DEVELOPMENT PLANNING UNIT
(DPU)
University College London

ADDITIONAL KNOWLEDGE OF LIVELIHOODS IN THE KUMASI PERI URBAN INTERFACE (KPUI), ASHANTI REGION, GHANA

Edlam Aberra

Rudith King

September, 2005

This document is an output from a project funded by the UK Department for International Development (DFID) for the benefit of developing countries. The views expressed are not necessarily those of DFID.

Acronyms and Abbreviations

BYN	Boafo Ye Na Project
CEDEP	Centre for the Development of People
CLF	Community Level Facilitator
DFID	Department for International Development
KPUI	Kumasi Peri-urban Interface
PUI	Peri-urban Interface

Table of Contents

List of Tables

List of Figures

List of Boxes

Additional Knowledge of Livelihoods in the Kumasi Peri-urban Interface (KPUI)

Edlam Aberra, University of London, and
Rudith King, Kwameh Nkrumah University of Science and Technology, Kumasi [1]

[1] Executive Summary

This report presents findings from the analysis of research data from a three year livelihood research project named "Who Can Help the Peri-urban Poor" or **Boafo ye Na (BYN)** implemented by the Centre for the Development of People (CEDEP) in the Kumasi Peri-Urban Interface (KPUI), Ashanti Region, Ghana.[2] The project supported a variety of livelihood activities identified through a participatory action planning process. Individuals and groups in 12 KPUI communities were provided with information, training, organisational assistance and credit to try, for the first time or on a new scale farm based, non-farm natural resource based and processing and marketing activities. A key objective of the BYN project was to document lessons from the implementation process in order to generate new knowledge about peri urban livelihoods.

The findings reported here draw mainly on the analysis of quantitative and qualitative data sets from the BYN project and a review of additional project documentation. This was supplemented by information from preceding research projects on livelihoods in the KPUI.

The peri-urban interface was defined in the BYN project as the space within a 20km radius of Kumasi city. With an estimated population of one million, Kumasi is the second city of Ghana and the capital of the Ashanti Region. The city continues to grow rapidly both in physical and population terms with consequences for the built and natural environment in surrounding rural communities and the livelihoods of their inhabitants. The effects of urbanisation are differentiated across the KPUI such that it is possible to classify communities outside the built-up area of the city into urbanised, intermediate and rural.

The report examines two key livelihood activities within the KPUI, namely crop farming and trading. Crop farming is a relevant focus as it is the traditionally dominant livelihood activity yet currently the most threatened by the effects of urbanisation. It is useful to consider trading given that it emerged as one of the most widely adopted activities within the BYN project. Additional factors that determine the adoption of livelihood activities such as gender, location and space are also explored.

Key Findings on Crop Farming by People in the KPUI

- Crop farming may be threatened by urbanisation but it remained significant in the livelihoods of KPUI inhabitants either as a main or supplementary source of income. Some of the reasons for its continued significance included familiarity, low start up requirements, access to crops for household consumption or a lack of non-farm opportunities.
- Crop farming seemed to serve as a safety net to buffer shocks in livelihood activities with long gestation periods such as non-farm natural resource based activities. This appeared less important for traders who earned income more regularly.
- The adoption of crop farming was differentiated within the KPUI such that it declined with greater urbanisation of communities.
- Despite widespread loss of agricultural land due to urbanisation, KPUI farmers managed to access land through a variety of ways. Family land was a common means of accessing land although this appeared to decline with urbanisation of the KPUI. Other farmers rented land or entered sharecropping arrangements. Cultivation of land already allocated for building was one of the highly insecure coping strategies pursued by KPUI farmers in response to loss of land to housing developments.
- The availability of land, length of production cycle and marketing opportunities determined farmer's choice of crops. There was an overall preference for crops that required less land. The preference for crops with shorter production cycles in relation to the need for regular cash income within a monetised peri-urban economy was also evident.
- Farmers adjusted, where possible, their choice of crops according to market opportunities and constraints, shifting their production to those for which there was a greater market demand. Farmers were thus likely to cultivate similar crops causing seasonal gluts and market fluctuations.
- Vegetables, both traditional and exotic, were ideal in several respects (production cycle, space requirements and marketability) and thus more widely cultivated than traditional food crops. Vegetable cultivation increased with greater urbanisation of KPUI communities.
- Traditional crop cultivation remained important within the KPUI, but declined considerably with greater urbanisation of communities.
- Outstanding debt was lower amongst farmers in more urban locations compared to those in rural parts of the KPUI. Debt in the intermediate parts was higher than in both rural and urban parts of the KPUI.
- Farmers cultivating vegetables had lower outstanding debt than traditional crop cultivators.
- Men were more dominant in vegetable cultivation, possibly because it is more profitable. In turn, this could explain the lower outstanding debt amongst men farmers compared to women farmers.

Key Findings on Petty Trading by People in the KPUI

- Trading played a significant role in the livelihoods of KPUI inhabitants either as a main or supplementary source of income. It was widely adopted because it generated income regularly which was critical within a monetised urban economy.
- The intensity of trading increased with greater urbanisation. Women dominated trading owing to traditional gender roles associating this activity with them.
- Start up capital requirements, costs and availability of goods, market demand and space requirements determined choice of goods traded in the KPUI.
- Much of the goods traded were food items, both cooked and uncooked, with the later being more widespread. The dominance of food in KPUI trade is not surprising given its low start up capital requirements compared to trade in non-food items. It could also reflect people's greater dependence on purchased food items as they shift away from subsistence crop production.
- Trading non-food items had a potentially higher profit margin as indicated by the lower outstanding debt amongst those selling non-food items compared to those selling food items.
- The bulk of the food items sold within the KPUI were derived from traditional food crops, showing how trading remains dependent on traditional food crop cultivation.
- Given the decline in farming activities within the KPUI, traders obtained their supplies from either urban retailers or rural producers, depending on the amount of capital available to them.
- Most KPUI traders sold their goods within peri-urban markets. Since these markets were smaller in size, traders often faced the consequences of market saturation within the KPUI.
- Access to appropriate trading spots was a concern for traders within the KPUI, especially in more urbanised communities where the activity was more widespread and competition for space more intense.

Key Findings on Impact of Gender on the Adoption of Livelihood Activities

- Gender roles are critical in determining men and women's participation in livelihood activities within the KPUI. For instance, women dominate trading activities whilst more men participated in non-farm natural resource based livelihood activities.
- More women reported increased income as a benefit from participating in livelihood activities supported by the project which could possibly relate to their dominance of trading.
- Women had higher mean percentage outstanding debt than men which could possibly be associated with their responsibilities for household provisioning.

- Men requested higher start up capital than women indicating that they are not interested in small-scale livelihood activities.

Key Findings on the Influence of Location and Space on Livelihood Activities

- The adoption of livelihood activities was differentiated across the Kumasi peri-urban continuum. Most of those who adopted crop farming lived in rural locations whilst trading was adopted throughout the continuum, although more intensively in urban locations.
- The outcomes generated by livelihood activities also varied according to location within the peri-urban continuum. On a number of grounds, individuals in urban locations within the KPUI continuum appeared to be better off whilst those in intermediate locations seemed more disadvantaged. A greater proportion of loan recipients in urbanised locations reported positive impact on their livelihoods such as increased income, saved more regularly, expected to depend on credit for a shorter period of time and were left with lower outstanding debt.
- In contrast, individuals in intermediate parts of the KPUI were worse off than those in both urban and rural locations in terms of outstanding debt and expected length of dependency on credit. This suggests that the process of change in the KPUI induced by urbanisation is not uniform and there may be a pattern to the variations.
- Access to adequate space for production and storage affected the success of non-farm natural resource based livelihood activities. Security of access was also important.

Key Findings on the Impact of Activities on KPUI Livelihoods

- Relative to those engaged in other livelihood activities, those in farming and petty trading reported more positive change in terms of the profitability of their livelihood activities and increases in their income. In contrast, those engaged in non-farm natural resource based livelihood activities preferred their previous activities and were less likely to report increased income as a benefit.
- However, exposure to new technology and the availability of more spare time were identified as benefits by those who adopted non-farm natural resource based activities.
- Loan recipients that did not adopt new livelihood activities identified the injection of capital into their existing livelihood activities as a benefit.

[2] The Peri-Urban Interface

The peri urban interface (PUI) is described as a complex zone spatially located between urban and rural areas where people's livelihoods are under constant pressure from urban expansion. The nature of the peri-urban interface varies considerably according to patterns of urbanisation, the economy and the geographical position of urban centres[3]. The PUI has received marginal attention over the years largely due to the dichotomous view of urban and rural development which dominated development theory and practice[4]. More recently however, the linkages between urban and rural areas have been emphasised, with these interactions being most intense in the peri-urban interface[5].

Urban growth has extensive consequences for the natural and built environment and livelihoods of people living in the peripheries of urban centres, or the PUI[6]. Urbanisation creates livelihood opportunities for people in the PUI whilst also enabling them to access services and infrastructure. Peri-urban residents can benefit from urbanisation by engaging in petty trading and wage labour or cultivating higher value agricultural products to supply urban demand[7]. In this sense, urban and peri-urban areas are 'symbiotically inter-linked'[8]. Yet, urbanisation is also accompanied by intense competition for land, tenure insecurity, population pressure, health hazards and environmental pollution. The rapid conversion of land for non-agricultural purposes particularly threatens traditionally dominant farming activities[9]. With urbanisation, rural spaces on the fringe of urban centres are exposed to sources of vulnerability and poverty typical to urban livelihoods including integration into a monetised economy and access to fewer safety nets[10].

[3] The Kumasi Peri-Urban Interface

With an estimated population of one million, Kumasi is the second city of Ghana and the capital of the Ashanti Region, one of ten other administrative regions of country[11]. Kumasi continues to grow rapidly both in physical and population terms[12]. The Kumasi Peri-Urban Interface (KPUI) has been broadly defined as the zone within a 20 to 40 km radius of the city although this is a fluid frontier that is constantly changing[13]. Communities targeted within the BYN project were located within a 20km radius of the city.

The livelihoods of those living in the KPUI are evolving in response to the effects of urbanisation[14]. Water pollution and rapid conversion of agricultural land into housing and small-scale industries undermine the traditionally dominant crop production within the KPUI. The value of land is rising in the KPUI, particularly in locations closer to Kumasi, due to the competing use of land for housing, industry and farming. Local chiefs control land transactions and farmers are rarely compensated following the sale of the land they cultivate. At the same time, livelihood opportunities are created due to the proximity of large urban markets and

availability of non-farm wage employment opportunities. KPUI inhabitants are affected by urbanisation in diverse ways within this dynamic context of livelihood opportunities and constraints.

This report presents findings from a three year livelihood research project named "Who Can Help the Peri-urban Poor" or **Boafo ye Na (BYN)** implemented by the Centre for the Development of People (CEDEP) in the Kumasi Peri-Urban Interface (KPUI) in Ashanti Region of Ghana[15]. The project supported a variety of livelihood activities identified through a participatory action planning process in a preceding project[16]. Information, training, organisational assistance, and credit was provided to individuals and groups in order that they would try for the first time or on a new scale alternative farm based and non-farm natural resource based production and marketing activities[17] in 12 KPUI communities[18]. A key objective of the BYN project was to document lessons from the implementation process in order to generate new knowledge about peri urban livelihoods.

The report examines the adoption of two key livelihood activities supported through the project, namely crop farming and trading. Crop farming is a relevant focus as it is the traditionally dominant livelihood activity yet currently the most threatened by the effects of urbanisation. It is useful to consider trading given that it emerged as one of the most widely adopted activities within the BYN project. Additional dimensions of KPUI livelihoods such as the gendered aspects and the role of location and space are also explored.

[4] Data and Methods

This report presents additional findings from data that was not exhaustively analysed during the BYN project. It draws mainly on a review of existing documentation on livelihoods in the KPUI and further analysis of quantitative[19] and qualitative data sets (Table 1) from the project. Although the analysis focused

Table 1: Data sets from the BYN project

Data Type	Data Set
Quantitative	Questionnaire Survey, 2004
	Loan Repayment Data, 2005
	Business Plan * Summaries, 2005
Qualitative	Case Studies, 2005
	Interview Transcripts (with BYN project Staff), 2005

* Individuals and groups prepared business plans that were vetted at the community level before they were granted loans.

primarily on data and documentation from the project, this was supplemented by information from preceding projects on livelihoods in the KPUI[20].

[5] Crop Farming by People in the KPUI

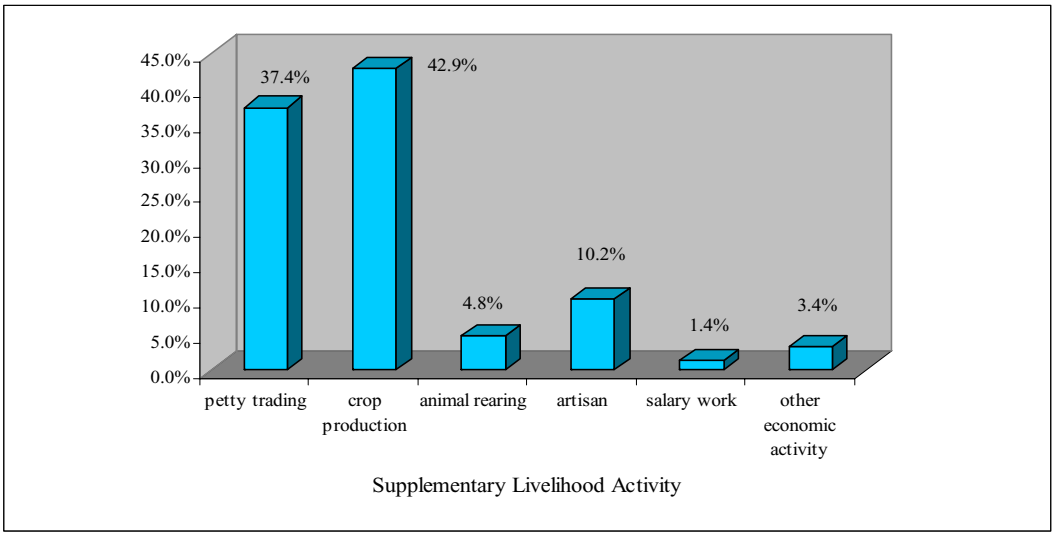
This section highlights salient features of crop farming within the KPUI by examining the experiences of those who opted for farming as one of the livelihood activities supported through the BYN project. Specifically, it considers the nature of crop farming within the KPUI, the reasons for its continued importance and how it is being affected by the rapid growth of Kumasi.

5.1 Crop Farming remains Important in the KPUI

Crop farming is the traditionally dominant livelihood activity within the KPUI but is currently threatened by urban expansion, which is, among other things, taking up farmland and polluting water. The allocation of farmland for residential purposes poses the greatest threat to crop farming in the KPUI[21]. An increasing proportion of land is also being allotted for small-scale enterprises such as sand and stone wining which in turn affects soil fertility[22]. Within the traditional system of land ownership and management in the KPUI, poor farmers have little control over the rapid conversion of farmland into building sites[23]. In response, they resort to short term coping strategies (such as shortening of fallow periods or opportunistic cultivation of land allocated for building) which are insecure and unsustainable. Rising agricultural labour costs and market fluctuations further exacerbate the vulnerability of KPUI crop farmers[24]. In sum, the prevailing view is that 'farming has shifted from being a major to a minor occupation' within the KPUI[25]. Yet, evidence from the BYN project illustrates that crop farming continues to be a significant source of subsistence for KPUI inhabitants either as a main or supplementary source of income.

