ARE THERE SIGNIFICANT WELFARE OUTCOMES FOR FARMERS WHO PARTICIPATE IN GLOBAL COMMODITY CHAINS? THE CASE OF EXPORT HORTICULTURAL FARMERS IN KIRINYAGA REGION OF KENYA

F. N. Ondieki-Mwaura[1], L. M. Njoroge[2], J. J. Okello[3] and J. M. Bahemuka[4]
[1,2]Department of Social Sciences and Humanities, Jomo Kenyatta University of Agriculture and Technology, Nairobi, Kenya
[3]Department of Agricultural Economics, University of Nairobi, Kenya
[4]Department of Sociology, University of Nairobi, Kenya
E-mail: fnmwaura@ihrd.jkuat.ac.ke

Abstract

The aim of this study was to determine whether farmers participating in export horticulture were better off than farmers who did not. This study is informed by debates on how globalisation and specifically global trade impacts on small farmers in third world countries, with proponents arguing that it has positive impacts and opponents arguing that participation in global commodity systems has little impact or ueven detrimental to small farmers. This study aimed to compare the welfare of participants in export horticulture with those of non-participants using both income and non-income indicators. A survey of 360 farmers was carried out in Kirinyaga to obtain household data with 240 export farmers and 120 non-export farmers being interviewed. Simple mean comparisons were used to determine whether significant differences existed between French bean and non-French bean farmers. Both income and non-income indicators were used to determine welfare outcomes for the two groups of farmers. The study found that there were some differences in welfare indicators between those who participatd and those who do not participate in French bean production, specifically in the type of housing, asset endowment and income. However, although export French beans,had a positive impact on participating farmers, its impact is declining as farmers' incomes from it are reducing.

Key words: Export farmers, non-export farmers, welfare outcomes, income, non-income indicators, French bean production

1.0   Introduction

Agriculture plays a key role in the livelihoods of a majority of people in developing countries, both in terms of providing food and income. For a number of these countries agriculture also provides a considerable amount of the much needed foreign exchange as well as creating employment for a significant proportion of the population. In recent times there has been recognition of the important role that agriculture can play in the reduction of poverty in rural areas where the poverty scourge is felt most intensely (Todaro, 1997; UNDP 2001). Agriculture therefore remains a vital sector not just in terms of economic growth but also as the key to eliminating poverty and unemployment in poor countries. As Gunnar Myrdal, Nobel Laureate in Economics quoted in Todaro (1997) articulates, '*it is in the agricultural sector that the battle for long-term economic development will be won or lost*'.

Kenya is among developing countries whose mainstay both in terms of foreign exchange, income and employment of its citizens is heavily reliant on agriculture. Close to 80% of Kenyans live in rural areas and derive much of their livelihood from land and agricultural activities. It generates 24% of the country's GDP and 18% of formal employment (RoK, 2007). The performance of this sector therefore significantly impacts not just on the economic aspect of Kenya's development but also on social and welfare aspects of a majority of its citizens. Welfare Monitoring Surveys (1994, 1997) indicate that 50% to 75% of Kenya's rural population lives in poverty and are dependent on major improvements in agriculture to raise their standards of living. Indeed the agriculture sector has been identified in Kenya's Poverty Reduction Strategy Paper (PRSP) as the one most likely to play a pivotal role in reducing poverty and increasing food security in the country (RoK 2004). One of the key challenges for the very poor (many of whom are agricultural producers) has been their limited access to markets not only in terms of acquiring goods and services but also in terms of selling their produce. Yet, countries that have made significant strides in reducing poverty, namely India and China have done so by improving poor peoples' participation in markets. One for the key elements therefore of a viable poverty reduction strategy is finding ways of including the poor as active participants in the market, whether local, regional or even international. In Kenya, such a strategy would involve improving access to markets including lucrative export markets of close to five million small agricultural producers, many of whom are considered poor (RoK, 2004; RoK, 2007). Such an inclusion should bring about the improvement of the well-being of these rural participants and should not be exploitative.

