

# Determinants of participation in rural non-farm economy in Zvimba District, Zimbabwe

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## Abstract

The capacity of agriculture to provide sustainable livelihood opportunities is exceeded by the rural populations of developing countries, and with limited opportunities available in urban centres, the rural non-farm economy (RNFE) becomes pivotal in improving rural livelihoods. Within an empowerment agenda, it is important for policy makers to understand why households enter into the RNFE. We investigated participation in the RNFE of farm worker livelihoods along with the motivation for participation in RNF employment. Moreover, we sought to determine the key barriers and enablers to the adoption of high return strategies in RNFE activities by rural farm workers in Zimbabwe. Quantitative household surveys and qualitative focus group discussions were used to investigate levels of household dependency, education and skills, income accumulation and enterprising, expenditure and household assets. Our results showed that the primary motivation for entry into the RNFE was distress-pushed diversification. Our study found that market dynamics, limited skills, education level, and lack of capital are the paralysing factors towards significant income returns from RNFE for households. This information is critical for policy development for sustainable rural livelihoods, especially for rural farm workers who constitute the most vulnerable of the entire African rural population.

*Keywords:* barriers and enablers, farm workers, agriculture, poverty reduction, sustainable livelihoods, Zimbabwe

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## 1 Introduction

Rural non-farm economy (RNFE) is composed of all non-farm income-earning activities that are a part of the typically diversified rural livelihood. Rural livelihoods can earn income from both farm and non-farm sources (Davis, 2003). Non-farm refers to any activities outside of direct agricultural production, and thus includes also industry, manufacturing and commerce (*ibid.*). In sub-Saharan Africa, the RNFE constitutes as much as 42% of total rural income on average; this is, compared to other parts of the world, second after Eastern Europe with an average of 44% (Reardon *et al.*, 1998). The RNFE has often been associated with increased inequality, due to entry barriers into high return strategies faced by households with limited asset endowments (Scoones *et al.*, 2012). Conversely, the RNFE also buffers impoverished households from further poverty, and this ‘safety-net’ role of the RNFE can be argued to have a (certain) equalising effect (Stifel, 2010). However, there are

inequalities among rural households with regards to access of resources as determined by rural household income, education levels, quality of and access to infrastructure, social capital, opportunities through government policies and access to credit and financing, which are due to pre-existing household affluence levels (Davis & Pearce, 2001; Hossain, 2002; Bezemer & Davis, 2002). Furthermore, household resources tend to be stretched in households with members who are affected by the HIV/AIDS pandemic in Zimbabwe with an HIV/AIDS prevalence rate of 13.3% (MoHCC & NAC, 2018).

While households have the capacity to participate in expanded reproduction, most lack the capacity to sustain capital accumulation. It should, however, be noted that not all RNFE activities can generate incomes that exceed direct returns from farming (Scoones *et al.*, 2012). Thus, such RNFE activities that give back low returns are merely able to keep households from falling beneath the poverty line, and do not necessarily foster economic growth. From an economic perspective, low investment into the RNFE by developing countries is a consequence of farming being the sole prin-

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cial economic activity in rural areas. This is largely due to the absence of an effective method for integrating farming with the other sectors (i.e. industry and services) and factors affecting rural life. It is, however, argued (e.g. Bright *et al.*, 2000) that investment into the RNFE can foster economic growth, due to the multiplier effects that potentially occur in the form of supply-demand dynamics between RNFE and farming, and also through the integration of farming into national and international value chains by shifting value addition to rural areas, thereby improving local incomes in rural areas (Davis, 2003). The RNFE allows rural households to have diversified income streams which help when one economic activity or industry fails. Given that most of Zimbabwe's impoverished people live in rural areas (ZIMSTATS, 2015), this counts as a substantial argument towards investment into the RNFE for economic development. We, therefore, grapple with solving the on-going dilemma; is smallholder production, characterised by informal livelihood activities constituting of a combination of agriculture, employment and off-farm enterprising, a mere survival response with little prospect of escaping the poverty cycle and marginalisation, or can it be a vehicle to sustainable development?

