

Influence of Socio-Economic Characteristics on the Utilization of Development Interventions: A Case Study of Shea Butter Processors in Northern Ghana

Afishata Mohammed Abujaja¹, Hudu Zakaria¹ & Hamza Adam^{2*}

1.Department of Extension, rural development and Gender Studies, University for Development Studies, Ghana

2.Department of Community Development, University for Development Studies, University for development Studies, Ghana

*E-mail of the corresponding author:hamzeet@yahoo.com

Abstract

Shea butter production constitutes a major part of the livelihood sources of poor rural women in Northern Ghana. As such, the industry has attracted the attention of stakeholders, especially governmental and non-governmental organizations, who have undertaken some interventions to improve the industry. The main aim of these interventions is to improve the livelihoods of the poor and vulnerable, especially women who depend on the sector for survival. However, despite the numerous interventions, poverty is still well pronounced among the rural people in Northern Ghana, especially among women. This challenge can be partially attributed to lack of utilization of the development interventions introduced to improve performance of the sector. It has been argued that the socio-economic background of people can influence the extent to which they perceive and utilize innovations. The aim of the present study was to determine the influence of socio-economic characteristics on the utilization of development interventions. In all 114 respondents, beneficiaries and non-beneficiaries were selected through random and purposive sampling techniques respectively for the study. Data were gathered through the use of semi-structured questionnaires, interviews, focus group discussions and personal observations; and analysed by use of personal narrations and descriptive statistics. Chi-Square test was used to determine the level of significance between socio-economic characteristics and utilization of development interventions. The results showed that socio-economic characteristics such as age, access to credit, source of start-up capital, and marital status were found to be significant ($p < 0.02$) with respect to the utilization of development interventions. The study calls on policy interventions, particularly those that relate to shea butter venture to properly assess the socio-economic background of rural people in order to design appropriate intervention packages since that remains critical for the utilization of development interventions.

Keywords: Shea butter, women, utilization and development intervention

Introduction

The shea tree (*Vitellaria paradoxa*) grows widely in the arid areas of savanna and forest in the Sudan zone of Africa (Boffa et al., 1996). In Ghana it grows in almost about half of the country and covers the entire area of Northern Ghana, covering over 77,670 square kilometres in Western Dagomba, Southern Mamprusi, Western Gonja, Lawra, Tumu, Wa and Nanumba with Eastern Gonja having the densest stands (Hatskevich, 2011). Sparse shea trees can also be found in Brong-Ahafo, Ashanti, Eastern and Volta regions of the country (FAO, 1988). According to Boffa (1999), there were more than 500 million fruiting shea trees across the production belt. FAO (1988) estimated the total sheanut production to be approximately 600,000 metric tons per year, which translates into more than 1.5 million metric tons of fresh fruit, a figure comparable to the production of other commercial oil crops such as avocado, which currently stands at 2 million metric tons per annum.

The gathering and processing of nuts from shea trees are exclusively activities for rural women (Boffa et al 1999; Hall 1996). Lovett & Haq (2000) estimated that there were about 600,000 women in the Northern region who were engaged in shea butter related ventures. Chalfin (2004) reported that in Northern Ghana, the fruits contribute to food security, particularly for the rural poor, since their ripening coincides with the lean season of food production. As a key income source for rural women, income from the sale of shea butter production can be used to improve the living standards of local women and their households. Furthermore, shea butter has the potential of evolving into a viable export industry since private businesses in several countries have been expressing their interest in importing shea butter. FAO statistics reported that exports in 1993 were only about 7,870 tons and then nearly doubled in 1994 (FAO, 2001). Boffa (1999), in his contribution noted that both potential and actual supplies of shea kernels in West Africa exceeded local and international demand. The UNDP resident representative at a press briefing in Accra indicated that the shea butter industry in Ghana has the potential of generating multiple positive impacts on the lives of rural women in Northern Ghana, if properly coordinated and supported (Personal communication, June 11, 2007).