There are concerns especially from critiques of globalisation that the inclusion of poor producers into global commodity and value chains does not necessarily result in increased standards of living for the producers and the developing countries they are located in (Todaro, 1997). Infact, there is no agreement on whether inclusion of smallholders into high value commodity chains such as export horticulture benefits them or whether it locks them into exploitative relationships that do not favour them.

Some of the key benefits of including small farmers in globalised commodity chains through marketing arrangements such as contract farming as identified by various studies include improved access to credit and technical assistance improved access to lucrative export and domestic markets as well as increased incomes and employment opportunities. It also helps provide price stability to participants improved welfare and shorter lean periods. In addition, contract farming earns foreign exchange for countries that use it to develop cash crops.Contractual arrangements help to remove imperfections in produce, capital (credit), land, labour, information and insurance markets. They can also have positive spill-over effects on other crops grown by farmers through improved technology adoption and better resource management.

On the other hand, some of the concerns associated with trying to include smallholders in global commodity chains through contract farming for example are that they sometimes favour larger and wealthier farmers over small and poorer farmers thereby creating or exacerbating already existing inequalities in rural areas. Farmers from already marginalised sections of society too can also be locked out of contracts. For example, Sartorius & Kirstens (2006) indicate that as agribusinesses bypass spot markets and increasingly use arrangements based on trust and social networks, black farmers are increasingly being excluded from agricultural value-chains. Contractual arrangements can also lock small farmers into relationships that favour buyers especially when the former exercise monopolistic or monopoly powers. In some instances it has resulted in gender struggles over control of labour and resources resulting in the disruption of social order in the communities involved. It may also increase the burden of work for women and low pay. In some instances there has been increased use of child labour as well as casual employment in contract farming (Dolan 2001). At a macro-economic level, contract farming has sometimes led to food insecurity when there is a shift of production from basic food

crops to export cash crops. Over-exploitation and degradation of environmental resources such as water and soil have been reported as a negative impact of contractual farming.

The impact of participating in contractual farming on the welfare of smallholders therefore ought to be determined on a case by case basis as the impacts could be either positive or negative. If globalised value-chains such as export horticulture are to contribute to helping improve the well-being of the poor in developing countries they must be an avenue for farmers not to earn an income but to earn an adequate income that will contribute to a significant improvement in their welfare.

1.0 Methodology
2.1 Study Area and Population
This study focused on farmers within Kirinyaga area, which has had a long history of growing this crop (Kyengo Per.Comm 2008). Kirinyaga region (which was formerly Kirinyaga District has now been split into 4 districts-Kirinyaga East, Kirinyaga West, Kirinyaga Central and Kirinyaga South Districts) and is situated on the southern slopes of Mt. Kenya. It covers an area of approximately 1478 sq. km with a population density of 309 persons per km^2, and an estimated population of 500,000 people (census 1999). It borders Nyeri and Murang`a to the West, Embu to the East and Mbeere to the south and is approximately 100 km, North-East from Nairobi.

2.2 Research Design
This study primarily used the survey type of research which is defined by Mugenda and Mugenda (1999) as an attempt to collect data and from members of a population in order to determine the current status of that population with respect to one or more variables. One of the main advantages of this approach is that it enables the researcher to collect original data for the purposes of describing a population which is too large to observe directly (ibid.). The survey approach was complemented by qualitative approaches namely case study, focus group discussions and key informant interviews. A case study according to is an empirical inquiry that investigates a contemporary phenomenon in-depth and within its real-life context especially when the boundaries between phenomenon and context are not clearly evident. The case method was used to gather in-depth information on the impact of participating in export French bean production on the welfare of these farmers.

2.3 Sample Size and Sampling Procedure
The field survey was carried out in August and September 2010.The sample size for this study was 240 farm households involved in French bean production and 120 households that did not participate in French bean production in 2009. The sampling procedure used for this study was stratified random sampling, in order to achieve a high degree of representation. The sub-location with the highest concentrations of French bean farms within each of the four districts was selected. The exception to this is Kirinyaga South where three sub-locations were used accounting for almost 50% of the sample because this district alone accounts for about 50% of the total French bean production in Kirinyaga. Farmers lists were generated from these areas and households randomly sampled for the questionnaire survey. The table below summarises the sampling results.