Information on the types of RNFE activities, their operation and associated constraints and opportunities to rural farm workers in Zimbabwe remains tentative. This lack of knowledge on the growth potential of the RNFE, has left it outside the development agenda, as information continues to be inadequate for policy analysis (Hossain, 2002). While studies (e.g. Kamete, 1998; Scoones *et al.*, 2012; Chirisa *et al.*, 2016) have been carried out in Zimbabwe to address the state of livelihoods and coping strategies of rural farm workers post 2002, no studies have yet estimated the contribution of the RNFE to their livelihoods. Although it has been established that the informal RNFE (e.g. Djurfeldt, 2013; Gautam & Faruquee, 2016; Rantšo, 2016), highly diversified livelihoods of rural people have yet to succeed in significantly lifting people from the poverty cycle, more information is necessary to understand the barriers and enablers in the adoption of high return RNFE strategies that is context specific to rural farm workers. Knowing this is critical for policy development for sustainable rural livelihoods, especially for rural farm workers who constitute the most vulnerable of the entire rural population (Sachikonye, 2011). Thus, the purpose of this study was to provide this additional information on the RNFE specific to rural farm workers. We therefore investigated the participation in the RNFE of farm worker livelihoods and what motivates their participation. Furthermore, we sought to determine the key barriers and enablers to the adoption of high return strategies in RNFE activities by rural farm workers in Zimbabwe.