In recognition of the commercial opportunities arising from the shea, and the potential of the product in reducing poverty, there has been a proliferation of shea projects sponsored by United Nations Development Fund for

Women (UNIFEM), aimed at providing women with the requisite knowledge, best practices and skills to enable them increase production on a sustainable basis. According to Chalfin (2004) there has been numerous shea projects sponsored by United Nations Development Fund for Women (UNIFEM), the United Nations Development Program (UNDP), bilateral agencies and Non-governmental Organisations (NGOs) for beneficiary women who traditionally derive their livelihood from shea nut collection, processing and marketing. In an attempt by United Nations Development Programme (UNDP) to promote shea industry established a project fund of US \$ 245,927 to support women, who are into shea butter production since the 1990s. The Northern Province of the Catholic Church in collaboration with Japan International Cooperation Agency (JICA) similarly provided shea butter processing plants and a number of training programmes to women groups to assist increase production, and remove drudgery associated with the traditional method of shea butter production (Personal communication, 2009).

These organizations mobilized women into cooperative societies and provided them with processing equipment, built their capacities with technological knowhow and supported with credit facilities at very moderate rates payable on an extended period to enable individuals cope with repayment terms. Through the implementation of the activities, the intervention could act as a change agent in providing useful information and services for women in the shea butter industry, which could contribute to empowering women, reduce poverty and generate employment opportunities for them. These expected outcomes were related to Millennium Development Goal (MDG) 1 and 3 (eradicate extreme poverty and provide gender equality and empower women).

Despite those interventions, women continue to produce low quality shea butter which does not meet both local and international demands (Fleury, 1981; Olajide & Otunola, 2000; Abujaja et al., 2013). Although the intention of these interventions introduced were to support local sheabutter processors to increase production on a sustainable basis, unfortunately some of the interventions received could not either be sustained by the beneficiaries or yield the expected project outcomes (Olukoya, 2008, Abujaja et al., 2013). Lovett & Haq (2000) have reported that the shea enterprise was not profitable because of the crude methods used in producing the shea butter. This challenge can be partially attributed to poor utilization of the development interventions. It has been argued that the socio-economic background of people can influence the extent to which they perceive and utilize innovations (Rahman, 2007; Adam & Boateng, 2012). This paper therefore seeks to determine the influence of socio-economic characteristics on the utilization of development interventions.

Methodology

Sampling Technique and Sample Size

Three study sites were purposely selected from West Gonja District where development agencies' support to shea butter production is actively operational. These sites included Damongo, Busunu and Tarlope. A total of 114 women consisting of 57 each of beneficiaries and non-beneficiaries were selected for the study. The beneficiary groups were selected by use of random technique, while the non-beneficiaries were sampled using snowballing technique. Table 1 illustrates the breakdown of sample size of beneficiaries and non-beneficiaries. In addition, some key informants such as officials from the district Assembly (DA), NGOs and chief elders were purposively selected based on their in-depth understanding of policy for investigation.

Data Collection and Data Collection Methods

Both primary and secondary data were gathered for the study. The primary data were gathered by use of varied techniques such as personal interviews, key informant interviews, personal observation, questionnaires and focused group discussions. The primary data gathered included socio-economic characteristics of respondents, factors influencing the utilization of development interventions and strategies to enhance shea butter enterprise. In addition, some secondary data from annual and progress reports of development agencies were also used to support findings from the primary data.

Analysis of Data

The quantitative data were entered into Statistical Package for Social Scientist (SPSS) for easy analysis. The quantitative data were analysed by use of descriptive statistics such as frequencies and percentages. The chi-square test of significance was used to establish significant differences between influence of socio-economic characteristics and the utilization of development agencies' support. The data were presented in the form of tables and bar charts. The qualitative data mainly from the interviews and focused group discussions were used to support the quantitative data.

Results and Discussions

Socio- Economic Characteristics of the Study Population

This section presents findings on relevant socio-economic characteristics of respondents. Socio-economic characteristics have impact on people's assets, access to resources and the options that are open to them in pursuing beneficial livelihood outcomes (DFID, 1999). In support Lowe (1994) points out that the way individuals are organised in society significantly affects not only how they alter their lifestyle in response to environmental challenges but also who benefit and who gets hurt with the interventions chosen. This is because different components of the vulnerability context affect different people in different ways. The socio-economic

characteristics of people help to determine who is vulnerable and who may become more self-sufficient and productive with appropriate interventions. Relevant to this study would include age, income sources, marital status, and educational levels.