Table 1: Sampling results

District	Location	Sub-location	No. of French bean farmers	No. of Non-French bean farmers
Kirinyaga Central	Kanyakine	Kathare	40	20
Kirinyaga West	Mwerua	Gitaku	40	20
Kirinyaga East	Kirima	Mutige	40	20
Kirinyaga South	Tebere Murinduko Kangai	Kiarukungu Kamunyange Gathiga	40 40 40*	20 20 20*
TOTAL			**240**	**120**

Source: Author

*Data for this sub-location is still being cleaned and analysed

2.4   Data Collection Tools

The data collection tools used included, a questionnaire that was administered to sampled households; key informant interviews with the District Horticultural officer, FPEAK official, farmer group officials and focus group discussion in every district.

2.5   Data Analysis

Data entry and analysis was done using Statistical Package for Social Sciences (SPSS). Descriptive statistics were used to analyse characteristics of the sample. Simple means were used to compare selected welfare indicators of growers and non-growers. Key informant interviews provided data were used give in-depth information on the nature and operation of these arrangements. The results presented below are preliminary results from the study.

2.0   Results and Discussions

The total number of respondents (excluding those from Kangai sublocation) was 300. The welfare variables used to compare growers and non-growers of French beans included income, total asset value (excluding the value of the land), access to safe drinking water, access to education, access to heathcare and clean sources of energy and good shelter.

3.1   Descriptives

In terms of infrastructure, the type of road to nearest market for sample, 48% of those who used non-paved-dirt road were 48% growers and 44.3% non- growers, for murram road there were 37.2% growers and 37.4% non-growers and for those who used a tarmac road to the market, 14.4% were growers while 18.3% were non- growers. In terms of the mean distance to the market, growers had an average of 3.2 km while non-growers had an average of 4 km. The mean distance to the nearest electricity hook-up was 1.08 km for growers and 1.8 km for non-growers. The mean distance to the nearest agricultural office was 8.16 km for growers and 8.44 km for non-growers.

In terms of the total acreage of land, the mean size for growers was 2.05acres while that of non-growers was 1.91 acres. The ownership rights for land for farm on title deed sub-divided but no title, leased and gifted were 30.5%, 48.1%, 18.2%, 3.2% respectively and for non-growers it was 37.3%, 50.9%, 8.2% and 3.6% respectively. The type of soil on the farms of growers was distributed as loam (75.5%), clay (.5%), and clayloam (23.9%). For non growers the distribution was 68.4%, .9% and 30.7% respectively. 95.7% of all French bean growers have irrigation compared to 60% of non-growers. The most common type of irrigation used is furrow for both growers (67.8%) and non-growers (36.2%).

In terms of household composition, 83.4% of all grower households were male and female headed households compared to 77.2% of non-grower households. Growers had a mean of 9 years of schooling while non-growers had a mean of 8 years.

3.2   Comparisons of Total Asset Value and Type of Shelter

The total asset value was determined using various assets found in the household and included farm implements, household appliances, bicycles and cars among others. The respondent was asked determine the resale value and the total asset value was computed for every house the farmer owned. The mean asset value was Kshs. 178,489 for growers and Ksh.197,713 for non-growers. The value of the houses was computed separately and the mean value of houses for growers was ksh. 130,885 and that of non-growers was 150,362. The quality of shelter was assessed by looking at the type of floor, wall and roof of the farm house and the results are presented below.

Table 2: Type of floor

Type	French bean grower	Non-grower
Mud	110 (62.85)	65 (37.15)
Cement	69 (58%)	48 (41)
Tiles	0 (0)	1 (100)
	179	114

Table 3: Type of walls

Type	French bean grower	Non-grower
Stone	38 (62.3)	23 (37.7)
Bricks	11 (64.7	6 (35.2)
Timber	85 (63.0)	50 (37.3)
Iron sheets	1 (100)	0 (0)
Mud	44 (44.6)	35 (44.3)
Total	179	114

Table 4: Type of roof

Type	Grower	Non-grower
Bricks	0 (0)	1 (100)
Iron sheets	178 (61.16)	113 (38.83)
Grass thatch	1 (100)	0 (1)
Total	179	114

There seems to be no significant difference in terms of the total asset value and type of housing between growers and non-growers from the evidence presented above. However, further statistical tests will be carried out to determine whether there is significant difference.