A sizeable number of individual project beneficiaries (27.5%) took loans for the purpose of crop farming (Table 1: Annex) illustrating the continued importance of the activity within the KPUI. Even where they used loans to adopt non-farm activities, most beneficiaries continued to cultivate crops as a supplementary source of income (Figure 1). In several cases, respondents depended more on returns from crop farming than the main livelihood activity they adopted with financial support from the project[26]. Crop farming was a particularly important additional source of

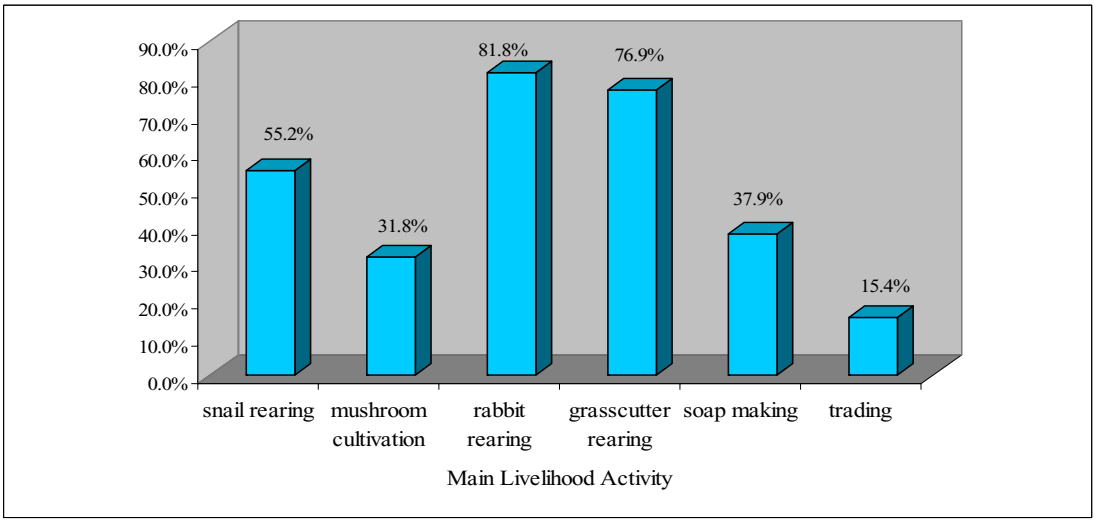
Figure 1: Supplementary Livelihood Activities adopted by BYN Project Beneficiaries



Source: Questionnaire Survey, 2004

income for those engaged in activities with long gestation periods such as grasscutter, snail and rabbit rearing (Figure 2). Crop farming also seems to serve as a safety net to buffer shocks in non-farm natural resource based activities that involve long gestation periods. This may be less important for traders who earn income on a more regular (and often daily) basis. Accordingly, only 15.4% of the traders pursued farming as a supplementary source of income. Besides the demanding nature of trade is likely to compete with time required for crop farming unlike activities that may require less time allowing them to be easily combined with farming. For instance, beneficiaries in Esereso community noted that caring for snails on a daily basis was not particularly time-consuming[27].

Figure 2: Adoption of Crop Farming as Supplementary Livelihood Activity



Source: Questionnaire Survey, 2004

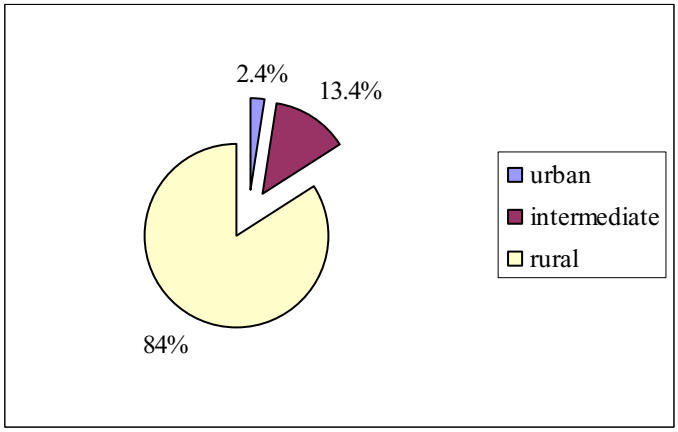
KPUI inhabitants continued to rely on crop farming for a variety of other reasons with familiarity featuring prominently[28]. Project beneficiaries were more confident in adopting crop farming since they possessed the necessary skills and experience. Farmer's reluctance to engage in new and unfamiliar non-farm activities could possibly be because they feel they do not know enough about the risks and benefits associated with those activities. Furthermore, crop farming has been the traditional mainstay of KPUI communities and continues to be revered for this reason. Baffour Kyei, a farmer from Swedru, saw farming as a heritage handed down to him by his forefathers. Several other farmers echoed this view[29].

Farming was also preferred because it provided access to consumable products thereby reducing expenditure on food items[30]. This was particularly important within the monetised economy of the KPUI where households were heavily reliant on food purchased from urban and peri-urban markets for their consumption.

Provided land is available, crop farming requires relatively low start up capital compared to non-farm activities. For example, earlier research found that subsistence food crop and vegetable cultivation in the KPUI required ⊄100,000[31] or ⊄150,000 respectively as start up capital. In contrast, trade in food crops required between ⊄400,000 and ⊄1,000,000[32]. Thus, crop farming may be an attractive option for KPUI inhabitants who lack the financial capital to venture into non-farm livelihood activities where they are able to access land for cultivation.

Whilst crop farming remained significant within the KPUI, this varied according to levels of urbanisation (Figure 3) [33]. The majority of project beneficiaries that opted for crop farming lived in the more rural parts of the KPUI while only a few were from intermediate and urban locations. Crop farming thus declined with greater

Figure 3: Location of Farmers by Level of Urbanisation within the KPUI



Source: Loan Repayment Data, 2005

urbanisation of KPUI communities. A closer look at the distribution of farmers across each of the KPUI communities further illustrated the decline of this activity with

increasing urbanisation (Table 2: Annex). The majority of farmers lived in more rural communities of the KPUI (Ampabame, Swedru, Behenase, and Adagya) whilst few were from intermediate (Esereso, Atafoa) and urban locations (Apatrapa). None of the farmers were from Abrepo, one of the most urbanised KPUI communities. This is not surprising given the greater magnitude of landlessness and land loss with increasing proximity to Kumasi[34]. The dominance of crop farming in more rural parts of the KPUI partly relates to the availability and accessibility of non-farm livelihood opportunities. In more rural communities of the KPUI such as Swedru, farmers noted that the absence of non-farm activities kept them dependent on crop farming[35]. They added that young people have to travel to communities that are closer to Kumasi to access non-farm work.

The level of adoption of crop farming also changed during the three-year life time of the BYN project. Although more people opted for farming in the initial cycle of loan disbursement, trading became dominant in subsequent cycles[36] (Table 2). Except for Swedru and Apatrapa, the percentage of loan recipients opting for farming declined considerably in all other communities during the second cycle. In several communities none of the loan recipients opted for crop farming during the second cycle. In contrast, there was a substantial rise in the percentage of loan recipients adopting trade during the second loan disbursement cycle.

Table 2: Temporal Change in the Adoption of Farming and Trading

Community *	% who chose farming (Cycle 1)	% who chose farming (Cycle 2)	% who chose trading (Cycle 1)	% who chose trading (Cycle 2)
Asaago	50	0	37.5	100
Behenase	75	33.3	25	66.7
Okyrekrom	95.8	0	27.3	100
Swedru	100	100	0	0
Duase	40	0	53.3	100
Apatrapa	8.3	12.5	91.4	87.2
Maase	50	0	18.8	93.3
Atafoa	7.7	5.6	92.3	94.4
Abrepo	0	0	100	100
Adagya	90	0	10	93.3

Source: Loan Repayment Data, 2005

* This includes only those communities that had at least two cycles and not those with only one cycle (i.e. Ampabame & Esreso).

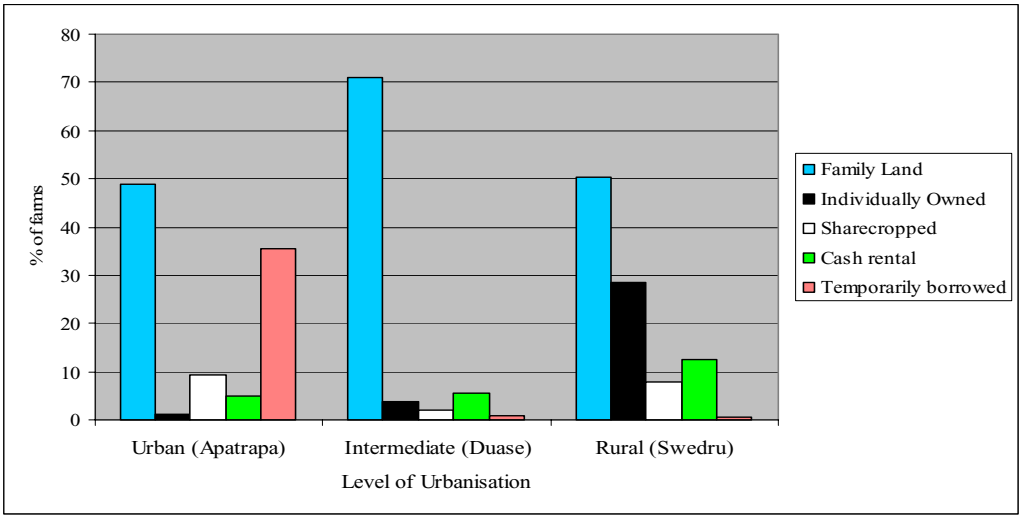
Interviews with the BYN project team members partly explained the decline in the adoption of farming during the latter stages of the project. Loan repayment was poor across most communities during the first cycle of disbursement, the bulk of which

was used for farming. Farmers who benefited from the first cycle attributed their poor repayment records to the failure of their crops due to late rains[37]. According to the project staff, second cycle loan recipients preferred to adopt trading having learnt that those who opted for farming earlier had failed to repay their debts. They also received information through Community Level Facilitators (CLFs)[38] that those who opted for trading in urbanised communities during the first cycle (e.g. Abrepo and Apatrapa) had been more successful in repaying their loans. This illustrates how loan recipients were able to adapt their livelihood choices in response to opportunities and constraints arising within the KPUI. However, such flexibility is not always possible across all KPUI communities. Individuals in Swedru, a more rural community, continued to opt for farming during the second cycle despite poor loan repayment by the first round of beneficiaries. As noted earlier, farming remains the dominant activity in more rural parts of the KPUI whilst non-farm activities such as trading are still at their infancy.

5.2 Access to Land for Crop Farming

The finding that crop farming remains significant appears to contradict the reported rapid loss of land in the KPUI. Indeed, lack of access to land is a key constraint for crop farming within the KPUI and identified as a key characteristic of the poor[39]. However, earlier research within the KPUI illustrates that inhabitants continue to access land for crop farming through a variety of ways (Figure 4). It is shown that family land[40] remains the most prevalent means of acquiring land for cultivation

Figure 4: Land Tenure Arrangements in KPUI Communities



Source: Final Technical Report, R6799, Part 2A, p.82

in the KPUI although it is not likely to be available in more urbanised communities where housing developments and small scale enterprises are widespread. Temporarily borrowed and share cropping arrangements increase with proximity to

Kumasi whilst individually owned land declines. This explains the decline in crop farming with greater urbanisation of KPUI communities.

Within the BYN project too, qualitative evidence shows that the availability of land for farming varies considerably across the KPUI. For instance, farmers in more rural and intermediate locations felt it was still possible to access family land in contrast to farmers in more urbanised communities where shortage of land was identified as a major constraint. The extent of cultivation in valley bottoms, which is considered an outcome of rapid loss of land for housing development, also varied from one community to another[41]. Whereas vegetable (and other crop) farmers in Swedru were farming in upland locations, those in Duase cultivated vegetables mainly in valley bottoms. Some KPUI inhabitants cultivated vegetables in their backyard[42]. Others, such as Adjei Benjamin from Duase, alternated between upland and valley bottom plots during rainy and dry seasons respectively[43]. This illustrates that the rate and extent of land loss within the KPUI is not uniform.

KPUI farmers were aware of the threats arising from the sale of land for residential and industrial use. For instance, farmers from Swedru expected to face land scarcity within three to five years time due to urban expansion. Likewise, Felicia Frempomaa from Duase cultivated yam on family land in an upland location but noted the imminent risk of losing the land to housing developments. Even so, she felt she could continue to cultivate since her family owned a large piece of land and it would take some time before it was entirely allocated for housing.

Even though project beneficiaries felt a loss of land to housing developments was inevitable, some were prepared to maintain crop farming at all costs. In the event of his land being sold, Adjei Benjamin, a vegetable farmer from Duase, said he would either rent land in a valley bottom or cultivate land beyond the KPUI. Likewise, Emanuel Asare, a vegetable farmer from Adagya, was prepared to farm outside of the community if his plot was allotted for development. Indeed, there is evidence within earlier research that a growing number of KPUI farmers were cultivating land away from the PUI[44]. However, this may not be an option for poor farmers because accessing land beyond the KPUI requires some level of financial capital.

Farmers were also able to access land by entering sharecropping arrangements with other land owners. Under such arrangements, the owner of the land receives a share of the harvest cultivated by a landless farmer (see case study of Kofi Appiah below). The owners of land cultivated under such agreements may be inhabitants of the KPUI or Kumasi.

Renting is a further means of accessing land in the KPUI. Earlier research (in 2001) indicates that rents vary considerably from ¢ 10,000 to ¢ 100,000 per cropping season which could be up to 2 years[45]. Currently, costs of renting land can be much higher. For instance, Kojo Adinkra, a vegetable farmer from Adagya, has a three year lease

and pays ⊄ 250,000 per year. With greater urbanisation of KPUI communities and declining availability of land, cultivation of rented land is more widespread[46] but also more costly. Again, the rising cost of renting land is likely to contribute to the decline of crop farming with greater urbanisation.

Some farmers were temporarily cultivating land already allocated for building[47] reflecting their growing desperation. Earlier research also notes that such opportunistic cultivation characterised by short season crop production is widespread in the KPUI[48].This is a highly insecure means of accessing land for cultivation as construction can start without any notification.

5.3 Types of Crop Farming in the KPUI

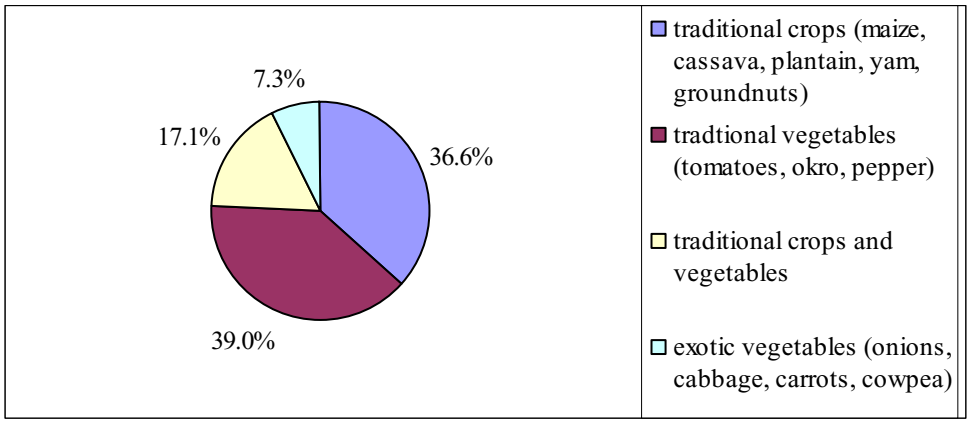
Earlier research highlights a shift of crop farming in the KPUI from traditional tree crops towards food crop production primarily in valley bottoms[49]. This is attributed to the rapid conversion of upland areas into building sites leaving valley bottoms and lower slopes (which are less suitable for construction) for crop farming. This shift towards food crop cultivation is also considered a consequence of greater urban market demand for food crops particularly in locations closer to Kumasi.