Age Distribution of Respondents

The age distribution of respondents ranged between 20 and 69 years. This falls within the economically active age group as defined by the 2000 population and housing census (which is 15-64 years). The mean age of the respondents was 34 years. The age of respondents was categorized as 20-30 years, 31-40 years, 41-50 years, 51-60 years and above 60 years. In Figure 1, the results of the analysis found that about 4% of beneficiaries were within the age category of 20-30 whilst about 20% of the non-beneficiaries were in the same age bracket. Also about 14% and 12% of beneficiaries and non-beneficiaries respectively were in the age range of 31-40 years. Also, about 5% of the beneficiaries interviewed were above age 60 as against about 3% of non-beneficiaries. Again the ages of respondents were found to differ significantly among beneficiaries and non-beneficiaries. The Pearson's Chi-square results recorded 19.82 at 4 degrees of freedom, indicating a significant difference in the ages of beneficiaries and non-beneficiaries interviewed for this study. As shown in Table 2, overwhelming majority (85.2 %) of respondents falling within the age range of 20 to 30 years are non-beneficiaries of development interventions, while about 67% of those above the age of 60 years were beneficiaries.

Marital Status of Respondents

Marriage is acknowledged as a very important institution in Ghanaian societies and for that matter the study area. Marriage with a mate of higher social status is another means used for social climbing (Chitambar, 1993). In the light of this, marital status of respondents was recorded as relevant demographic information in achieving the objectives of this study. In Table 3, majority of the respondents interviewed were married, representing about 75% of the sampled population. As high as about 20% of the respondents interviewed were widows with only about 3% and 2% being single and divorcees respectively. Details of the number of respondents in the various categories are presented in Table 3.

Beneficiaries and non-beneficiaries were found not to differ significantly in terms of their marital status as either married or single as the Chi-square test conducted yielded a value of 1.7 at 2 degrees of freedom signifying no significant relationship at 5% level of significance. However, as shown in the Table 4, a little over half (53.5%) of the married respondents interviewed were non-beneficiaries of development interventions while about 47% of the married respondents were beneficiaries of interventions. Also only about 39% of the singled respondents were non-beneficiaries with an overwhelming majority (60.7%) of the remaining single respondents being beneficiaries.

Educational Status of Respondents

Chitambar (1993) cited education to be a very important basic social institution. In respect to this, the educational level of respondents was analysed to determine the influence of respondents' education on their status. The result indicates that about 61% of the respondents have no formal education. Out of this total, a majority (54.3%) of them were beneficiaries with approximately 46% being non-beneficiaries who were without formal education. Also, about 35% of the respondents sampled for this study had basic level education, comprising of about 58% non-beneficiaries and 43% beneficiaries.

None of the beneficiaries interviewed had secondary education with only 2 non-beneficiary respondents reporting to have secondary education. Also 2 respondents, being beneficiaries, had tertiary level education but none of the non-beneficiaries group interviewed had tertiary level education. Figure 2 shows the distribution of respondents' educational level.

Beneficiaries and non-beneficiaries of development interventions interviewed for this research were found not to differ significantly in terms of their level of formal education. This conclusion is arrived at considering the Pearson Chi-Square value of 1.41 at 2 degrees of freedom as shown in Table 4, which indicates a statistical significant difference at 10% ($p < 0.06$) between beneficiaries and non-beneficiaries in terms of the level of formal education attained.

However, majority (54.3%) of respondents with no formal education were found to have benefited from development intervention, while about 58% of respondents with basic level education had not benefited from such supports. The 4 respondents who have secondary / tertiary level of education were split between beneficiaries group and the non-beneficiaries group with each having two.

Source of Start-up Capital

Respondents were to indicate their source of start-up capital by ticking from a list of options. As illustrated in the bar chart in Figure 3, about 46% of non-beneficiaries interviewed obtained their initial start-up capital from their personal savings as against about 35% of beneficiaries who also said they raised their initial capital to start their business through personal savings. Also, about 13% and 2% of beneficiaries and non-beneficiaries respectively, sourced their initial start-up capital from formal credit sources. Few of them comprising of about 1% and 3% of beneficiaries and non-beneficiaries respectively, obtained their start-up capital through cooperative / association. A chi-square test conducted between respondents' status and their sources of start-up capital reveals a significant

difference between beneficiaries and non-beneficiaries. Respondents who benefited from development interventions were more likely to have raised their initial start-up capital from formal credit sources than non-beneficiaries. Non-beneficiaries on the other hand were more likely to have raised their start-up capital from their own personal savings. As shown in Table 5, overwhelming majority (82.2%) of beneficiaries sourced their initial capital from formal credit sources, while about 57% of non-beneficiaries sourced their initial capital from their own personal savings.