## 2 Materials and methods

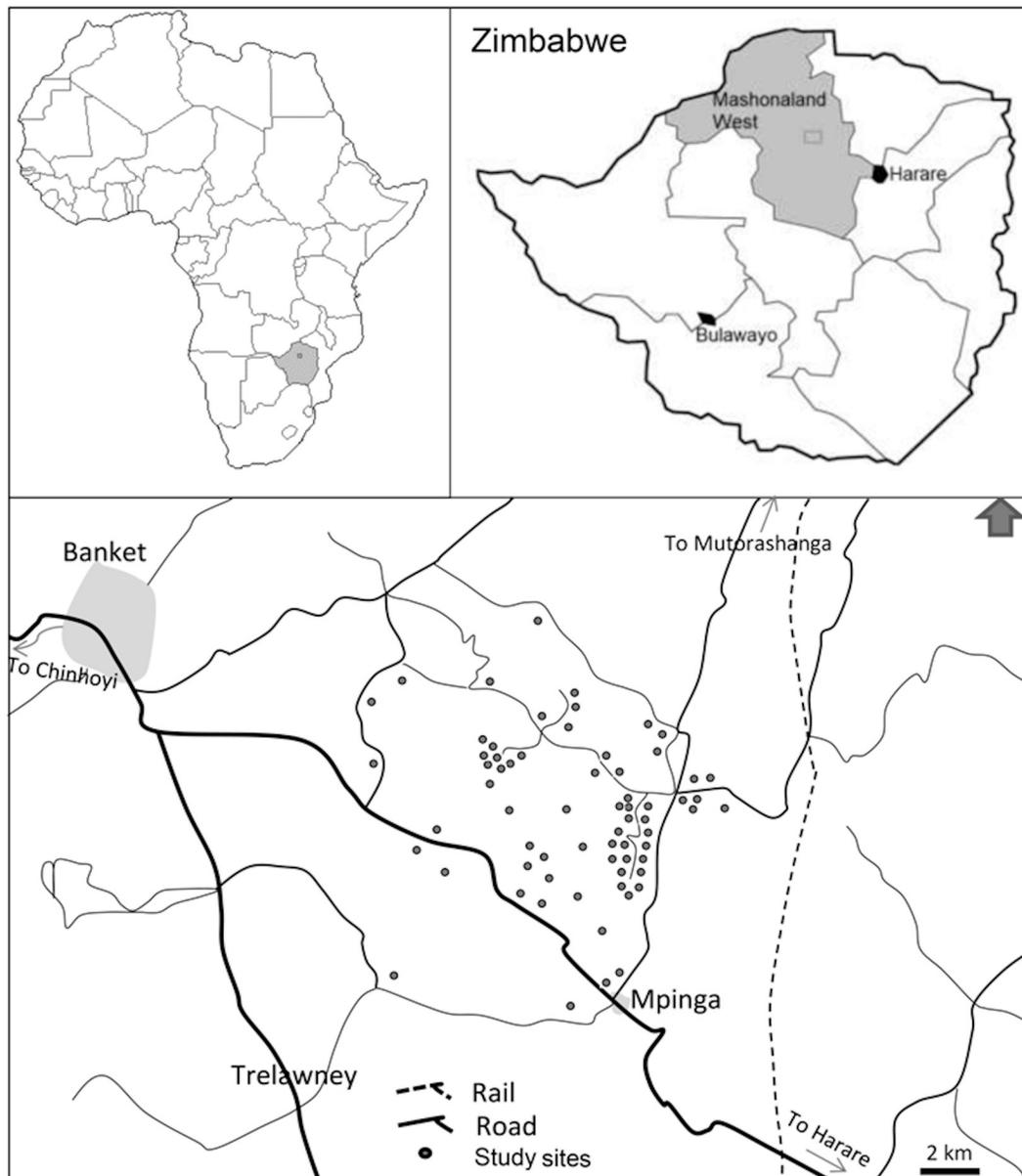
### 2.1 Study area

The study was carried out in December 2015 in Ward 18, Zvimba District, Mashonaland West, Zimbabwe (Fig. 1). This area was selected for its prominence as an agricultural area on the greater periphery of the capital city, Harare. It was also an area where the post-2000 land resettlements occurred. The study area is within the former commercial farm belt near the Banket urban centre. This area has good agricultural land, and is also a chromium mining area next to the Great Dyke. The main crops cultivated in the area include tobacco, maize, wheat and soya beans (Unganai *et al.*, 1998). The farmlands are within an electrified area, although electricity access to farm worker compounds is limited. Economic activities are mostly farming, informal trading in non-timber forest products and working as farm labourer.

Livelihoods here are mostly centred on agriculture to supply and to service the nearest urban centres as well as the mines. The area has, however, not been able to keep up with the demand for employment in the formal sector. There is evidence of a small informal sector that could not keep up with population growth (Kamete, 1998). Zvimba District has a poverty prevalence of 79.8%. Ward 18 has a poverty prevalence of between 80 to 90% (ZIMSTATS, 2015). Post to the land reform of 2000, between 80 to 90% of Mashonaland West farms either stopped or experienced a drastic decline in production, with the highest estimated number of job loss at 18 300, compared to other provinces (Sachikonye, 2002). The job losses were attributed to the downscaling of chromite mining in the region and the expropriation of white-owned commercial farms in the controversial land reform programme that began in 2000.

### 2.2 Sampling

Data was collected using mixed methods approach, and this approach was motivated by the fact that a combination of qualitative and quantitative methods can yield insights that neither method is able to show in isolation (Ellis *et al.*, 2003). We used questionnaires ( $n = 66$ ) and focus group discussions in tandem to collect data for the research. For the questionnaire interviews, random stratified sampling technique was employed as we were sampling households living on farm compounds and we systematically excluded seasonal workers' households. Static Google Earth imagery was used to select clusters of households in the area using pins. The coordinates were then exported to Excel, where a random function selected a total of sixty-six households. Purposive and snowball sampling methods



**Fig. 1:** Location of the study sites “households” within Ward 18, Zvimba District, Mashonaland West Province of Zimbabwe. The grey dot indicate the study sites i.e. each household sampled and the rectangle in the Zimbabwe maps indicate the location of the study area.

were used to select participants for the focus group discussions. Two focus groups were conducted consisting of three and eight people, respectively, with participants being selected based on the following criterion: (i) focus group one; female household head, over 26 years of age and earning an income and (ii) focus group two; male household head, over 26 years of age and earning an income. Participants also needed to be earning an income, as evidence of economic activity, rural farm or non-farm, which was of interest to this study.