Indeed, KPUI inhabitants indicated an interest to cultivate food crops from the initial planning stage for implementation of livelihood activities in the BYN project. Traditional food crops such as cassava, maize, pepper, okra and yam were the most widely preferred crops during the planning stage and to a lesser degree, vegetables (Table 4: Annex). Accordingly, those who eventually took loans for crop farming focused entirely on cultivating food crops.

The most extensively cultivated crop was maize intercropped with cassava (28%) followed by vegetables, namely tomatoes (17.1%) and okra (17.1%) (Table 3: Annex). The range of crops cultivated by loan recipients can be further classified into traditional food crops (maize, cassava, yam, plantain, groundnuts), traditional vegetables (tomatoes, okra and pepper) and non-traditional (or exotic) vegetables (onions, cowpea, carrots, cabbage).

Traditional vegetables were most widely cultivated by farmers in the KPUI (Figure 5). Some farmers were involved in exotic vegetable cultivation most of which was likely to be market rather than subsistence oriented. The adoption of exotic vegetable cultivation could have been restricted by the high costs of purchasing seeds most of which are imported into the country. On the whole, 46.3% of the farmers were cultivating vegetables, whether traditional or exotic. This illustrates the growing preference of KPUI farmers to cultivate high value products presumably in response to greater urban demand for peri-urban agro-produce.

Figure 5: Types of Crops Cultivated in the KPUI

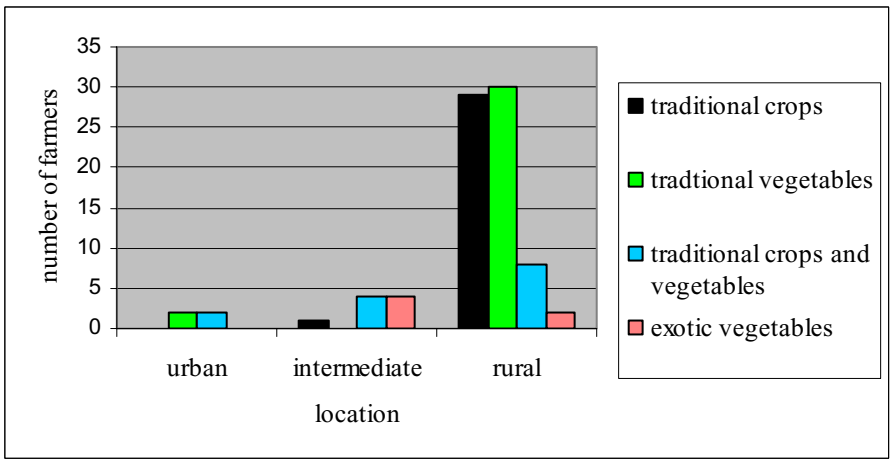


Source: Loan Repayment Data, 2005

Nevertheless, traditional crop cultivation continued to be important within the KPUI. Not only is there a sustained demand for such crops because they form the local staple foods, but vegetable cultivation has several entry barriers (see below) that could make it inaccessible to some KPUI farmers.

The distribution of traditional and vegetable farming was differentiated across the KPUI (Figure 6). Farmers in urban locations cultivated either traditional vegetables or vegetables mixed with traditional food crops. Traditional food crops were

Figure 6: Type of Crops Cultivated by Level of Urbanisation



Source: Loan Repayment Data, 2005

cultivated in both intermediate and rural locations but not in urban parts suggesting that such cultivation declines with greater urbanisation of KPUI communities. This can be explained by the fact that traditional crops such as cassava, plantain, yam etc require more land (which may not exist any longer in the KPUI) to be able to make a

decent profit[50]. Traditional crop farming could also be less profitable in more urbanised communities because of the rising costs of accessing land.

Farmer's choice of crops was contingent upon a variety of factors including the resources (such as land, financial capital, labour) available to them but also urban and rural market processes. The amount of land available to farmers was an important determinant of the type of crops they cultivated. There appeared to be a preference for those crops that require less land to cultivate given the scarcity of land within the KPUI. For instance, Kofi Appiah, a farmer from Duase, attributed the spread of vegetable farming in his community due to the rapid loss of agricultural land over the last ten years. Likewise, farmers in Swedru, a more rural community, attributed the popularity of okra cultivation to the fact that it generated reasonable returns on smaller plots of land compared to traditional food crops. On the whole, vegetable cultivation provides higher returns per acre compared to more traditional crops such as maize and cassava[51].

The ability of crops to generate quick returns was a further determinant of the types of crops cultivated by KPUI farmers. For instance, Felicia Frempomaa a farmer from Duase used to cultivate cassava intercropped with maize. After taking a loan of ¢200,000 from the BYN project, she shifted to yam cultivation primarily because it matures faster than cassava. Here too vegetable production is more attractive for KPUI farmers because it has a shorter production cycle relative to other food crops[52]. Swedru farmers noted that okra has a short production cycle explaining why it was one of the widely cultivated crops by KPUI farmers (see above). Such preference for crops with shorter production cycles relates to the need for regular cash income within a monetised peri-urban economy where subsistence production gradually becomes negligible. Even where crop production is pursued, KPUI farmers may still have to purchase of food items to meet consumption needs. Indeed, feeding was identified as an expense by a significant number of farmers in the KPUI (45.5 %) illustrating their dependence on purchased food[53].

Farmers in the KPUI were also aware of urban market opportunities and adjusted their choice of crops accordingly. An earlier study of Duase, one the KPUI communities, also indicated that the main factor determining production was demand from Kumasi market[54]. Loan recipients within the BYN project preferred cultivating crops for which there was a better urban demand. For instance, cassava (often intercropped with maize) was widely cultivated in the KPUI because of the high demand for it (although the risks of abundant market supply persisted). Cassava forms the main component of the staple food (i.e. fufu) for KPUI and urban households in Kumasi. Likewise, Felicia Fempomma who cultivated yams noted that her proximity to the urban centre enabled her to sell fresh tubers easily, showing how crop cultivation within the KPUI can be driven by urban demand. Akosua Addai, an okra and cassava farmer in Swedru said "*Okra farming is popular here*

because of the ready market for the produce. Wholesalers from Accra and Kumasi come almost everyday to buy the okra." Vegetable production was most attractive, as there is usually a ready 'niche' for it in Kumasi market. Adjei Benjamin, a farmer in Duase preferred to cultivate vegetables as their sale was less competitive than traditional food crops of which there is a greater supply.

Financiers may also dictate the type of crops cultivated. KPUI farmers who lacked the required financial input for crop cultivation could seek financial support in the form of a loan from urban or peri-urban residents. This loan was repaid either in cash or in kind in the form of crops. Urban or peri-urban traders also approached farmers with financial support to cultivate specific crops for them. For instance, it was common for urban traders to approach peri-urban farmers to cultivate vegetables during the dry season when such production was at its lowest[55].

Although vegetable production was ideal within the KPUI on several grounds, there are several barriers of entry into this activity. Vegetables required more attention than traditional crops which means that such farmers had less time to engage in additional livelihood activities which may be critical for sustenance until harvests are ready. The quality of vegetables was also threatened by water pollution where cultivation takes place in valley bottoms and urban wastewater[56]. Reduced market size for vegetables from urbanised communities such as Abrepo and Apatrapa due to the use of polluted water for cultivation has also been reported[57]. Also, vegetables are more vulnerable to pests and have to be frequently sprayed with pesticides which are not always affordable to farmers and destructive to the natural resources of the KPUI[58]. Indeed, earlier research notes that fertiliser use is more common amongst vegetable farmers but not considered profitable by traditional food crop farmers[59].

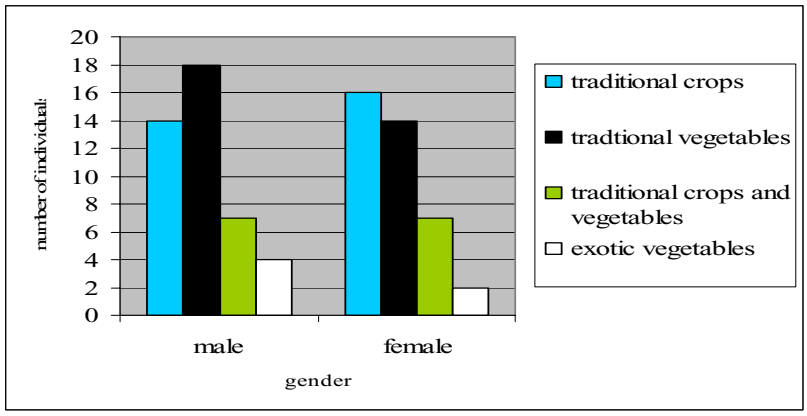
5.4 Gender and Crop Farming

Men and women participated equally within crop farming but were likely to differ in the specific type of crops they cultivated (see below). Of those who adopted crop farming, the percentage of men (52.4%) was only slightly higher than women (47.6%). Age has also been identified as a critical determinant of participation in crop farming within the KPUI such that this activity is fast becoming an occupation of older persons, especially women[60]. Within the BYN project, farmers in Swedru [61] noted young people's aversion towards farming and preference for non-farm activities such as petty trading, sand wining, masonry, carpentry or construction work in Kumasi or the KPUI. However, there is a lack of information on the age of BYN project beneficiaries that adopted crop farming.

Farmer's choice of crops was gendered such that women were dominant amongst those who cultivated traditional crops (groundnuts, maize, plantain and cassava)

(Figure 7). In contrast, the majority of those who cultivated both traditional and exotic vegetables were male. When considering gendered differences across each

Figure 7: Gendered Differences in Traditional Crop and Vegetable Cultivation



Source: Loan Repayment Data, 2005

type of crop, men were dominant in cultivating carrot and cabbage, tomatoes, garden eggs, onions, pepper and maize intercropped with cassava whilst women dominated okra, groundnuts, maize and cassava cultivation (Table 5: Annex). With the decline of tree crop production (a traditionally male domain[62]) coupled with increasing urban demand for vegetables, it is possible that men are taking over vegetable production which was previously women's domain. The relative profitability of vegetable farming (see below) may be a reason for its increased adoption by men.

5.5 Outcomes of Crop Farming

Loan repayment can be considered as an indirect yardstick of the success of those who opted for crop farming within the BYN project[63]. Repayment by farmers varied depending on the crops they cultivated, their location within the KPUI and gender (Table 3). Farmers cultivating traditional crops and traditional crops with vegetables

Table 3: Mean Percentage Outstanding Debt amongst Farmers

		Mean % Outstanding Debt*
Crop Category	Traditional food crops	32.7
	Vegetables	24.1
	Traditional food crops & Vegetables	35.7
Location	Urban	2.4
	Intermediate	59.5
	Rural	25.6
Gender	Male	22.1
	Female	34.8
Crop Type	Maize and Cassava	27.9

	Tomatoes	12.3
	Okra	27

Source: Loan Repayment Data, 2005

*The percentage of the total loan which remains unpaid.

were left with a higher percentage of outstanding debt compared to those cultivating vegetables (Table 3). When considering the three most widely cultivated crops, those cultivating tomatoes had a lower debt than those in maize and cassava or okra cultivation. It thus appears that vegetable farmers are able to repay more of their debt than those cultivating other crops. Assuming that farmers' capacity to repay loan impinges on the returns they gain, vegetable farmers could be earning higher returns than those who cultivate traditional crops. Indeed, vegetable farming can be more profitable than traditional crop cultivation. For example, in an earlier study gross profit margin per acre for cabbage cultivation was found to be ¢ 2,712,500 compared to ¢ 630,000 for maize[64]. Qualitative evidence from the BYN project also supports the notion that vegetable farming, especially that of exotic vegetables, is profitable (Box 1). Alternatively, the short production cycle of vegetables might enable farmers to pay of their loans more regularly. It is also likely to permit more crops over the year, producing more income.

Box 1: Successful Exotic Vegetable Farmers

Agyeman Dua, Tomato farmer, Swedru
He had his own capital of ¢ 500,000 first but realised this would not adequate to cover fertilizer costs. He thus took a loan of ¢ 400,000 from the project. Upon harvesting the tomatoes he got a profit of ¢ 600,000 after deducting costs of inputs. He was thus able to repay his loan including the interest (¢ 20,000).

Mary Adumttah, Tomato farmer, Swedru
She took a loan of ¢ 400,000 to cultivate tomatoes. After selling her harvest of tomatoes she made a profit of ¢ 1,200,000 after deducting costs of input. She has repaid the loan in full. She attributed her high profit to the fact that she harvested the tomatoes earlier than other cultivators thereby getting higher prices for her harvest.

Source: Case Studies, June 2005

The distribution of outstanding debt within the KPUI illustrated that farmers in urban locations had considerably less debt than those in both intermediate and rural locations (Table 3). This could be because farmers in urban locations are better able to respond to and access urban markets thus are gaining more returns. However, this is contradicted by higher debt amongst farmers in intermediate parts compared to rural locations (see also Table 6: Annex). It is possible that farmers in more rural locations are less vulnerable to the negative effects of urbanisation on crop farming (such as rising costs of land and labour). Also, the majority of intermediate farmers (89.8%) cultivated vegetables (exclusively or mixed with other crops) which requires

larger loans than the cultivation of traditional food crops which requires smaller loans and continued to be dominant in rural locations (42% of rural crop cultivation).

Mean outstanding debt was higher amongst female farmers compared to male farmers (Table 3). This relates partly to women's greater dependence on hired labour for crop cultivation in the KPUI. Women have to hire labour particularly during the initial stages of preparing land for cultivation (e.g. clearing trees, pressing down). Given their responsibilities for childcare and work within the home, women are likely to have less time to perform these tasks for themselves. In contrast, men are likely to do the work themselves or at least require less hired labour support, thereby reducing their expenditure[65]. Thus, rising labour costs, already reported to be as a key constraint within KPUI crop farming[66], pose more of a problem for women farmers (Box 2). This is likely to be accentuated with

Box 2: Costs of Hiring Labour Incurred by Female Farmers in the KPUI

Felicia Frempomma, Farmer (yam), Duase
She hired labour to clear land and raise moulds. She has planted 1,600 moulds of white yam with a loan of ¢200,000 from the project. She paid ¢20,000 per 100 moulds raised totalling ¢320,000 in labour costs alone.

Akousa Addai, Farmer (okra and cassava), Swedru
She planted 1.5 acres of okra intercropped with cassava with a loan of ¢400,000 from the project. She spent ¢300,000 for clearing, ¢350,000 for cutting down trees and pressing down and ¢250,000 for weeding totalling ¢900,000. She was able to do the planting herself.

Ama Serwaa, Farmer (okra and cassava), Swedru
She collected ¢400,000 last year from the project for okra and cassava cultivation. She spent ¢150,000 for clearing, ¢200, 000 for clear-cleaning and ¢100,000 for under-weeding. The cost of okra seeds was ¢160,000. She managed to plant the seeds herself. In total, 73.8% of her costs arose from hired labour.