Examining the Relationship between Socio-Economic Characteristics of Women and Development Interventions

Age of Respondents and Type of Technology Used in Shea Butter Processing

Respondents' age was found to be significantly related at 5% level of significance with the kind of technology used as illustrated in the chi-square analysis in Table 5. The chi-square analysis indicated that, middle aged women in the age category of 41-60years tend to have high tendency of using improved method of shea butter extraction as compared to elderly women above age 60 and young women within age category of 20-40years. Different stages of life present different livelihood issues within the household. Childhood, marriage practices, relationships within marriage, female-headed households, widowhood and old age are all related to particular kinds of vulnerability (DFID, 1999).

Goldstein (1981) in his contribution stated that age stratification varies from culture to culture and that one society may treat older people with great reverence, while another sees them as unproductive and difficult. It would make little sense to send young children off to war or to expect older citizens to handle physically demanding tasks. Economic factors play an important role in resistance to social change. Communities protect their vested interests, often in the name of protecting property value (Goldstein, 1981).

Educational Levels of Respondents and Type of Technology used

Chi-square test conducted on educational level of respondents and type of technology used in shea butter extraction reveals a relationship between education and type of method used at 5% level of significance. These results were found to be significant because the chi square calculated was found to be greater than the critical value, meaning the results is very unlikely to have occurred merely by chance. However, contrary to expectation, those with formal education tend to be using the indigenous method while those without formal education were more likely to be seen using the improved technology in shea butter processing.

Marital Status and Type of Technology used

Marriage tends to regulate the participation of groups and individuals in the total life of society, giving people access to certain opportunities and areas whilst restricting others (Chitambar, 1993). To verify this assertion, the marital status of respondents was compared with the type of technology used. Marital status of respondents was found to be related with the type of technology used in shea butter extraction at 5% level of significance as shown in Table 5. Out of 55 women who used indigenous method of shea butter extraction, 46 of them were married and out of 59 women who used improved technology, 40 of them were married. This constitutes about 75% of the total number of married respondents. The high percentage emphasises the value society places on the institution of marriage. Respondents who were single/ windowed / divorce tend to be more likely to be using the improved method compared with married respondents. Goldstein (1981) in support points out that, pattern distribution of individuals in society shape their experiences, possible alternatives for action, world view and their feelings about themselves. Lowe (1994) further support this by pointing out that the way we are organised as a society significantly affects not only how we alter our lifestyle in response to environmental challenges but also who benefit and who is hurt by the strategies chosen.

Source of Start-up Capital and Method of Shea Butter Extraction

Different livelihood activities have different requirements, but the general Principle is that those who are highly endowed with assets are more likely to be able to make positive livelihood choices, because they do not have to be forced into any strategy simply because of lack of options (DFID, 1999). In this study respondents' source of start-up capital was assessed against the method of shea butter extraction. Respondents' source of initial capital as either personal savings or formal credit was found to be significantly related with method of shea butter extraction at 5% level of significance. A respondent whose startup capital was from credit tends to be more likely to be using the improved technology compared with those who raise their initial capital through their personal savings.

Method of Shea Butter Extraction and Number of Dependants

Women shea butter extractors mostly depend on family labour in processing shea butter. In view of this, the study investigated the influence of number of dependants on the method of shea butter extraction. A chi-square analysis conducted to test if there is any difference between respondents' number of dependants' and method of shea butter extraction used revealed statistically no significant relationship between number of respondents dependants and method of shea butter extraction used at 5% level of significance.

Method of Shea Butter Extraction and Gender of Household Head

Goldstein (1981) suggests that culture may require one particular sex to take primary responsibility for

socialization of children, and economic support of the family. Gender of household head of respondents was assessed against the method of shea butter extraction respondents used, to test if there was any statistically significant difference between gender of respondents' household head and the method used in shea butter extraction. As shown in Table 2, the gender of respondents' household head revealed a statistically significant relationship with method of shea butter extraction used at 5 % level of significance. Respondents from female headed households tend to be more likely to use improved method than those from male headed households.