The questionnaire was used to gather information on levels of household dependency on formal/informal credit, education and skills, income accumulation and enterprising, expenditure and household assets. We also investigated the health status of households in relation to HIV/AIDS, to determine whether or not it contributed to participation in the RNFE. We assessed intra- and inter-household relationships, including gender in our investigation of social capital. The focus groups were also used to corroborate the information gathered in the questionnaires, and to gain a deeper understanding of income and relational dynamics in a bid to better understand levels of social capital. Approx-

imation of RNFE participation was carried out according to Stifel (2010), using the total number of economically active people between the age of 18 and 64 years employed in income earning activities, and grouping these activities into four groups namely: (i) on-farm wage i.e. labourers engaged to work in the fields, (ii) on-farm non-wage i.e. family members, (iii) off-farm wage i.e. employed by someone else outside agriculture and (iv) off-farm non-wage i.e. earnings from selling non-farm products, employing so as to isolate RNF employment. The income used to construct the income quintiles was inclusive of any money also received in cash as remittances, household agricultural production and net takings from private enterprises. However, as noted by Hossain (2004), these estimates are crude from the last 6–10 months, as they are deduced from answers from respondents who often do not keep records of their transactions.

### 2.3 Data analysis

The qualitative data was thematically analysed using open coding according to Sachikonye *et al.* (2016). It was then raised to the thematic level by grouping into themes as suggested by Davis (2003), Green (2012) and Sachikonye (2011). The quantitative data collected in the questionnaire was analysed using Statistica version 12 (StataCorp, 2011). Multiple regressions were used to analyse the relationships between RNFE variables, and RNFE participation was deduced by taking note of all income-earning activities within the area, both on-farm and non-farm, then tallying adult participation in all activities. Participation in non-farm activities was then taken as a proportion of the total participation in all activities i.e. the share of proportion of income. The data was divided into five income per month quintiles: quintile 1 contained those earning > USD150, quintile 2 earning between USD 90–150, quintile 3 earning between USD 70–89, quintile 4 between USD 50–69 and quintile 5 earning < USD 50 per month. We also used Chi-square tests ( $p < 0.05$ ) to establish any significant differences in the data. Additionally, we used correlations to investigate any significant relationships of selected variables (e.g. age, education years, gender, marital status) to income.

## 3 Results

There were a total of forty-five male-headed households and twenty-one female-headed households. All household heads were employed on-farms. The average household size was  $2.5 \pm 1.4$  members (Table 1). The average household head's years of formal schooling was found to be greater on average for female-household heads ( $9.1 \pm 2.4$  years) than for male-household heads ( $8.8 \pm 2.1$

**Table 1:** Key demographics recorded for Ward 18, Zvimba.

Total number of households	66
Number of male-headed households	45
Number of female-headed households	21
Mean household size	$2.5 \pm 1.4$
Mean male-headed households' years of schooling	$8.8 \pm 2.1$ years
Mean female-headed households' years of schooling	$9.1 \pm 2.4$ years
Mean male household head age	$29.7 \pm 6.6$ years
Mean female household head age	$28.4 \pm 6.6$ years
Mean male-headed monthly household income	USD $124.4 \pm 57.2$
Mean female-headed monthly household income	USD $105.3 \pm 60.0$
Source: own observations.	

years). The mean age of male and female household heads ( $29.7 \pm 6.6$  and  $28.4 \pm 6.6$  years, respectively) was found to be similar (Table 1). Household monthly incomes ranged from USD 50 to USD 300, with incomes being greater in male-headed (USD  $124.4 \pm 57.2$ ) households compared to female-headed (USD  $105.3 \pm 60.0$ ) households ( $p > 0.05$ ). No significant correlations were observed between household income and years of education with age ( $p > 0.05$ ). Similarly, no significant relationships between income and gender and income and marital status of the household head were observed. However, a significant correlation was observed between dependency (as reflected in the number of household members earning an income) and total household income ( $r = 0.67$ ,  $p = 0.02$ ).