Source: Case Studies, June 2005

greater urbanisation of KPUI communities and consequent availability of non-farm work as well as higher costs of living that ultimately raise wages. Lower debt amongst male farmers could also be explained by their dominance of vegetable cultivation for which outstanding debt was lower (Table 3). Women's ability to repay credit may also be affected by their responsibilities for household provisioning[67]. Some women reported using the profits from the activities they pursued to cover household costs instead of repaying their loans. Time spent on household work could also reduce the time available to them to devote to livelihood activities.

5.6 Markets and Crop Farming

KPUI farmers market their goods through a variety of channels. They may sell their produce to urban-based traders on a wholesale basis or to peri-urban traders on a retail basis. Alternatively they could retail their products themselves within peri-urban markets. Most farmers, especially vegetable farmers preferred to sell their products on a wholesale basis to urban traders (Box 3). Wholesalers are likely to pay immediately and offer better prices. More importantly, by selling their goods on a wholesale basis, farmers were able to avoid the effects of price fluctuations.

Box 3: Marketing of Agricultural Produce

Adjei Benjamin, Vegetable Farmer, Duase
He normally sells his produce to wholesalers in Kumasi and sometimes the wholesalers come to buy from him in the community. His decision to sell to wholesalers is driven by the fact that they give good prices and also pay instantly unlike retailers who normally want to buy on credit basis.

Kwaku Kodua, Vegetable Farmer, Atafoa
He sells to wholesalers who come to buy the vegetables before harvesting whilst they are still in the farm. The reason for this is that vegetables can easily go bad if not handled well. This strategy also helps him avoid losses if vegetables are not sold soon after harvesting. He also indicated that prices are lower when farmers retail their vegetables in the market. It is advantageous to sell to wholesalers because they purchase in bulk and pay instantly unlike retailers who buy in smaller quantities and may even want to take the produce on a credit basis.

Emmanuel Asare, Vegetable farmer, Adagya
He sells his vegetables to wholesalers in Kumasi because he normally harvests in bulk and cannot sell all of it in the community since most people are farmers and will not buy. He added that some people sell their harvest in the community but only in smaller quantities to other traders who also retail. Sometimes he also sells to such retailers.

Source: Case studies, June 2005

Crop farming has been described as being more subject to price uncertainty compared to non-farm livelihood activities in the KPUI[68]. Indeed, farmers in the BYN project identified seasonal price fluctuations as a key constraint in their livelihoods. KPUI farmers were likely to cultivate similar crops in response to urban demand thereby causing seasonal gluts[69]. This is exacerbated by the entry of products from rural farmers into urban and peri-urban markets. For instance, Baffour Kyei, a farmer in Swedru took a loan of ¢ 500,000 to cultivate garden eggs. He failed to get any profit from the first harvest due to the flooding of the market with garden eggs at the time. Likewise, Mary Adumattah a farmer in Swedru took a loan of ¢ 400,000 to cultivate tomatoes. She noted that farmers in the community cultivated similar crops causing market saturation and low prices. This is exacerbated by miscalculated speculations of good market prices by farmers[70]. Some farmers took advantage of price fluctuations by cultivating vegetables during the dry season when supply is low and prices are high. However, this means they had to water the vegetables

themselves which could be both expensive and strenuous thereby restricting the scale of production.

Box 4: Case Study of a Vegetable Farmer

Kofi Appiah is one of the BYN loan beneficiaries in Duase community. He collected a loan of ¢ 300,000 from the project to cultivate cabbages and carrots. He was already farming prior to taking the loan. He cultivated a total of ½ an acre for both crops on a plot of land (upland location) whose owner is too old to farm. He has no relations with the owner of the land but shares some of the returns from his farming with her. He harvested the vegetables three months after taking a loan and earned ¢500,000 from the sale making a profit of ¢ 200,000. He did not hire any labour which enabled him to minimize his expenditure. From the profit he gained, he gave the owner of the land ¢ 100,000 and used the rest to pay of some of his loan and purchase seeds. After harvesting the vegetables, Kofi planted maize. He harvested the maize in three months and gained a profit of ¢ 300,000 part of which he gave to the owner of the land (¢ 80,000). In addition to paying off part of his loan, he used some of it to start a chop bar business *. The following year (2004) he planted plantain and cassava and managed to pay off this loan entirely.

Kofi identified two ways through which it is possible for him to market his harvest. He could either sell the crops to retailers before (retailer then harvests and sells the crops) or after they are harvested. He noted the former was more profitable as it minimized labour costs incurred during harvesting and transferred risks of harvest failure to the retailer. He also added that some farmers cultivate vegetables during the dry season when vegetable production is low thereby getting higher prices for their harvest.

According to Kofi, farming continues to be dominant within the community as this was the most accessible activity for most inhabitants. He said farming did not require any qualification other than experience which most community members already had. He cited his own example saying that after losing his parents at a very young age, he relied on farming to support himself and his sister. He felt formal sector jobs such as employment in factories were beyond the reach of most community members. Vegetable farming was dominant in the community as most people could only access small plots of land. Also with a shorter gestation period compared to crops such as maize and yam, vegetables were more appealing for farmers.

Source: Case Studies, June 2005
* Kiosks where cooked food is sold.

5.7 Summary of Key Findings

- Crop farming may be threatened by urbanisation but it remained a key source of income for KPUI inhabitants either as a main or supplementary source of income. Some of the reasons for its continued significance included familiarity, low start

up requirements, access to crops for household consumption or a lack of non-farm opportunities.

- Crop farming seemed to serve as a safety net to buffer shocks in livelihood activities with long gestation periods such as non-farm natural resource based activities. This appeared less important for traders who earned income more regularly.
- The adoption of crop farming was differentiated within the KPUI such that it declined with greater urbanisation of communities.
- Despite widespread loss of agricultural land due to urbanisation, KPUI farmers managed to access land through a variety of ways. Family land was a common means of accessing land although this appeared to decline with urbanisation of the KPUI. Other farmers rented land or entered sharecropping arrangements. Cultivation of land already allocated for building was one of the highly insecure coping strategies pursued by KPUI farmers in response to loss of land to housing developments.
- The availability of land, length of production cycle and marketing opportunities determined farmer's choice of crops. There was an overall preference for crops that required less land. The preference for crops with shorter production cycles in relation to the need for regular cash income within a monetised peri-urban economy was also evident.
- Farmers adjusted, where possible, their choice of crops according to market opportunities and constraints, shifting their production to those that were in greater demand. Farmers were thus likely to cultivate similar crops causing seasonal gluts and market fluctuations.
- Vegetables, both traditional and exotic, were ideal in several respects (production cycle, space requirements and marketability) and thus more widely cultivated than traditional food crops. Vegetable cultivation increased with greater urbanisation.
- Traditional crop cultivation remained important within the KPUI, but declined considerably with greater urbanisation of communities.
- Outstanding debt was lower amongst farmers in more urban locations compared to those in rural parts of the KPUI. Debt in the intermediate parts was higher than in both rural and urban parts of the KPUI.
- Farmers cultivating vegetables had lower outstanding debt than traditional crop cultivators.
- Men were more dominant in vegetable cultivation, possibly because it is more profitable. In turn, this explains the lower outstanding debt amongst men farmers compared to women farmers.

[6] Trading by People in the KPUI

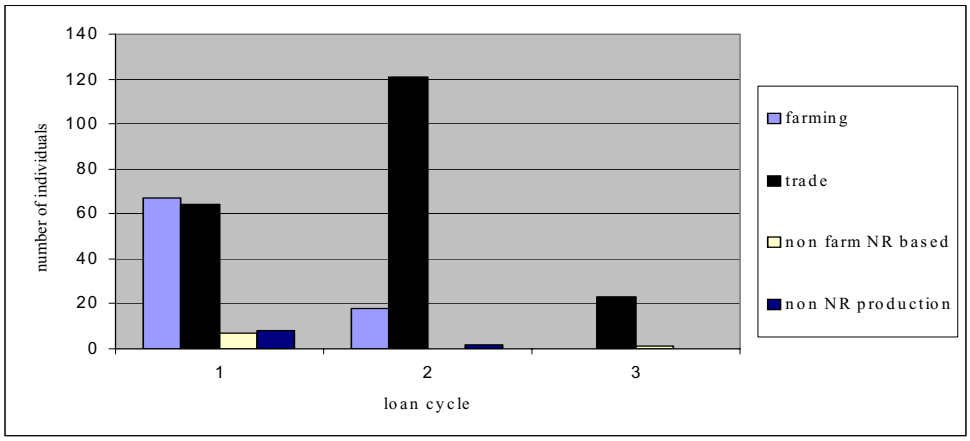
Trading was one of the more successful livelihood activities within the BYN project. The aim here is to examine the nature of peri-urban trading through a review of the experiences of those who used loans from the BYN project to engage in this activity.

Specific issues considered included the types of goods traded, types of people who adopted trade, the requirements for participation in trade and opportunities and constraints created by the KPUI for trade.

6.1 Significance of Trading

Although the exact process through which trading emerged as a key component of the project is not clear[71], it was favoured and thus promoted by both the communities and the project. The adoption of trading activities increased significantly during the project lifetime (Figure 8). Perhaps the most important reason for the popularity of trading was its ability to generate quicker returns on a daily basis unlike crop farming which generates returns over longer periods[72].

Figure 8: Livelihood Activities by Loan Disbursement Cycle

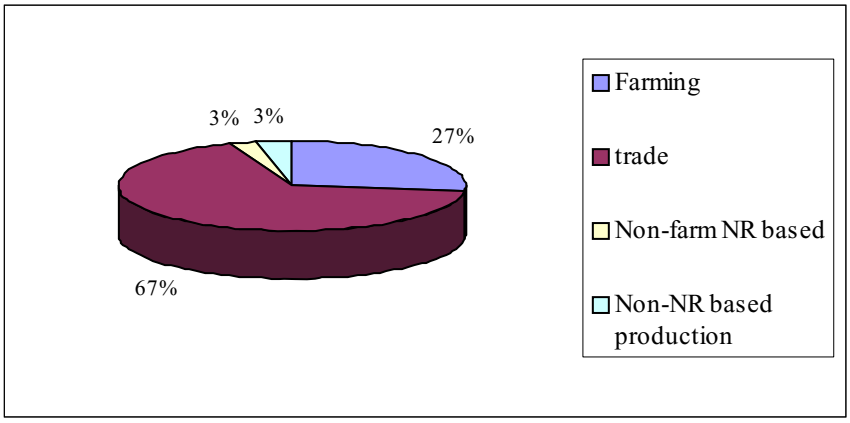


Source: Loan Repayment Data, 2005

An additional reason for the popularity of trade was that many were already engaged in this activity and had the necessary skills. For instance, a random survey of beneficiaries showed that 89.6% of those who adopted trading were already participating in this activity prior to the project (Table7: Annex).

Loan recipients further explained their preference for trading over crop farming primarily in terms of the declining availability of land for cultivation as well as the risks of harvest failure due to late or adequate rains[73]. They also identified the rising costs of hiring labour as a key constraint in crop farming. The fact that trading requires less land than crop farming was also identified as a reason for its popularity. Two thirds of the loans for individual project beneficiaries were provided for trading activities (Figure 9). For some, it was a primary source of subsistence and for others a supplement to their main livelihood activities. The majority of these traders (63.2%) started their businesses with their own personal savings and supplemented their capital base with loans from the BYN project. Trading was adopted less widely as a

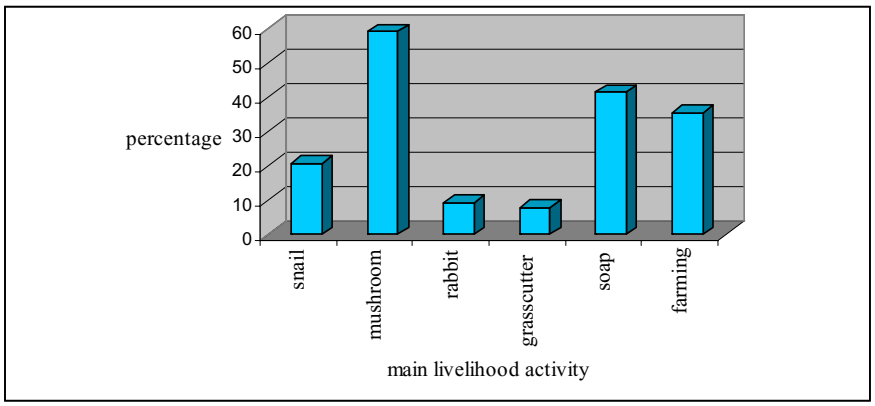
Figure 9: Livelihood Activities Chosen by Individual Loan Recipients



Source: Loan Repayment Data, 2005

supplementary livelihood activity by those engaged in activities with the longest gestation periods (snail, rabbit and grasscutter rearing) possibly because they had not raised animals that they could trade yet. In contrast, those engaged in farming, soap making and mushroom cultivation were likely to have gained products by 2004 (time of the questionnaire survey) thus reporting trading of those products as an additional source of income.

Figure 10: Adoption of Trade as a Supplementary Livelihood Activity



Source: Questionnaire Survey, 2004

6.2 Types of Goods Traded

At least 200 individuals took loans from the BYN project specifically for the purpose of trading (Table 8: Annex)[74] most of whom sold food items (91%). A great variety of food items were sold by traders within the KPUI with fresh fish, *kenkey*, fresh yam, ingredients[75], plantain, cooked rice and charcoal being some of the more common goods (Table 9: Annex). Significant proportions (47.1%) of the food items were derived from traditional food crops such as plantain, yam, cassava and maize. This suggests interdependencies between trading and crop farming within the KPUI. Food items can be further classified into cooked and uncooked food[76]. Uncooked items were the most prevalent type of food being sold by traders (53%) followed by cooked (38%) and non-food items (9%). Trade in uncooked food can be easily adopted as it involves less processing and thus required lower start up and working capital (Table 4). Yet, gross returns from cooked food trade are also significantly higher than returns from trade in traditional food crops (Table 5).

There are several possible reasons why trade of food items is popular within the KPUI. Selling food serves the basic consumption needs of PUI dwellers most of whom may not engage in subsistence crop cultivation. Also, food items are likely to sell on a daily basis as they are basic necessities compared to non-food items for which there is not likely to be

Table 4: Mean Loan Requested by Traders

Type of Goods Sold	**Mean Loan Requested**
Cooked	¢ 480,626
Uncooked	¢ 481,648
Non-food	¢ 547,368

Source: Loan Repayment Data, 2005

demand on a daily basis (e.g. charcoal, firewood, clothes etc). Some non-food items may either be difficult to access (charcoal and firewood affected by urban expansion and consequent decline of forests) or require higher starting capital (clothes or other consumer goods). Indeed the average amount of loan requested was higher for those engaged in trading non-food items compared to those trading cooked food and non-cooked food items (Table 4). For instance, Janet Afriye, who sells oranges in Atafoa said she preferred this trade as it required small working capital unlike trade in second hand clothes or sandals which requires much higher start up capital. She added that trading food items enables her family to also consume some of the goods. Likewise, Yaa Achiaa who sells food ingredients in Adagya would have liked to trade in second hand clothes if she had adequate start up capital.