3.3   Access to Healthcare

Of the 55 respondents who reported having a member of their family as very sick in 2009, 33 (60%) were French bean growers and 22 (40%) were non-growers. 11 growers (68.75%) and 5 (31.25) non-growers sought treatment in private hospitals, 21 growers (55.2 %) and 17 non-growers (38%) sought treatment in public hospitals and only 1 grower sought treatment from a traditional herbalist. The main source of money for treatment for growers was French bean earnings and for non-growers it was the sale of other crops.

It was reported during the focus-group discussions that French bean earnings are important in meeting day to day family expenses such as health expenditures because French beans have a short maturity period and therefore farmers earn their money quickly. In addition, some of the farmer groups involved in French farming have invested in community health projects using earnings from French beans. A case in point is a maternity hospital that has been built near Karii town with money saved from French bean earnings by the Kangai Tisa Self-Help group. In 2006, they began saving Ksh.1 per kilo of produce sold and by 2008 they had collected Ksh. 6.5 million which together with a generous contribution from their buyer who matched their savings have now constructed the maternity hospital. Kangai Tisa's oversees buyer has also promised to supply them with equipment for the hospital worth Kshs. 4 million. French bean growers therefore have the potential of accessing good healthcare as individuals through their earnings or collectively through investing in projects that uplift the health of the general population as illustrated by the case of Kangai Tisa self-help group.

3.4   Access to Education

There were 195 households with children of school going age. Out of these 28 (68%) of the growers children attended private school while 13 (32%) of non- growers children attended private school. 101 children (65%) from French bean growing families and 53 children (35%) of children attended public schools. Of these 32 children (58%) from grower families and 23 children (42%) from non-grower families were sent home for lack of fees while 12 children from grower families (52%) and 11 (47.8%) from non-grower families were sent home for lack of uniform. The main source of money for fees, uniform and text books for French bean growers was French bean earnings while for non-growers it was the sale of other crops. While the results give a mixed outlook when comparing growers and non-growers with respect to education, French bean earnings contribute significantly to helping households access education for their children. For example, farmers ins self-help group can meet education expenses through to borrowing from the group sacco or against future earnings. In addition many groups do save a certain portion of their earnings that is paid out to farmers farmers at the end of the year as a bonus. This bonus is used by many farmers to pay school fees.

Sources of drinking water

Source	Grower	Non-grower
River	78 (66.6%)	39 (33.3%)
Water tank	2 (40%)	3 (60%)
Piped water	97 (58.4%)	69 (51.6%)
Well/borehole	11 (73.33%)	4 (26.66%)

The proportion of growers who use river water which can be considered as unsafe is much higher (78%) than non-growers (33%). More non-growers use water tanks than growers.

Sources of energy for cooking

Source	Grower	Non-grower
Firewood	177 (60)	114(40)
Charcoal	10 (90.9)	1 (9.09)
LPG	1(100)	0 (1)

The most commonly used source of energy for cooking by both growers and non-growers is firewood. Almost none of the households use LPG which is considered a lean and environmentally safe source of energy.

4.0   Conclusions and Recommendations

From the above results it would seem that there are not significant welfare outcome differences between growers and non-growers with respect to asset ownership, type of shelter, access to education and health. In fact in some cases it seems that non-growers have better outcomes than growers as in the case of access to clean water, total asset value and value of housing.

One of the major complaints of French bean farmers from the FGDs was that the price they received for French beans had remained constant for a long time yet the prices had doubled effectively reducing the income they earned. Therefore it is possible to conclude that this reduction in real income for farmers has limited their ability to improve their welfare as would be expected.

A strategy that should be encouraged for French bean farmers is to form group and leverage their numbers and earnings to invest in community projects that will uplift their communities as exemplified by the case of Kangai Tisa self-help group. In addition, as part of their corporate social responsibilities buyers of French beans can also directly invest in community projects that uplift the farmers and their communities.

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