Conclusions and Recommendations

This paper presents the results of a study on the influence of socio-economic characteristics on the utilization of development interventions. Socio-economic characteristics such as age, level of formal education, marriage, gender, source of start-up capital, gender of household head and marital status were considered for the study based on their relevance to rural livelihoods. The findings show that some socio-characteristics such as age, access to credit, source of start-up capital, and marital status were found to be significant ($p < 0.02$) with respect to utilization of development interventions, while other factors such as formal education and number of dependants were not related to development interventions significantly at 5% confidence level using chi-square test of significance. The study concludes that the socio-economic background of shea butter processors of rural people plays greater roles in influencing the utilization of development interventions. The study therefore recommends that future development interventions with regards to shea butter processing should consider paying greater attention to socio-economic factors such as age, level of formal education, marriage, gender, source of start-up capital, gender of household head and marital status since they play significant roles in the utilization of shea butter development interventions. The study also established that shea butter production is indeed a viable venture, because it contributes greatly in supporting the livelihood of poor rural women in Northern Ghana. This research urges stakeholders in rural policy planning to target the shea butter venture because it has a potential of contributing in empowering rural women and reducing their poverty.

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Table 1.

Table 1: Sampling size of beneficiaries and non-beneficiaries

| Community | Total membership of Groups | Beneficiary | Non-beneficiary | Total |
|-----------|----------------------------|-------------|-----------------|-------|
| Damongo | 30 | 21 | 21 | 42 |
| Busunu | 25 | 18 | 18 | 36 |
| Tarlope | 25 | 18 | 18 | 36 |
| Total | 80 | 57 | 57 | 114 |

Source: Study 2009

Table 2: Status and Age of Respondent

| Status of Respondent | Ages of Respondent | | | | | Total |
|----------------------|--------------------|-------------|-------------|-------------|----------------|-------|
| | 20-30 Years | 31-40 Years | 41-50 Years | 51-60 Years | Above 60 Years | |
| Beneficiary | 4 | 16 | 21 | 10 | 6 | 57 |
| Non-beneficiary | 23 | 14 | 12 | 3 | 5 | 57 |
| Total | 27 | 30 | 33 | 13 | 11 | 114 |

Source: Field Survey 2009 $\chi^2 = 19.82$ $df=4$ $0.0001 < p < 0.0005$ Significant

Table 3: Frequency Distribution of Marital Status of Respondents

| Marital Status | Frequency | Percentage (%) |
|----------------|-----------|----------------|
| Married | 86 | 75.4 |
| Single | 3 | 2.6 |
| Divorced | 2 | 1.8 |
| Widowed | 23 | 20.2 |
| Total | 114 | 100.0 |

Table 4: Status and Marital Status of Respondent

| Status of Respondent | Marital Status | | |
|----------------------|----------------|--------|-------|
| | Married | Single | Total |
| Beneficiary | 40 | 17 | 57 |
| Non-beneficiary | 46 | 11 | 57 |
| Total | 86 | 28 | 114 |

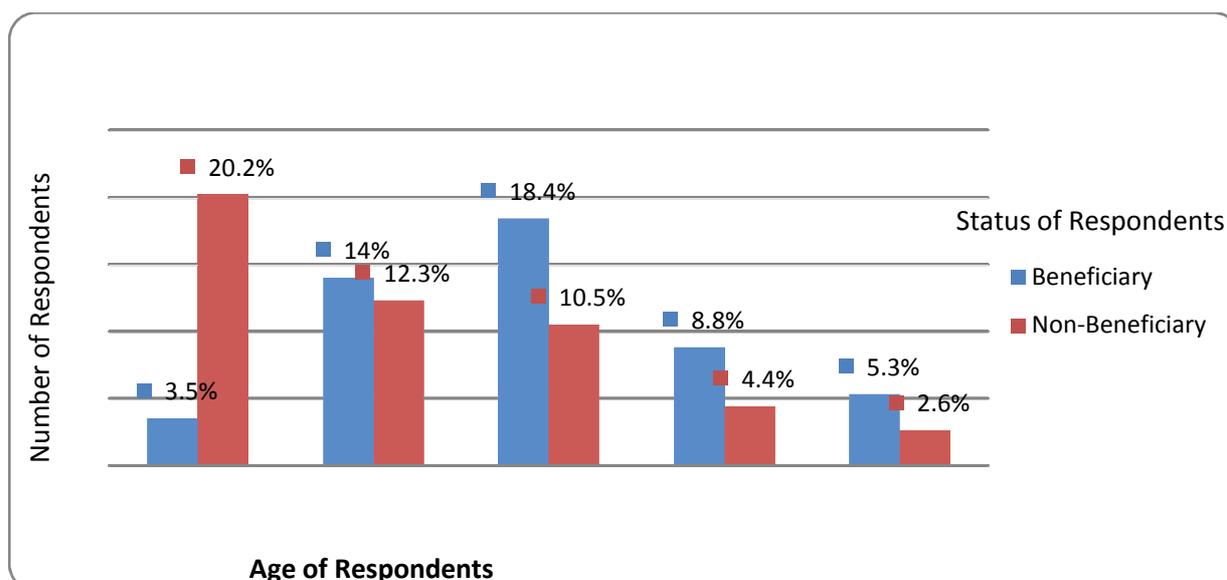
Source: Field Survey 2009 $\chi^2 = 1.70$ $df=1$ $0.1 < p < 0.2$ Not Significant