It is thus likely that differences in the start-up and operating capital requirements cause a preference for trade in uncooked food items. For example, cooked food trade requires a higher start up capital than trade in agricultural produce thereby restricting entry by the poor (Table 5).

Table 5: Costs and Benefits of Trade in the KPUI

	Cooked food sellers (young women) (in cedis)	**Fish and agricultural produce traders (old women) (in cedis)**
Start up capital	600,000-1,000,000	300,000-1,000,000
Operating	150,000-300,000	100,000 – 500,000
Gross Income	200-000-280,000/day 50 – 80 million/season	20,000-150,000/day 6-45 million/year

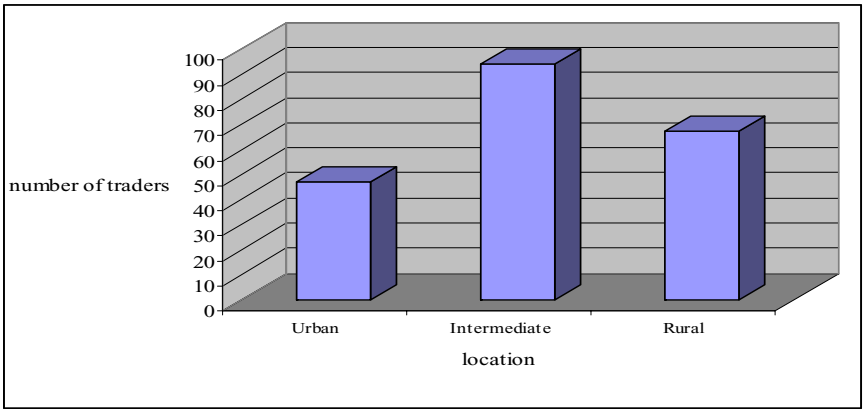
Source: Occupational focus group studies, R7854 Final Technical Report p. C 10.

An additional advantage of selling uncooked food is that, unlike cooked food that gets spoilt if not sold on the day of preparation, uncooked food items can be sold over a longer period of time. The few who engage in selling non-food items are at an even greater advantage than those selling food items given that their goods are non-perishable. Akosua Dufie, a charcoal trader from Duase said she opted for this trade because charcoal can be stored for a long period of time if she is unable to sell it.

6.3 Location of Trading Activities in the KPUI

In terms of the overall spread of livelihood activities within the PUI, the majority of traders were located in rural and intermediate locations (Figure 11). However, traders in rural parts are spread over six communities whereas those from urban areas are spread over two communities only. Thus, the concentration of trading activities is indeed much higher in urban communities than in rural parts.

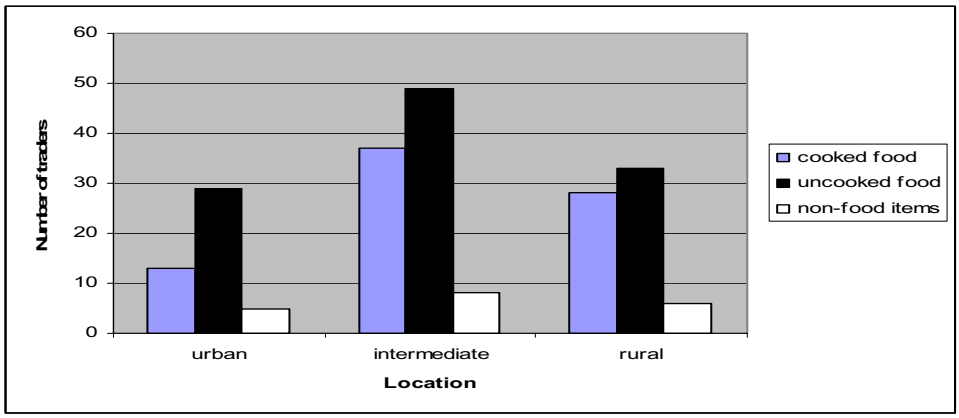
Figure 11: Location of Traders in the KPUI



Source: Loan Repayment Data, 2005

An examination of the specific communities where traders lived reflects a similar concentration of traders in intermediate communities. Accordingly, most traders came from Abrepo, Atafoa, Okyrekrom, Duase and Asaago (intermediate) (Table 10: Annex). In contrast, none of the traders lived in Ampabame or Swedru both of which can be classified as more rural in character as some level of subsistence farming is still going on. Fewer traders lived in the rural communities of Behenase and Adagya.

Figure 12: Spread of Types of Trade across the KPUI



Source: Loan Repayment Data, 2005

Trade of uncooked food was dominant throughout the PUI followed by cooked food items (Figure 12). Non-food items were the least popular goods sold in all parts of the KPUI.

6.4 Gender and Trade

Women dominate trading within the KPUI. Almost all individuals who took loans for trading within the BYN project were women (98.6%). The majority of these women sold uncooked food items (53.2%) followed by cooked food (38%) and non-food items (8.8%). It is not surprising that a limited number of men engaged in trading since most of it involved food which is traditionally thought to be women's domain. Out of three men who were engaged in trading, two sold oranges and the third sold furniture. Also, men considered the amount of loan provided by the project inadequate[77].

6.5 Determinants of the Adoption of Trade

The cost and availability of goods, market demand and space requirements were identified as determinants of the choice of goods traded in the KPUI[78]. Given that most of the goods traded were derived from traditional food crops whose availability

is seasonal, the cost of inputs also varied accordingly. For instance, Jemima Gyamerah sells cooked rice in Duase. She was previously selling kenkey but stopped due to the high seasonal cost of maize (main input for preparing kenkey)[79]. Akua Bayor, a cooked rice and stew seller from Abrepo, discontinued preparing and selling 'pito', a locally brewed alcohol due the difficulties of acquiring ingredients such as sorghum and millet which have to be purchased from the North of the country. She noted the costs of transporting these inputs were too high. She was also faced with problems of raising a structure to accommodate customers for her 'pito'. Availability of adequate space is thus important in certain trading activities within the KPUI.

As elaborated earlier, the amount of start up capital available to KPUI traders also determined the types of good they sold. Akua Frimpongmaa, a charcoal trader from Atafoa noted that it would be difficult for poor people to participate in this activity due to the costs involved in purchasing charcoal. The decline of forests in the PUI (due to urban expansion) means that traders have to travel long distances (e.g. to Brong Ahafo Region) to purchase the charcoal. Those who travel to rural areas to purchase supplies of traditional food crops (such as plantain, cassava and yam) are faced with similar cost constraints.

6.6 Market Interaction of KPUI Traders

Earlier research indicates that most of the trade in the KPUI is village based[80]. Indeed, it is reported that BYN project loan recipients sold their goods within local markets[81] although some also hawked goods in Kumasi, mostly non-traditional food items such as oranges, apples etc[82]. The main market in Kumasi is likely to be inaccessible to KPUI traders given that it is highly structured with established traders. This meant that most KPUI traders were likely to sell their goods either within their own communities or other KPUI villages. Local markets are more structured in urbanised parts of the KPUI (e.g. Abrepo KMA has constructed a market place) whilst more rural locations may not have a market place (e.g. Swedru and Ampabame)[83].

KPUI traders interacted with markets in Kumasi, local PUI markets and rural producers for the purpose of obtaining their supplies (Table 6). Most cooked food

Table 6: Market Interaction of KPUI Inhabitants

Type of Trade	Market Interaction
Cooked Food Sellers	Purchase most goods from Kumasi often from middle men creating a market chain in the process. They sell their goods directly to customers
Vegetable Farmers (young women)	Sell their products both to retailers and wholesalers in and outside the community

Vegetable, Smoked Fish and Food Crop Seller (old women)	Purchase all their goods from Kumasi and retail to their customers in KPUI villages
Food Crop Farmers (old men)	Purchase inputs from Kumasi, They sell their food crops to customers who in turn sell to wholesalers or retail to other customers.

Source: R7854 Final Technical Report, p. H27-39

traders purchased their inputs from the urban centre or peri-urban retailers. A number of KPUI traders bought their supplies from rural farmers since most traded goods derived from traditional food crops. Traders who travelled to and purchased from rural producers were likely to be those who sold uncooked traditional food items such as yam or plantain (see case study of Martha Fosua below). They bought these goods and retailed them in local KPUI markets. However, even these sellers of uncooked food may get their supplies from wholesalers based in Kumasi. Some traders such as Agnes Akrofi from Abrepo, did not have an established source of supply but rather purchased goods based on information about cheaper prices.

The amount of capital available to traders partly determined from where KPUI traders obtained their supplies. For example, the financial costs involved (for transportation, accommodation) restricted the number of traders who could travel to rural areas to purchase their supplies (see case study of Martha Fosua below)[84]. Traders also had to purchase larger quantities of goods from rural producers in order to make a profit from the returns of selling those goods in peri-urban markets[85]. Janet Afriye, an orange trader in Atafoa community said she would have preferred to engage in wholesale trade of traditional food crops. However, she said her start up capital of ¢ 500,000 was insufficient to allow her to travel to rural farms and purchase supplies in large quantities. She indicated that an amount of ¢ 2,000,000 would enable her to engage in wholesale trade.

Those operating smaller scale trading activities were thus likely to purchase their supplies from urban or peri-urban wholesalers who got supplies from rural areas. For instance, Philomina Nyarko sold yam in Duase. She normally gets her supplies from wholesalers in the "yam market" in Kumasi who bring the yam from Techiman in the Brong Ahafo region and Ejura in Ashanti region. She bought 100 tubers from the wholesalers every week. She sells yam all year round because even when she does not have money, she is able to get supplies from wholesalers (with whom she has done business for a number of years) on a credit basis. It appears that KPUI traders have equally important linkages with rural areas and urban markets but it is often the latter which is emphasised within the existing literature on peri-urban livelihoods[86].

KPUI traders were aware of the advantages of greater urbanisation and the consequent expansion of markets and consumers. For example, traders from Abrepo

identified the greater urbanisation and size of the community as positive factors for their activities[87]. Likewise in Duase and Atafoa, proximity to the urban centre, fast growth of area and increased marketing opportunities and easy transportation to and from Kumasi were identified as opportunities for trade (Case studies, June 2005). The existence of a stable market was also the primary reason provided by the majority of those who adopted trading (50%) to explain their choice of livelihood activity (Table 11-Annex).

6.7 The Impact of Urbanisation on Trading within the KPUI

Trading spaces commonly used by petty traders within the KPUI included structures attached to walls, kiosks, and road side tables[88]. The declining availability of space within the KPUI is considered mainly as a threat to crop farming and to some degree, non-farm natural resource based livelihood activities[89]. Although trading required less space relative to other activities such as farming or some non-farm natural resource based activities supported through the BYN project, space was still a concern for traders.

Jemima Gyamerah, a cooked rice seller in Duase noted the difficulties she faced in finding space to sell her food. She operated her trade on a table top on the roadside but said it was too small for her business. Constructing a kiosk from which to operate was costly and beyond her means. Also, it was easier for the Kumasi Metropolitan Assembly (KMA) to regulate tax payment once a trader sets up a kiosk. The difficulties of finding space for trading were accentuated in urbanised communities like Abrepo where more people engage in this activity thus competing intensely for trading spots.

It is not only the amount of space that is of importance in trading but also the physical structure from which it is operated. Whilst some sold their goods on tabletops others sold in kiosks or even shops along roadsides. Those who traded from kiosks were thought to be at an advantage in terms of attracting customers. Those with homes on the main roadsides can sell goods in front of their homes. This can be a useful strategy to avoid competition with other traders. For example, Yaa Achiaa in Adagya preferred to sell food ingredients on a table top in front of her house to avoid competing with traders around the main lorry station in the community where most trading takes place.

Those whose homes were located in less accessible parts had to negotiate with other home owners for trading spots at times requiring payment. Some more successful traders sold their goods in more than one location with the help of relatives or employees (Box 5).

Box 5: Trading in Multiple Locations

Mary Achiaa is a kenkey trader from Abrepo. With the help of a women employee, she sells her kenkey in a trading spot she bought on the main road by the community market. She herself sells kenkey at the community school compound. She joins her employee in the market during school holidays. Although she used to sell in front of her home when she first started this trade 10 year ago, she decided to secure space in the market as this is more accessible to a greater number of people.

Source: Case Studies, June 2005

Given the difficulties of securing access to fixed trading spots, hawking is a key marketing strategy within the KPUI. For instance Philomina Nyarko, a yam trader from Duase noted that given the absence of a daily market in Duase, hawking was the only way she could sell her yam quickly enough before it started to go off and lose its market value. She added that given the small size of the community, the local market size was limited making it less profitable to remain in one trading spot. Through hawking, she was also able to reach those persons who lacked the time to travel to the market. Moving within the community also helped to establish her status as a yam trader which meant that people came to purchase from her house. Likewise, Yaa Akoswa, a kenkey trader in Esereso prefers to hawk rather that selling at the main lorry station where most trading took place and where there were already four other traders selling kenkey. In contrast, Agnes Akrofi, a plantain trader from Abrepo, one of the more urbanised communities, hawks to avoid competition from other traders in the community. She noted that she preferred to get a trading spot in the local market but had been told these were all occupied when she made an inquiry. In her view, demand is higher in the local market allowing access to more buyers compared to hawking.

Decisions on marketing strategies thus varied between different KPUI communities depending on the existence of a local market, its size and the extent of competition from other traders. In turn, these were influenced by the level or urbanisation such that more urbanised communities such as Abrepo and Apatrapa had larger markets yet more traders.

KPUI traders identified competition from traders engaged in similar activities as a key threat[90]. Competitors could be both local and external. External competitors included rural producers of traditional food crops who brought their goods in bulk for sale in the peri-urban interface. The popularity of trading within KPUI communities could easily cause saturation of local PUI markets which are smaller than the urban markets. Furthermore, KPUI traders were subject to seasonal fluctuation of harvests and thus prices of food crops. There was also evidence that KPUI inhabitants misjudged the marketability of their products indicating their lack access to accurate market information[91].

Several traders noted that they sold their goods on a credit basis and thus faced difficulties of repayment. For instance, an okra farmer said "*It is not easy collecting money from creditors who do not have the means but with persuasion, we make headway*"[92].

Offering credit as a means to increase sales is a form of risk taking for entrepreneurs. Confidence that debts can be collected may reflect confidence in the ability of social institutions of community or rural life to support the payment of debts. This confidence is likely to diminish within the KPUI as newcomers living outside these institutions increase and as young people reject traditional institutions.

Box 6: Case Study of an Uncooked Food Seller

Martha Fosua is a 52 year old woman who sells plantain in Abrepo. She received a loan of ¢500,000 from the project in December 2004 to be repaid within 4 months. She has only recently (June 2005) repaid the entire amount of loan. She was already involved in selling plantain prior to taking the loan which she used to increase her working capital. She noted that it took her longer than planned to repay the loan due to her small start up capital and the consequent low profit margin. She indicated that trade in plantain is generally profitable but this depends on one's start up capital and thus the quantity of plantain one is able to purchase from rural farmers to retail in the KPUI. Martha was planning to discontinue selling plantain if she had not received a loan from the project.

She buys plantain in bulk from farmers in rural villages such as Tepa or Brong Ahafo Region, as this is cheaper than buying from retailers in Kumasi, on a weekly basis and retails this within Abrepo. She buys between 15 and 18 bunches of plantain per trip which she finishes selling over 3 or 4 days. After deducting her transportation costs (¢60,000), Martha makes a profit of ¢50,000 or even ¢60,000 from every trip. Martha noted that prices for plantain are generally higher due to the increase in the number of retailers going to purchase it from rural farmers. She commented that poor people were unable to engage in this trade, given the costs involved. It can take up to three days to travel to rural communities (with very poor roads) and purchase the plantain. At times, especially during the lean season when crops are less available, Martha has to spend the night in rural villages. She either stays with the farmers she buys the crops from or else rents a room, along with other traders.