The study found 60% of all households reporting that they would need assistance with chronic illness such as HIV/AIDS in the households. Overall, the 21% of the investigated HHs had one or more RNFE activities and is further broken down by income quintile (see Table 2). RNFE participation in the lowest income quintile (Q5) was exclusively carried out by women as domestic workers (off-farm wage). In the highest income (Q1), RNFE activity was carried out exclusively by men, characterised by semi-skilled off-farm employment, namely shop attendants ( $n = 4$ ) and taxi drivers ( $n = 5$ ), to nearby urban centres and Harare (Table 2). Other identified RNF activities mentioned by participants were selling of airtime cards, braiding and cutting hair, as well as fixing of small broken appliances, especially cell phones and irons.

Multiple regression showed that with increasing members of households that were employed, there was an increase in RNFE participation ( $r^2 = 0.60$ ,  $p < 0.001$ ). The regression also revealed that involvement in informal credit borrowing (which includes borrowing from friends and family) significantly affects participation in RNFE ( $r^2 = 0.45$ ,  $p = 0.009$ ; Table 3).

**Table 2:** Rural non-farm economy (RNFE) participation rates through employment of adults (15–64 years,  $n = 66$ ).

Income quintile	n	% with job	Employed (%)					
			Farm			Non-farm		
			Non-wage	Wage	Total	Non-wage	Wage	Total
mean		100	7.5	71.5	79.0	11.4	9.6	21.0
Q1 (Highest)	12	100		71.4	71.4		28.6	28.6
Q2	17	100		89.3	89.3	3.6	7.1	10.7
Q3	15	100		86.7	86.7	13.3		13.3
Q4	13	100	37.5	50.0	87.5		12.5	12.5
Q5 (Lowest)	9	100		60.0	60.0	40.0		40.0

**Table 3:** Regression analysis\* of factors influencing rural non-farm (RNF) employment. Bold values indicate significant at  $p < 0.05$ . The dependent variable is the share of non-farm income.†

Independent variable	b	R <sup>2</sup>	t	p-value
Single (without spouse/partner) HH head (dummy)	0.074	0.411	−0.706	0.483
Size of land holding or ownership	−0.033	0.317	−0.337	0.738
Age of HH head	−0.103	0.386	−1.003	0.320
Female HH head (dummy)	−0.028	0.322	−0.292	0.772
Years of education of HH head	0.008	0.317	0.082	0.935
Employed HH members	0.727	0.599	5.731	< <b>0.001</b>
Salary	0.134	0.565	1.101	0.276
Savings	0.023	0.280	0.240	0.811
HH in debt	−0.233	0.432	−2.186	<b>0.033</b>
Informal credit access	0.292	0.446	2.709	<b>0.009</b>
Formal credit availability	−0.014	0.137	−0.165	0.870
Access to formal credit	−0.027	0.166	−0.309	0.759
HIV/AIDS HH status	−0.093	0.238	−1.009	0.318

\*  $R^2 = 0.68$ ,  $df = (15, 50)$ , adjusted  $R^2 = 0.59$ ,  $p < 0.0001$

Focus group discussions results showed that market dynamics were linked with social and political power (i.e. political power is defined here as means relating to the way power is achieved in society) in RNFE participation. Issues of reputation and being able to maintain a steady clientele were raised with ‘*musika*’ (market place). Issues of supply and demand were also discussed, and it was noted that the market can have too many people selling the same thing, which reduces market shares for traders and influence prices. This was particularly a concern for the women’s focus group, as most women predominantly buy products from nearby small town/growth centres such as Mpinga, Banket, Trawelney and Mutorashanga, and sell them at a small profit. The male focus group was not affected much by market saturation, as their trades were semi-skilled activities such as carpentry, building and general repairs of small electronics and gadgets. They however pointed out that the demand for their services is not consistent, as ser-

vices are provided on an ad-hoc basis. Discussions also highlighted the lack of capital to purchase productive assets (e.g. fuel and farm equipment supply), such as vehicles to access more and bigger markets, and machinery, such as mills, as a barrier to high return activities.