Table 5: Summary on Socio-economic Characteristics Influence on Utilization of Intervention

| Variable | | Indigenous | Improved | Total | Test / Interpretation |
|-----------------------|--|------------|------------|-----------|---|
| Age | 20-30 years | 23 (85.2%) | 4 (14.8%) | 27 (100%) | $\chi^2 = 21.501$ df = 4 0.001 < p < 0.003 Significant |
| | 31-40 years | 14 (46.7%) | 16 (53.3%) | 30 (100%) | |
| | 41-50 years | 11 (33.3%) | 22 (66.7%) | 33 (100%) | |
| | 51-60 years | 5 (33.3%) | 10 (66.7%) | 15 (100%) | |
| | Above 60 years | 2 (22.2%) | 7 (77.7%) | 9 (100%) | |
| Educational Levels | No formal education | 29 (41.4%) | 41 (58.6%) | 70 (100%) | $\chi^2 = 3.38$ df = 1 0.06 < P < 0.07 Significant |
| | Some formal education | 26 (59.1%) | 18 (40.9%) | 44 (100%) | |
| Marital Status | Married | 46 (53.5%) | 40 (46.5%) | 86 (100%) | $\chi^2 = 3.85$ df = 1 0.04 < P < 0.05 Significant |
| | Single | 9 (32.1%) | 19 (67.9%) | 28 (100%) | |
| Start-up Capital | Formal Credit/Cooperative /Association | 4 (18.2%) | 18 (81.8%) | 22 (100%) | $\chi^2 = 9.87$ df = 1 0.001 < P < 0.002 Significant |
| | Personal Savings | 51 (55.4%) | 41 (44.6%) | 92 (100%) | |
| Number of Dependants | 1-3 dependents | 20 (64.5%) | 11 (35.5%) | 31 (100%) | $\chi^2 = 6.063$ df = 3 0.10 < P < 0.12 Not Significant |
| | 4-6 Dependents | 23 (47.9%) | 25 (52.1%) | 48 (100%) | |
| | 7-9 Dependents | 9 (33.3%) | 18 (66.7%) | 27 (100%) | |
| | More than 10 Dependents | 3 (37.5%) | 5 (62.5%) | 8 (100%) | |
| Sex of Household Head | Male | 49 (57%) | 37 (43%) | 86 (100%) | $\chi^2 = 10.690$ df = 1 0.01 < P < 0.02 Significant |
| | Female | 6 (21.5%) | 22 (78.5%) | 28 (100%) | |