Martha chose to engage in selling plantain mainly because of her familiarity with the work. Her mother used to sell plantain so Martha has been involved in this activity from a young age. A further reason why Martha opted to sell plantain was because, in addition to being marketed, plantain can be consumed by her family. Upon her return from every trip, she allocates one bunch of plantain (worth ¢17,000) for household consumption. She noted that she contributes more towards the family upkeep compared to her husband who is a farmer. For example, she gives ¢ 3,000 to each of her four children daily as pocket money. She added that the delay in her loan repayment were partly due to her responsibilities for household provisioning.

Martha identified the indirect effects of urban expansion on her trade in plantain. According to her, she used to purchase plantain in peri-urban villages around Kumasi but is no longer able to do so. She observed that with the expansion of Kumasi land which was previously cultivated has

been allocated for housing development, timber constructors or estate developers. This means that it is not possible for traders like her to purchase plantain from peri-urban communities.

Although Martha noted that her plantain trade required limited space and was not affected in the same way as farming, she now has to spend considerable time and money to purchase plantain from rural farmers. In turn, this reduces the profit margin of her trade. She added that, recently (May-June 2005) inadequate rainfall patterns and the consequent decline of plantain yield have caused prices to rise. Although there are seven other persons selling plantain in the local market at Abrepo, Martha said she was not affected as they each had their own clients. Furthermore, plantain forms a major part of the staple food and is therefore purchased by many households.

In terms of market opportunities, Martha noted that the increasing urbanisation of Abrepo enhanced the demand for her goods. With a growing number of people settling in the community, Martha hopes she will be able to market her plantain more quickly. Although it takes her 3 days to finish selling the plantain from every trip, she is optimistic that it will take her less time in the future. In contrast, she added, plantain sellers in communities far away from Kumasi were faced with low demand and at times had to transport their goods for sale in Kumasi thus bearing additional costs.

Source: Case Studies, June 2005

6.8 Summary of Key Findings

- Trading played a significant role in the livelihoods of KPUI inhabitants either as a main or supplementary source of income. A key reason for its popularity was its ability to generate income regularly which is critical within a monetised urban economy.
- The intensity of trading increased with greater urbanisation.
- Women dominated trading owing to traditional gender roles associating this activity with them.
- Start up capital requirements, costs and availability of goods, market demand and space requirements determined choice of goods traded in the KPUI.
- Much of the goods traded were food items, both cooked and uncooked with the later being more widespread. The dominance of food in KPUI trade is not surprising given its low start up capital requirements compared to trade in non-food items. It could also reflect people's greater dependence on purchased food items as they shift away from subsistence crop production.
- Trading non-food items had a potentially higher profit margin as indicated by the lower outstanding debt amongst those selling non-food items compared to those selling food items.

- The bulk of the food items sold within the KPUI were derived from traditional food crops showing how trading remains dependent on traditional food crop cultivation.
- Given the decline in farming activities within the KPUI traders obtained their supplies from either urban retailers or rural producers, depending on the amount of capital available to them.
- Most KPUI traders sold their goods within peri-urban markets. Since these markets are smaller in size, traders often faced the consequences of market saturation within the KPUI.
- Access to appropriate trading spots was a concern for traders within the KPUI, especially in more urbanised communities where the activity was more widespread and competition for space more intense.

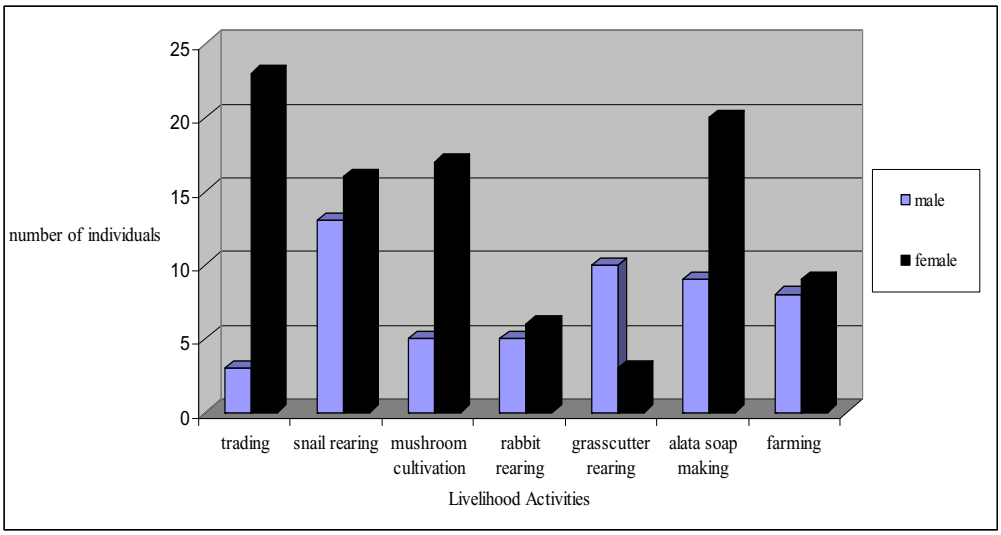
7. Gender and Livelihoods within the KPUI

The influence of gender on livelihood activities has already been emphasised elsewhere (Beall, 2002; Francis, 1999). This section examines how gender roles and relations shaped the adoption of livelihood activities within the BYN project.

7.1 The Impact of Gender on Adoption of Livelihood Activities

A random survey of project loan recipients illustrated that except for grasscutter rearing (76.9% men) women are dominant across all other livelihood activities (Figure 13) particularly in trading (88.5% women), alata soap making (69.3% women)

Figure 13: Gendered Differences in the Adoption of Livelihood Activities



Source: Questionnaire Survey, 2004

and mushroom cultivation (77.3% women). A more equitable proportion of men and women participated in farming (47.1% men; 52.9% women) and rabbit rearing (45.5% men; 54.5% women).

Women's dominance in trading is further illustrated when examining patterns of loan disbursement. Loans were given to a proportionate number of women and men during the first cycle. Only a few men took loans during the second cycle and none during the third cycle (Table 7). This can be explained by the fact that the majority of the loans provided during the second (85.8%) and third cycle (95.8%) were given for trading activities in which very few men participated.

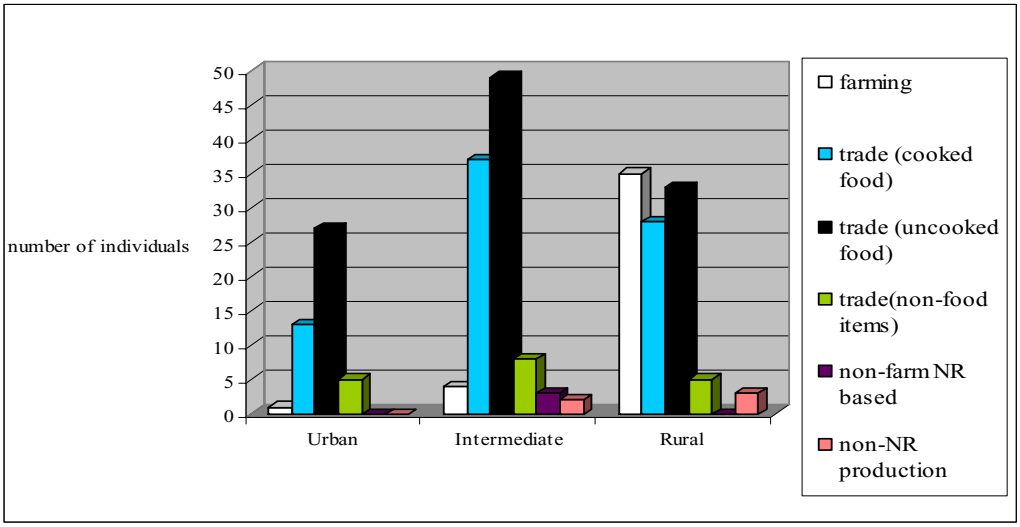
Table 7: Number of Men and Women Per Loan Disbursement Cycle

Loan Cycle	Number of Males	Number of Females
1	52	95
2	6	137
3	0	24

Source: Loan Repayment Data, 2005

Women used loans primarily to engage in trading activities (Figure 14) mainly in uncooked food items although this varied according to their location within the KPUI. Very few women in urban areas engaged in farming in contrast to their counterparts in rural areas. In all locations few women used their loans to engage in non-farm natural resource based or non natural resource based livelihood activities.

Figure 14: Livelihood Activities of Individual Female Loan Recipients

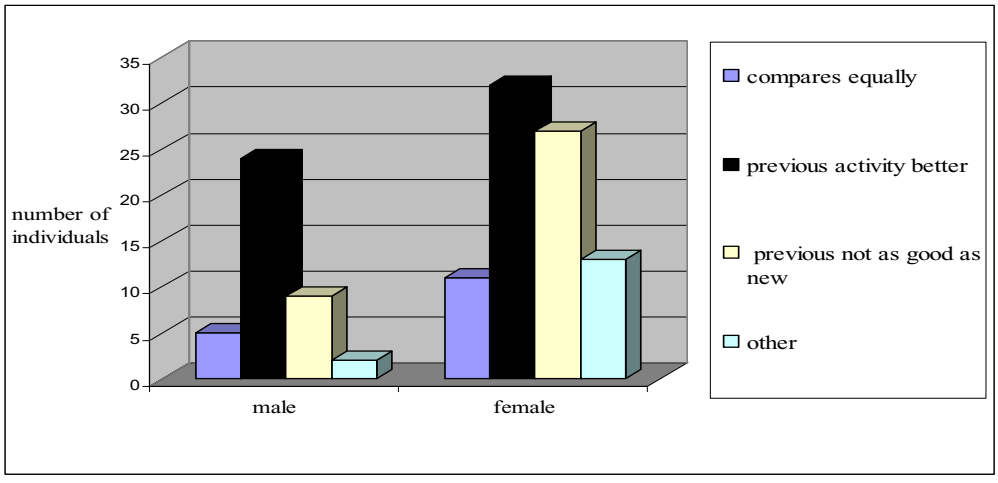


Source: Loan Repayment Data, 2005

Women's dominance in trading activities was explained mainly in terms of traditional gender roles. It is more acceptable for women to engage in small scale trading activities which are considered as '*Emaa dwoma*' (women's work). A man would find it humiliating to sell cooked food for example. Women also noted that they are more willing to work with a smaller capital base compared to men. Indeed, on average, men requested much higher amounts of loan (¢ 763529.4) than women (¢ 495856) although they did not receive significantly higher loans than women in the end[93]. A member of the BYN project team explained these trends further[94]. Men were more interested in crop farming and livestock rearing. Some men had farms away from the villages, such as cocoa farms in the Western region, which they cultivated on a seasonal basis. Alternatively, some men took up wage employment in Kumasi. It was common for men in the KPUI to work for storeowners in Kumasi market, providing assistance in selling goods and also doing cleaning. A significant number of men also depended on daily labour work within the KPUI, mainly in construction work which was readily available. Even though men could see that women were succeeding in trading, they were reluctant to engage in these activities. If they were to trade, men preferred to sell non-food items but this may be beyond their financial means.

On the whole, the majority of both women and men felt that their previous livelihood activity was more profitable than the new livelihood activities that they had adopted (Figure 15). When considering the proportions, a higher proportion of the men compared to women felt the new activities they adopted were less profitable in income terms (although this was not directly measured) than their previous activities. In other words, more women than men felt they were better off than before. This may relate to the fact that women dominated trading which was one of the more successful livelihood activities supported through the project.

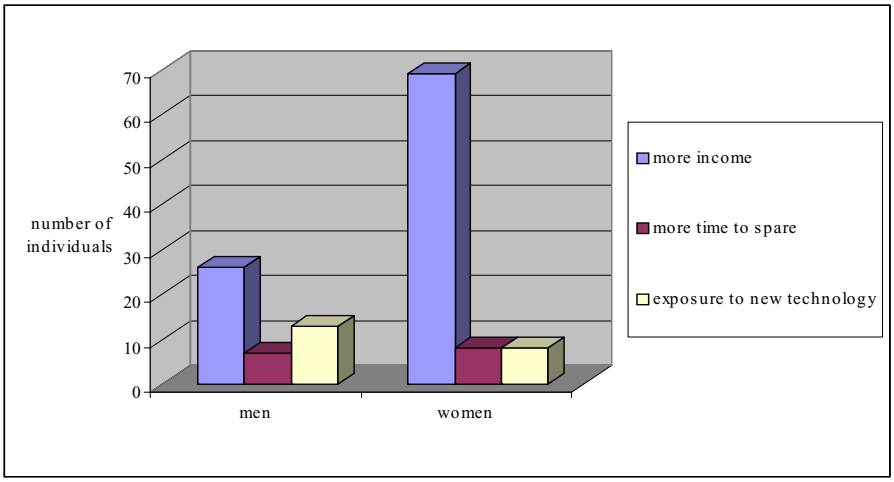
Figure 15: Gendered Differences in Comparison of New and Previous Livelihood Activities



Source: Questionnaire Survey, 2004

Loan recipients were able to identify some of the benefits they gained by adopting new livelihood activities (Figure 16). Increased income was identified as an advantage more by women than men possibly relating to women's greater participation in trading. A greater proportion of the men identified technology transfer as a benefit derived from the new livelihood activities they adopted. This is not surprising, as men were more involved in the non-farm natural resource based livelihood activities (see Figure 13 above) for which training was provided.

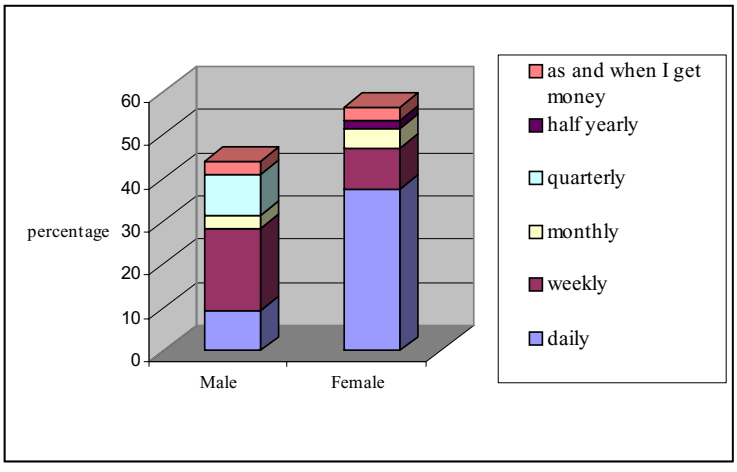
Figure 16: Benefits from Livelihood Activities Identified by Men and Women



Source: Questionnaire Survey, 2004

Women beneficiaries of the project were more likely to save on a daily basis compared to men (Figure 17) since most gain returns from trading on a daily basis. In contrast, men were more likely to save on a weekly basis or quarterly basis.