#### 4 Discussion

We found that the total rural non-farm economy (RNFE) employment share, which we used as a proxy to estimate the total participation in the RNFE was 21%. This result was similar to the findings of Scoones *et al.* (2012), who identified 21.4% of the 360 rural households studied in Masvingo, Zimbabwe, as being involved in rural non-farm (RNF) activities, as opposed to the 33.6% in the ‘hanging in’ category. Our findings and Scoones *et al.* (2012) findings did however show that the Zimbabwe RNFE is smaller than those in other countries such as Bangladesh at 52% (Hossain, 2002),

and that of Africa as a whole, which is estimated to range between 30 % and 50 % (Ellis 2000 in Davis, 2003). This was attributed to the shrinking mainstream economy i.e. Zimbabwe economy which has resulted in a low RNFE being observed for Zimbabwe.

Income generating activities were centred on the farm and urban interactions, where the farm or the urban areas act as a supplier, market and/or employer, similar to Kamete's (1998) study in Banket farm hinterlands in Zimbabwe. The 1982 Zimbabwe Transitional Development Plan (TDP) stated *inter alia*, that the rural populations were to be brought into closer proximity with services and markets thereby creating links with the national economy (Kararach *et al.*, 2016). However, the focus group discussions showed that this has not been so, and their activities within the RNFE were not necessarily integrated into the informal local economy, perhaps justifying the comparatively smaller Zimbabwean RNFE due to the declining of the Zimbabwean economy over the past two decades (Mlambo, 2017). Thus, the RNFE will not grow significantly if the mainstream economy is shrinking.

Harare, the capital city of Zimbabwe has grown exponentially (i.e. economic and population wise) in the past ten years, whilst many farming towns have suffered a contrary fate (Chirisa *et al.*, 2016), as evident for Banket. This trait is not unique only to Zimbabwe and other developing countries, but is also the case in some transitory economies in Eastern Europe (Davies & Pearce, 2001). According to Start (2001), the highest concentration of RNFE activities is located in small rural towns. This evidence may justify the lower RNFE size observed in this study, as many rural towns in Zimbabwe shrunk due to reduced agricultural production due to the unplanned and chaotic land distribution programme that drove away >4000 of 4500 productive commercial farmers from their land (Garwe, 2015), and mining production, which was the main economic driver for rural town development in Zimbabwe (Scoones, 2016). Furthermore, the unspecialised RNFE as observed in our study area, cannot compete with the large urban market in Harare, and is thus confined to a small market with limited buying power and little prospects for expansion in the near future (Start, 2001). The inability to penetrate bigger markets such as Harare, Chinhoyi and the limited buying power of the local markets were found to be significant barriers for the adoption of high return income strategies. This finding is consistent with Rantšo (2016), who found that the success of RNFE enterprises in Lesotho were affected by the ability of the entrepreneur to establish wider social networks, large population/market, availability of communication networks and infrastructure, and participation of enterprises in the international market amongst other factors.

Levels and types of skills (i.e. carpentry, building, driving), appeared to be associated with RNFE participation for men and not for women, influencing the type of activity in which they participated. We observed a difference in the type of RNFE activity between the lowest and the highest income quintile (see Table 2). Firstly, the lowest quintile (Q5) had the highest percentage of employment in the RNFE at 40 % exclusively carried out by women, with the highest quintile (Q1) having the second highest at 28 %, exclusively carried out by men. This corroborates with the findings of Rijkers & Costa (2012), who found that female non-farm activities were smaller and less productive in Bangladesh, Sri Lanka and Ethiopia. These figures are similar to those found in Bangladesh for the lowest income quintile, with 40 % acquiring income through the RNFE (Hossain, 2002). We further observed that although the highest quintile (Q1) did not have the highest percentage RNFE employment, it did however monopolise the employment types with the highest returns, whilst the lowest quintile (Q5) was involved in low return RNFE employment.