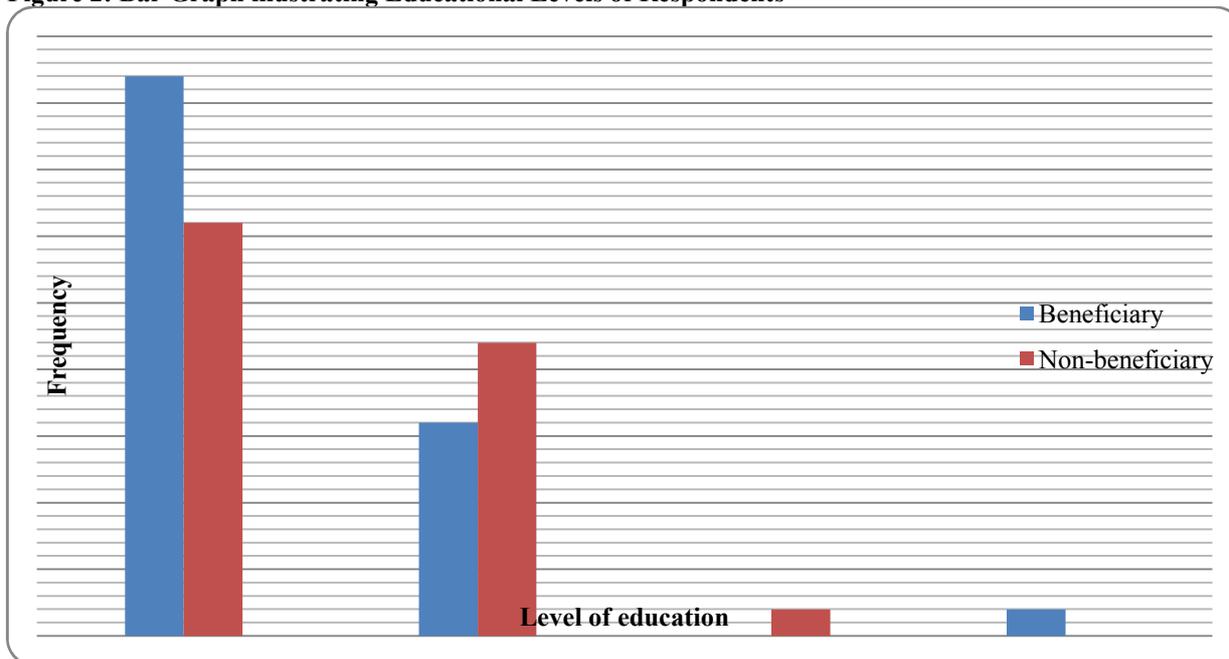
Source: Field Survey 2009

Figure 1: Bar Chart of Frequency Distribution of Age of Respondents



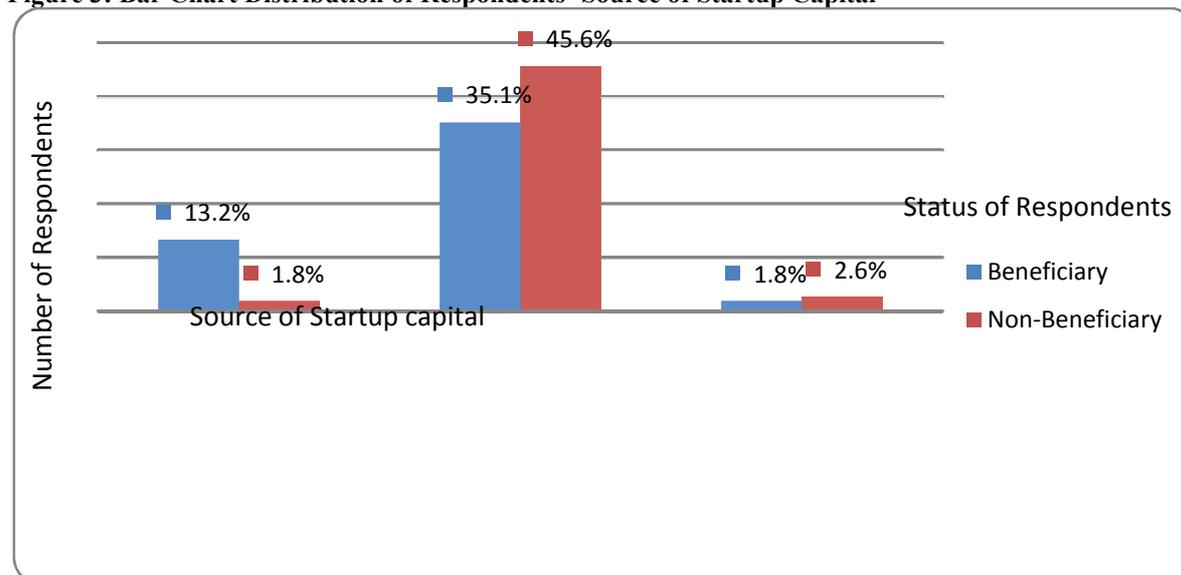
Source: Field Survey, 2009

Figure 2: Bar Graph illustrating Educational Levels of Respondents



Source: Field Survey, 2009

Figure 3: Bar Chart Distribution of Respondents' Source of Startup Capital



Source:Field Study, 2009

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