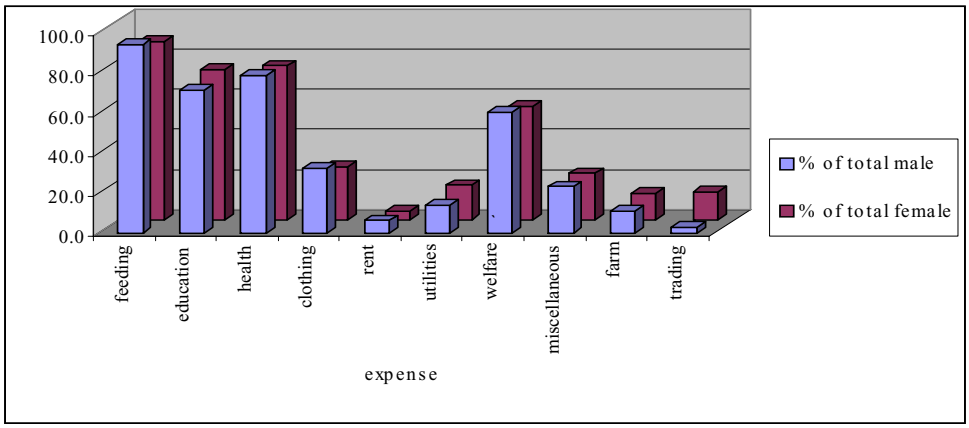
Figure 17: Frequency of Saving Amongst Men and Women Loan Recipients



Source: Questionnaire Survey, 2004

Although more women than men reported increased income and saved regularly, mean percentage outstanding debt was higher amongst women (51.5%) than men (25.8%)[95]. Women could be using more of their income to cover household expenses compared to men. However, there were no significant differences in the types of expenses which female and male loan applicants (at the start of the project) identified (Figure 18). Yet, there was no evidence about the proportion of income they spent on these expenses which could be more telling of how men and women actually spend their income.

Figure 18: Expenditure Identified by Male and Female Loan Applicants



Source: Business Plan Data

7.2 Summary of Key Findings

- Gender roles are critical in determining men and women's participation in livelihood activities within the KPUI. Women dominate trading activities whilst more men participated in non-farm natural resource based livelihood activities
- More women reported increased income as a benefit from participating in livelihood activities supported by the project which could possibly relate to their dominance of trading.
- Women had higher mean percentage outstanding debt which they attributed to their responsibilities for household provisioning.
- Men requested higher start up capital than women indicating that they are less? interested in small-scale livelihood activities.

8. The Impact of Location and Space on KPUI Livelihoods

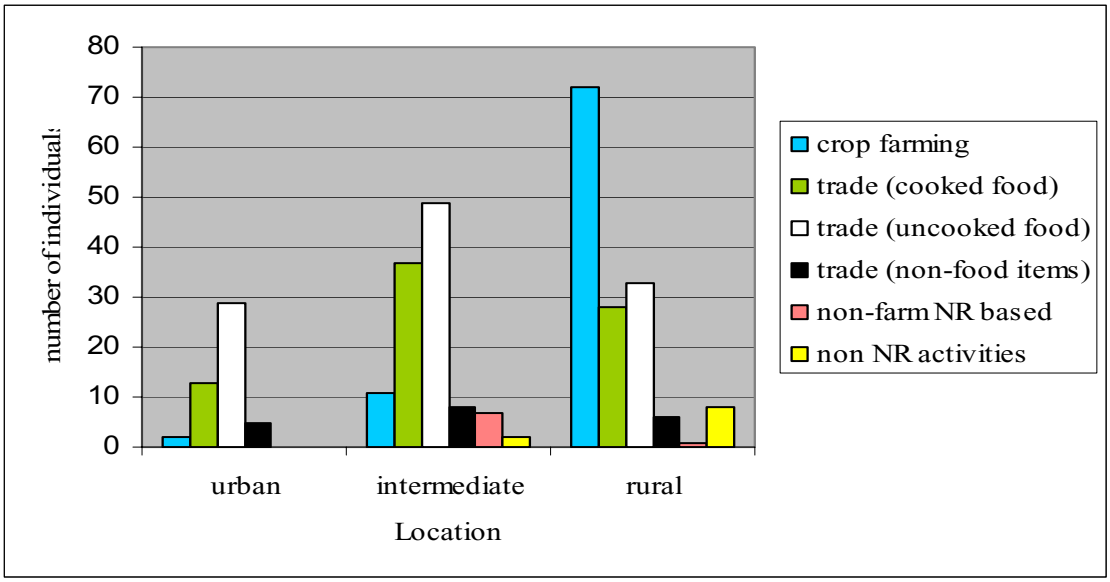
The availability of adequate space influenced the adoption of alternative livelihood activities within the BYN project. Also, KPUI communities were differentiated in terms of their level or urbanisation which in turn affected the adoption of livelihood activities. The preceding discussions on crop farming and trading have partly illustrated the role of location in determining livelihood activities and outcomes.

Additional findings regarding the role of location and space in KPUI livelihood are presented here.

8.1 Location along the KPUI Continuum

KPUI communities are positioned within a continuum of urbanisation which ranges from urban to intermediate and rural locations. People's choice of livelihood activities and the outcomes generated by those activities were influenced by their location within the KPUI.
The majority of individual loan recipients who opted for crop farming (82.4%) were living in rural locations whilst none lived in urban locations (Figure 19). Those engaged

Figure 19: Distribution of Livelihood Activities in the KPUI



Source: Loan Repayment Data, 2005

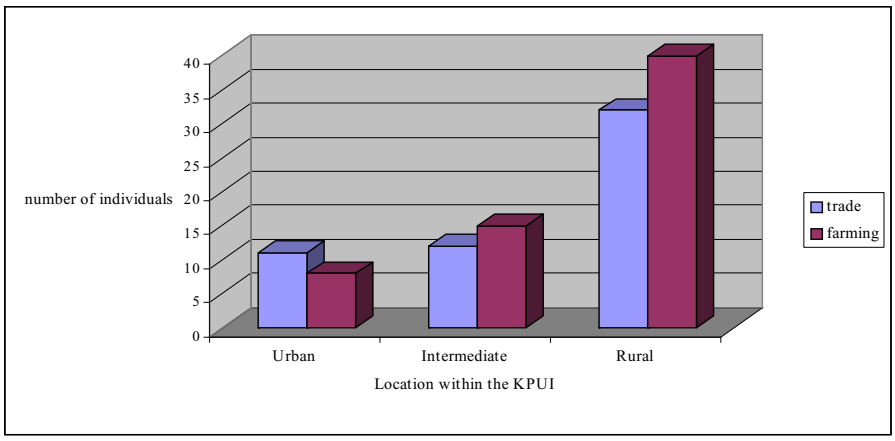
in trade were more equitably distributed across the KPUI but it was the dominant activity adopted by loan recipients living in urban locations. Trading thus becomes more widespread with greater urbanisation. The majority of those engaged in non-farm based activities were living in intermediate locations.

People also reflected a similar pattern of preference for additional sources of income in the KPUI. More people adopted trading as a supplementary source of income in urban locations whereas farming was the dominant supplementary source of income in intermediate and rural locations (Figure 20). However, trade was still significant as an additional income source in intermediate and rural locations.

Location also influenced the outcome generated by livelihood activities. The outcomes from livelihood activities within the BYN project can be analysed (based

on the available evidence) in terms of people's perceptions of the impact and sustainability of activities and their frequency of saving, dependency on loans and loan repayment.

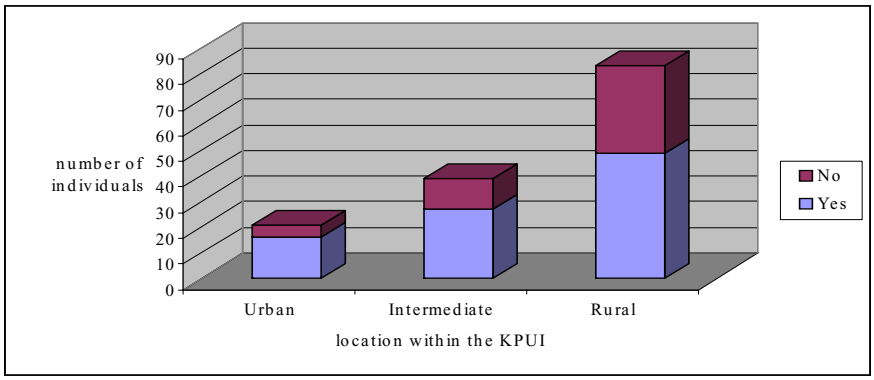
Figure 20: Adoption of Farming and Trading as Supplementary Sources of Income



Source: Questionnaire Survey, 2004

The proportion of people who said the project did not have a positive impact in income terms on their livelihoods increased slightly with declining urbanisation (Figure 21). In other words, those in urbanised communities reported more positive impact than those in rural parts of the KPUI. In all locations, the proportion of people who found it difficult to adopt the new livelihood activities was greater than those who found it easy. This proportion increased with declining urbanisation. More people in rural locations were likely to report the difficulty of adopting the new

Figure 21: Did the Project Have an Impact on your Livelihood?

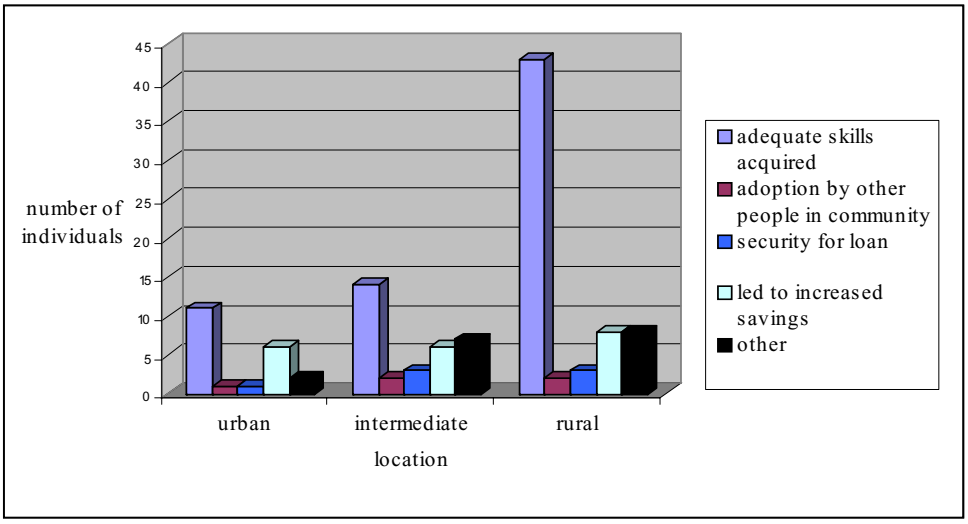


Source: Questionnaire Survey, 2004

livelihood activities compared to intermediate or urban locations. More rural communities of the KPUI can be expected to be less affected by urbanisation and thus maintain a preference for traditional livelihood activities, namely crop farming.

However, the majority of respondents (94.4%) felt their new livelihood activities were sustainable which was understood as the possibility of continued participation in those activities. In all locations, skill acquisition was the most widely noted reason why people said their new livelihood activity was sustainable (Figure 22).

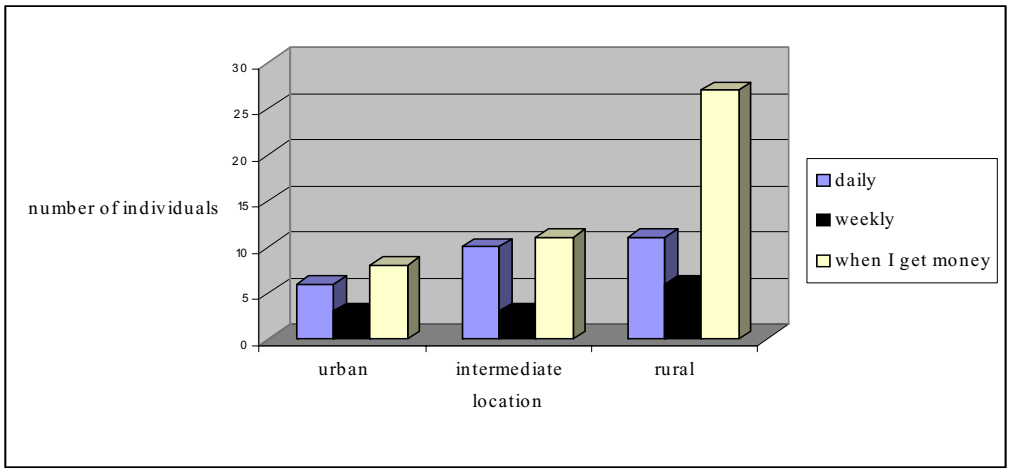
Figure 22: Reasons for Saying Livelihood Activity is Sustainable



Source: Questionnaire Survey, 2004

On the whole however, the majority of loan recipients were not saving money. In all locations the majority of people saved intermittently when they got money with less people saving on a daily or weekly basis (Figure 23). The proportion of those saving when they got money was higher in rural than in intermediate and urban locations.

Figure 23: Frequency of Saving



Source: Questionnaire Survey, 2004

This is not surprising given the dominance of crop farming in rural locations and trading in intermediate and urban locations. Crop farming generates income seasonally whilst trading provides income more regularly possibly allowing frequent saving. Indeed, the proportion of people who said they were not saving because of a lack of regular source of income was slightly lower in urban areas, where trading is dominant, compared to intermediate and rural locations (Table 8). Others said they were too embarrassed to save, presumably with saving associations, because of the paucity of the amount of money available to them.

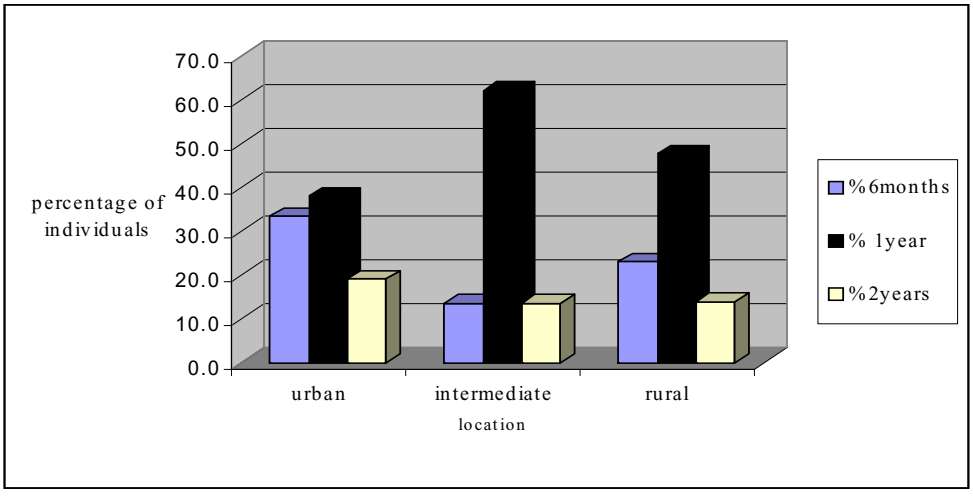
Table 8: Reasons for Not Saving

Location	**Reason for not Saving**	
	No Regular Source of Income	Embarrassed of small amount of money to save
Urban	11.8%	58.9%
Intermediate	24.1%	48.3%
Rural	20.4%	64.8%

Source: Questionnaire Survey, 2004

When considering dependency on credit, it appeared to be less in urban locations compared to rural areas, but higher than both in intermediate locations (Figure 24). The proportion of those who said they expected to depend on credit for only 6 months was higher amongst those in

Figure 24: Dependency on Loan



Source: Questionnaire Survey, 2004

urban areas (33.3%) compared to those in intermediate (13.5%) and rural locations (23.1%). In contrast, a higher proportion expected to remain dependent on credit for one year in intermediate (62.2%) and rural locations (47.7%) than in urban parts

(38.1%) of the KPUI. Again individuals in intermediate locations appeared to be worse off than those in rural and urban locations. This suggests that individuals in intermediate locations within the KPUI may be the most vulnerable. Indeed, urbanisation induced change is likely to be more rapid with far reaching consequences in intermediate locations. Those in urban parts would have experienced the effects of urbanisation already and adapted whilst those in rural locations are less affected urbanisation. This suggests that the process of change in peri-urban spaces induced by urbanisation is not uniform and that there may be a pattern to the variations. There appears to be a time line of consequences represented by urbanisation and distance from the city.