From the study, we can deduce that 40 % of RNFE employment (Q5) is likely a consequence of distress pushed factors (e.g. discrimination on the basis of gender and/or socio-economic class), low income resulting in low capitalisation and the feminisation of poverty. The study results also highlighted that women were over three times more likely to end up with non-farm non-wage employment than men. These findings are consistent with Stifel (2010) and Rijkers & Costa (2012) who found that 3 % of the women were more likely than men to become non-farm non-wage employees, stating that men tend to migrate more than women possibly because *inter alia* they hold higher income earning skills compared to their female counterparts. Other socio-cultural factors, such as children, could also contribute to women not being able to migrate easily (Bastia, 2009).

We observed that education level and formal credit access did not significantly affect successful participation in RNFE and this finding is in contrast to the findings by Stifel (2010) who reported that education significantly increased RNFE participation in Madagascar. This was due to the fact that one doesn't require having huge capital to participate in RNFE. However, the lack of education and access to credit were also a major constraint in accessing higher remunerative activities for land poor households in Bangladesh (Hossain, 2002). This is also comparable with findings from Ethiopia, Sri Lanka and Indonesia, where women's non-farm entrepreneurship was neither strongly correlated with household composition nor with educational attainment (Rijkers & Costa, 2012). Needless to say, we recognise the close relationship between skills and education,

the former that was found to significantly influence participation in the RNFE (Table 2).

We found that agricultural landholding (land ownership) had no significant impact on RNFE, as farm workers remained ‘land poor’ (Moyo *et al.*, 2000). This was further compounded by access to formal and large credit which was greatly limited. We found that credit entailed the community borrowing money from each other, and this was done in small amounts that cannot significantly initiate or capitalise a small enterprise (Basu & Srivastava, 2005). Thus, we found that households with more employed household members could access more credit, and this too, significantly increased RNFE participation.

## 5 Conclusions and policy options

To make the distinction between demand-pulled, i.e. there is growing opportunities attracting participation; and distress-pushed, i.e. there are stressors that are forcing people into diversification into the RNFE; is important for policy makers to facilitate for appropriate policy development. We, therefore, advocate for policies that can mitigate any negative effects of diversification into RNFE in the short-term of distress-push diversification. At the same time, we advocate for policies that enable the development of the RNFE and support sustainable rural livelihoods where there is demand-pull diversification e.g. transport and communication networks development. Specific focus must be on rural economic growth which can occur either through farm-based employment or through engaging in non-farm enterprises. These development alternatives however need flexible and dynamic support, avoiding the dangers of locking people into particular livelihood options by virtue of their status, location or through unnecessary and restrictive planning or administrative frameworks.

High-return RNFE opportunities remain confined to the more asset-endowed households. Increased RNFE employment can potentially tighten the agricultural wage market, resulting in higher wages that are an important income source for most impoverished households. We suggest that the RNFE be considered as more a link or a bridge into development, as opposed to it being a panacea for development and poverty eradication, seeing that its ability to achieve the latter remains highly contested (e.g. Rantšo, 2016). As the development of the RNFE rests primarily on the success of agriculture, we motivate for real investment to be put into the sector, and that the structure of the sector be revisited in order to increase its productivity without the exclusion of disadvantaged groups such as farm workers, and women (Sachikonye, 2011). We also advocate for intense

investment into the revival of the rural education system and social services such as clinics targeting women specifically.

Value addition of natural resources in rural areas along with the gradual formalisation of the informal sector will ensure that women are remunerated for their contribution to the development of the economy. Since the informal economy has operated at a survival mode as people cope with a bad economic atmosphere, its importance must not be disregarded even into economic recovery. We recommend further research into understanding what are the current production, investments and accumulation processes in Zimbabwe RNFE, and using these to develop tangible growth options for rural and economic development as a whole.

### Competing interests

The authors declare that they have no conflict of interest.

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