Sweet potatoes were ranked second in terms of output as illustrated in Figure 2. No value for sweet potatoes output for season 2008 – 2009 was indicated on Figure 2, as research was carried out before commencement of the harvesting period in June. Sorghum output increased from five tons to eighteen tons, whilst millet rose from six tons to fifteen tons per season for the whole ward.

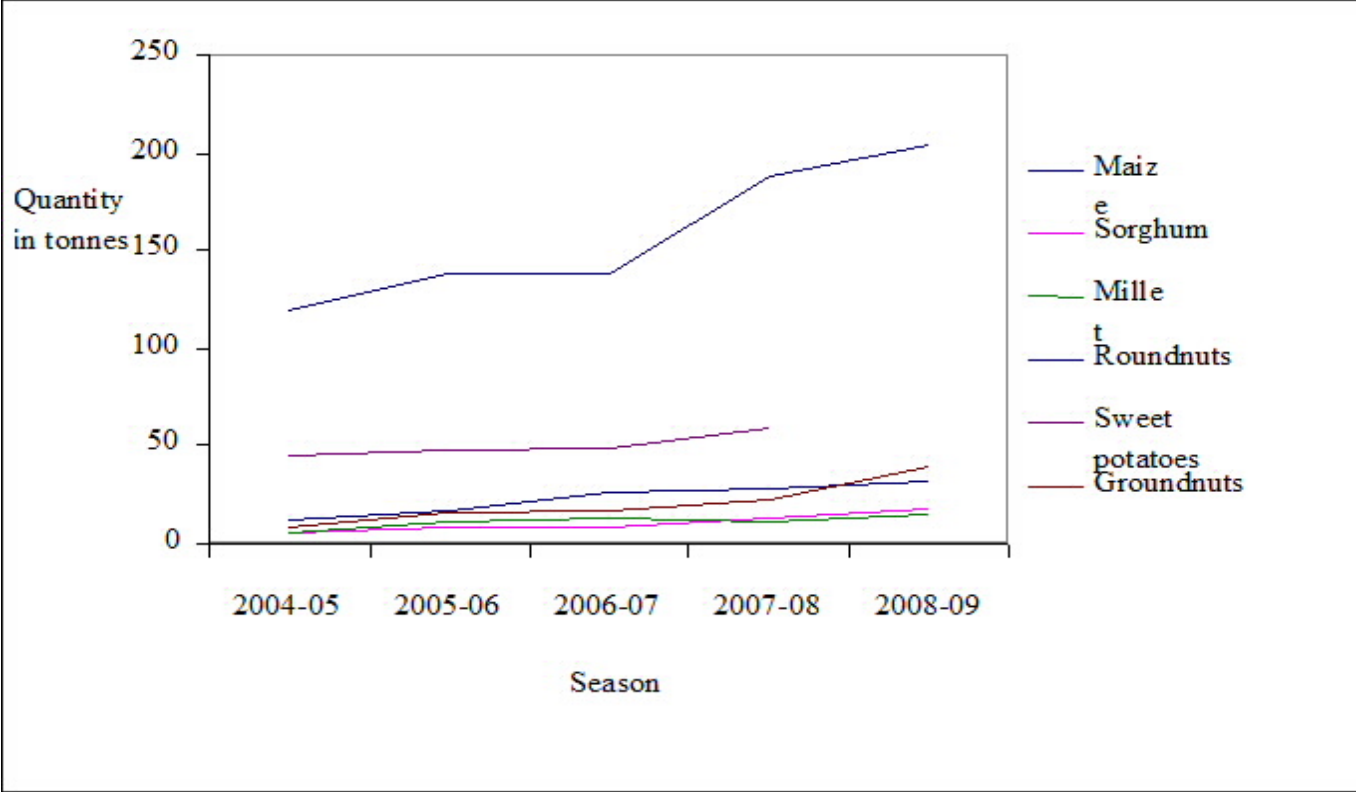


Fig: 2 Average crop output trends from 2004-2009 seasons (Source: Field data)

Crops, such as round nuts, millet, and sorghum, had an overall low output because they were only grown by twenty-two percent of the farmers. Small pieces of land were put under production of small grains and leguminous crops. Slight positive improvements in overall yields were recorded, even under drought conditions, as in the agricultural season of 2006-2007. No farmer has had a negative growth in productivity since the implementation of the program. Good agricultural performance was attributed to the provision of farm inputs, like seeds and fertilizer, and incorporation of conservation farming practices. Provision of crop packs enabled eighty-nine percent of the farmers to increase their land under cultivation. This was achieved through the opening up of new fields or reviving farming on abandoned plots. Usually scarcity of seed before the program led to less land under cultivation and, subsequently, lower yields than expected.

The program's success is also attributed to its gender inclusiveness nature as women were integrated as household heads. Incorporated women included disadvantaged widows, divorced, single mothers, or heads of families with absentee husbands. Lack of gender blindness in the scheme allowed for full participation of women as team leaders and sharing of information among community members without discrimination. Emancipation of women meant that they participated in the scheme with same opportunities as of their male counterparts. Capacitation of women is a noble phenomenon in light of increased feminization of agriculture in the developing countries.

Challenges encountered in the implementation of the ARPs

Farmers indicated that due to the labor intensive nature of conservation farming, labor and draught power shortages were the major stumbling blocks, deterring them from increasing land under production. Late provision of inputs has been inhibiting effective implementation of the agricultural recovery program. This has been attributed to the delayed release of funds to purchase inputs for farmers and capacity building activities by donors. Even if funds were released earlier, sometimes shortage of inputs on the market affects progress. Late distribution of inputs affect farmers' productivity in the sense that, due to the changing climate conditions prevailing in the country, if they plant late after the first rains, it becomes difficult for their crops to get required amounts of water as the raining season is changing drastically. Some of the beneficiaries' sale inputs received from project sponsors derails the project from timely achieving its objectives and targets. Farmers also have a tendency of absconding training workshops aimed at improving their technical skills in proper project implementations. They are mainly concerned about getting farming inputs, hence, only turn up for registration and collection.

CONCLUSION AND RECOMMENDATIONS

Notwithstanding some challenges encountered in the scheme, ARP in the Mudavanhu ward has significantly improved yields for selected crops. A gradual increase in farm output was attributed to provision of crop packs, skills training workshops, and good farming practices accompanying conservation farming. The program's success was attributed to its gender sensitiveness as it included all vulnerable households, irrespective of the sex status of the household head. Emancipation of women enabled them to participate freely in information dissemination without discrimination from their male counterparts. Inclusion of women upheld the spirit of sustainable development concept whereby women were identified as a vulnerable group and their emancipation as a strategy to minimise household food insecurity as well as poverty. Moreover, increase in agricultural output can be seen as a major step towards achieving goal number one of Millennium Development Goals, that is, to eradicate extreme poverty and hunger. However, there is need to intensify the cooperation and support for agricultural extension workers, compile operation guidelines for rehabilitations and farming strategies in local language, and intensive monitoring of inputs in order to minimize counter selling. Lastly, there is need, also, to introduce similar schemes to other impoverished parts of the country, given its rate of success.

REFERENCES

Central Statistical Office. (2002). Masvingo Census Report. Harare: Government Printers.

Foti, R., Muringai, V., & Maunganidze, Z. (2007). Seed aid for food security? Some lessons from Zimbabwe' agricultural recovery program. *Educational Research and Review*, 2(8), 220-224.

Munro, L.T. (2003). Zimbabwe Agricultural recovery programs in the 1990s: An evaluation using household survey data. *Food Policy*, 28(5 – 6), 437 – 458.

Red Cross Report. (2008). Zimbabwe: Food Insecurity Emergence Appeal. Retrieved on Friday, 08 August 2008 from: www.zimonline.co.za.

Rukuni, M., Tawonezvi, C., Eicher, C., Munyuki-Hungwe, M. and Matondi, P. (eds) (2006) Zimbabwe's Agricultural Revolution Revisited. University of Zimbabwe, Harare

Mudimu, G. (2008). Zimbabwe Food Security Issues Paper for Forum for Food Security in Southern Africa. Harare: Department of Agricultural Economics, University of Zimbabwe.

Nyariki, D.M. (2009), Household Data Collection for Socio Economic Research in Agriculture: Approaches and Challenges in Developing Countries. Department of Land Resources Management and Agricultural Technology: University of Nairobi, Kenya.

ABOUT AUTHORS

Thomas Marambanyika, Lecturer, Department of Geography and Environmental Science, Midlands State University, Zimbabwe

Mark Matsa, Lecturer, Department of Geography and Environmental Science, Midlands State University, Zimbabwe

Timothy Mutekwa, Lecturer, Department of Geography and Environmental Science, Midlands State University, Zimbabwe

Johannes Mapuranga, Research Assiatant, Department of Geography and Environmental Science, Midlands State University, Zimbabwe