Individuals in urban locations within the KPUI were less indebted (Table 9). Mean outstanding debt was significantly lower amongst loan recipients in urban locations (where trading was the dominant activity adopted). Those in intermediate locations had a higher percentage of outstanding debt compared to those in rural parts of the KPUI.

Table 9: Loan Disbursement and Repayment across the KPUI

Location	**Mean % outstanding debt**	**Mean Amount of loan requested (in cedis)**	**Mean Amount of loan received (in cedis)**
Urban	2.31	707500	625000
Intermediate	59.5	633333.3	527777.7
Rural	25.6	666145.3	427826.09

Source: Loan Repayment Data, 2005

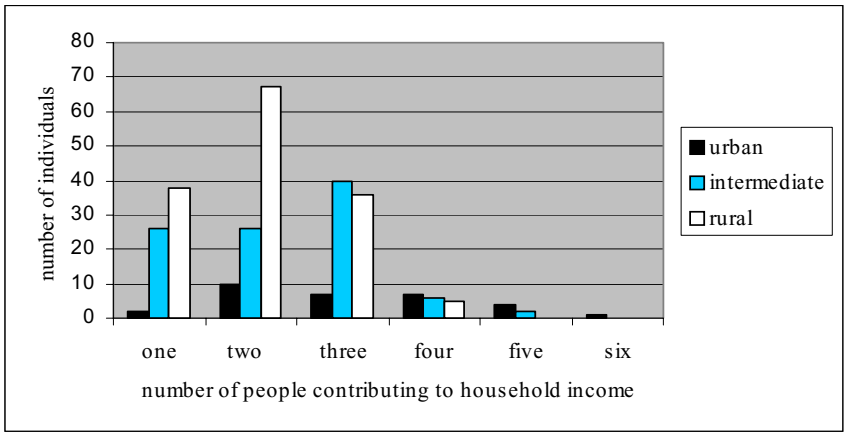
Again intermediate locations appear to be worse off than those in rural and urban locations.

Those in urban locations had requested a much higher amount of loan compared to those in intermediate and rural locations. On average, the amount of loan disbursed increased with greater urbanisation suggesting that loan recipients in urban locations were either undertaking activities that required higher start up capital or were operating activities at a higher scale.

Lower outstanding debt in urban locations could possibly be related to the number of people contributing to household income which also increased with greater urbanisation (Figure 25). The majority of those who said there were one or two persons contributing to the household income were in rural parts of the KPUI. In contrast the highest number of those who identified three or more contributors lived in intermediate locations. This is not surprising, as the availability of livelihood activities within the KPUI is likely to increase with greater urbanisation.

Location within the KPUI also affected access to inputs required for non-farm natural resource based activities. The lack of availability of appropriate feed for snails and rabbits was identified as a problem in light of the declining natural resource base within the KPUI[96].

Figure 25: Number of Persons Contributing to Household Income



Source: Business Plan Data

Also, competing livelihood opportunities affected the adoption of alternative livelihood activities especially in groups. Individual group members were abandoning their livelihood groups to pursue other more lucrative opportunities both within the KPUI and Kumasi. For example, the activities of one of the soap making groups were delayed because the leader took up construction work. This problem was more acute in more urbanised communities such as Abrepo and Apatrapa[97]. High mobility and migration within the KPUI have been mentioned as a factor affecting the adoption of livelihood activities by groups, but no further detail is provided[98].

8.2 Space Requirements of KPUI Livelihood activities

The amount of space available was a concern for the adoption of livelihood activities in the KPUI. Groups who adopted non-farm natural resource based activities were particularly faced with the problem of acquiring adequate space for the activities. This was reported to be a problem in the case of grasscutter, snail and rabbit rearing as well as mushroom cultivation[99]. A lack of adequate space led to the death of a significant number of the animals. Where they were able to find adequate space, several groups lacked security of access to those spaces. Disputes with the owner of the land (often a member of the group) forced some groups to relocate their activity

after they had constructed the structures to house the animals or cultivate mushrooms. Storage space for inputs (saw dust) and outputs (mushrooms) was mentioned as an additional problem in the case of mushroom production consequently restricting production levels[100].

8.3 Summary of Key findings

- The adoption of livelihood activities was differentiated across the Kumasi peri-urban continuum. Most of those who adopted farming lived in rural locations whilst trading was adopted throughout the continuum, although more intensively in urban locations.
- Outcomes generated by livelihood activities also varied according to location within the peri-urban continuum. A greater proportion of individuals in urban locations reported positive impact on their livelihoods as a result of participating in the project. Likewise, increased income was identified more in urban locations compared to intermediate and rural locations.
- A higher proportion of those in urban locations were saving on a daily basis compared to intermediate and rural locations. In rural locations, the greatest proportions of individuals were saving intermittently as and when they had enough money to do so.
- Fewer people in urban areas did not save because of a lack of income compared to those in intermediate or rural locations.
- Dependency on credit was less in urban than in rural areas, but higher than both in intermediate areas.
- Outstanding debt was lowest amongst those in urban locations followed by rural areas. Individuals in intermediate locations had the highest level of outstanding debt.
- The availability of urban livelihood opportunities led individuals to abandon group based non-farm natural resource activities.
- Access to adequate space for production and storage affected the success of non-farm natural resource based livelihood activities. Security of access was also important.

9. The Impact of Activities on KPUI Livelihoods

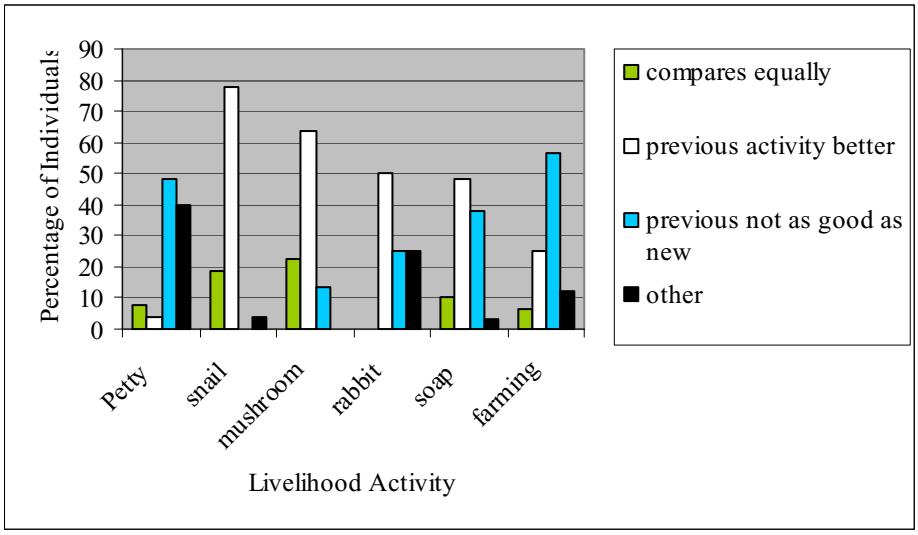
It is possible to assess the impact of activities supported through the BYN project using some of the existing qualitative and quantitative evidence.

9.1 Impact of Activities on Livelihoods

Beneficiaries of the BYN project were asked to assess the profitability of the activities they adopted using loans with activities they pursued prior to taking such loans. With the exception of petty trading and farming activities, the majority of those engaged in other livelihood activities felt their previous activities were more

profitable (Figure 26). This suggests that the impact of livelihood activities in monetary terms for those engaged in activities such as snail, mushroom and rabbit rearing and soap making was not as much as for those engaged in farming and petty trading.

Figure 26: Comparison of Current and Previous Livelihood Activities



Source: Questionnaire Survey, 2004

KPUI inhabitants expressed the benefits they gained from pursing new livelihood activities with loans from the BYN project largely in terms of increased income (66.4%). Qualitative evidence also illustrates that positive impact was mostly described in terms of increased income (to cover costs of basic necessities, pay for schooling of children and save) and food for consumption (especially in the case of farming and trading). Other benefits identified by beneficiaries included having more time to spare (10.5%) and exposure to new technology (14.7%).

The proportion of individuals who identified increased income as a benefit was highest amongst those engaged in trading (100%) and farming (93.8%) suggesting that these activities generated higher financial returns compared to other livelihood activities (Figure 29). Also, more of those engaged in trading were saving on a daily basis compared to those pursuing other livelihood activities (Table 11). This suggests that trading generates returns on a daily basis and this can be important within a monetised PUI economy and can also explain the preference for trading amongst the other alternative livelihoods.

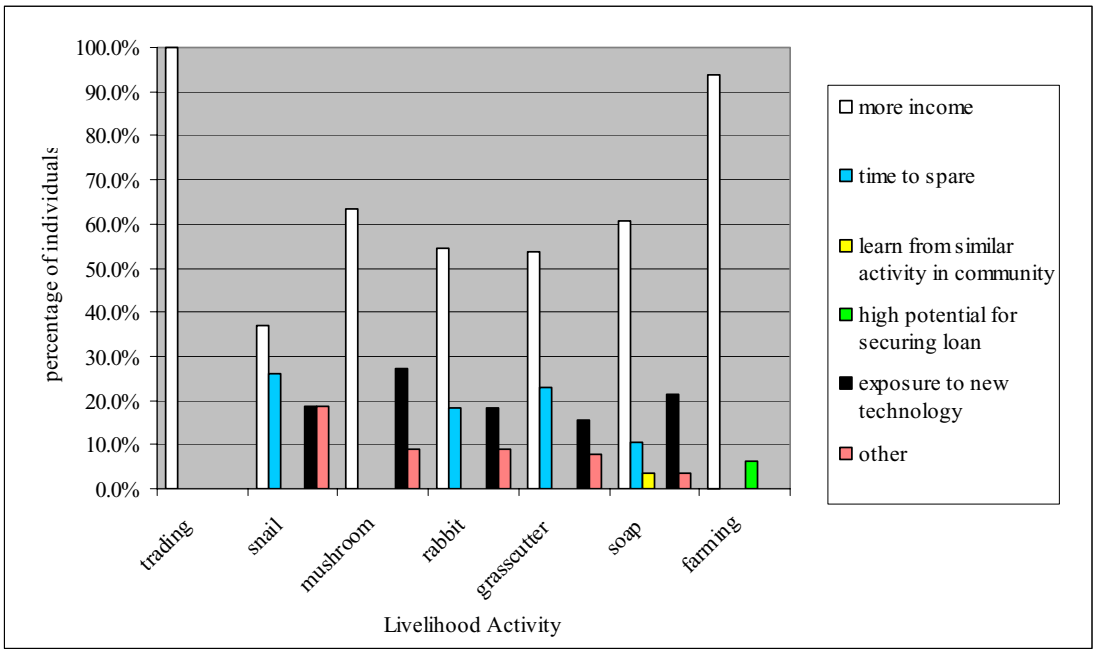
Table 10: Main Livelihood Activity of Loan Recipients that Save Daily

Trading	Snail rearing	Mushroom Cultivation	Rabbit Rearing	Grasscutter Rearing	Alata Soap Making	Farming
55.6%	18.5%	11.1%	0	0	14.8%	0

Source: Questionnaire Survey, 2004

In contrast, smaller proportions of those pursuing activities with long gestation periods such as snail and grasscutter rearing reported increased income (Figure 27). Those who adopted activities with long gestation periods continued to rely on other activities such as farming to support themselves (qualitative data 2004 questionnaire survey). This illustrates how activities with long

Figure 27: Benefits from Livelihood Activities



Source: Questionnaire Survey, 2004

gestation periods may be less effective in improving livelihoods within a monetised peri-urban economy.

However, individuals did gain new skills in some livelihood activities. Exposure to new technology was identified as an advantage by those engaged mainly in non-farm based livelihood activities such as snail, rabbit and grasscutter rearing, mushroom growing and also soap making. For instance, one beneficiary engaged in mushroom cultivation said '*I have learnt new skills and that I think is more than money*'. This is not surprising as beneficiaries received training in these activities with which they were previously unfamiliar. This also led to the creation of employment opportunities and transfer of skills to family members.

Those rearing snail, grasscutter and rabbit said they had more time to spare. Qualitative evidence also supports this finding. In a survey of the project beneficiaries, those pursuing rabbit and snail rearing felt these activities were less time consuming relative to other activities. The impact of activities on livelihoods was also expressed in terms of their contribution to household consumption. Many of those engaged in snail and mushroom rearing noted that these were important supplementary sources of nutrition.

Further qualitative evidence illustrates additional factors that determined project beneficiaries' preferences for new or previous livelihood activities. For instance, some had maintained their past livelihood activities such as farming but identified gains related to the injection of financial capital through project loans. Some noted that with greater financial input and the ability to hire labour, outputs from farming also rose.

9.2 Summary of Key findings

- Relative to those engaged in other livelihood activities, those in farming and petty trading reported more positive change in terms of profitability and increased income. In contrast, those engaged in non-farm natural resource based livelihood activities preferred their previous activities and were less likely to report increased income as a benefit. This was primarily due to the long gestation period of such activities. Activities with long gestation periods appeared unsuitable for the needs of KPUI inhabitants most of whom depended on a cash based economy for their consumption.
- However, exposure to new technology and the availability of more spare time were identified as benefits by those who adopted non-farm natural resource based activities.
- Those who did not adopt new livelihood activities identified the injection of capital into their existing livelihood activities as a benefit.

10. Conclusions and Development Implications

The findings from the BYN project offer several useful lessons for policy makers and development practitioners. It is evident that peri-urban livelihoods exhibit distinctive features that must be taken into consideration in pro-poor policy design and implementation. On the basis of the knowledge obtained from the BYN project, the following implications can be identified:

- The adoption of livelihood activities and the outcomes they generated as well as the constraints and opportunities faced by KPUI inhabitants varied according to the extent of urbanisation of KPUI communities. When introducing livelihood activities within the KPUI, it is important to consider their relevance to particular locations. The evidence from the BYN project indicates that trading is more

appropriate for more urbanised communities whilst farming is better suited to more rural parts of the KPUI.

- KPUI inhabitants identified their need to access income regularly as the overriding concern in their choice of livelihood activities. This related to the general shift away from subsistence production towards a reliance on urban and peri-urban markets for consumption within the KPUI. Livelihood activities that generate income regularly seem more appropriate within a monetised peri-urban economy. If livelihood activities with long gestation periods are to be taken up successfully, measures will have to be found to deal with the problems of cash flow that they create for PUI people, especially the poor.
- Despite its reduced overall scale and significance, crop cultivation continues to provide some level of subsistence for inhabitants of the KPUI. It should thus not be excluded from livelihood interventions in the PUI. However, it is important to keep in mind that crops which require less land for cultivation and have shorter production cycles are ideal within the context of peri-urban spaces. Vegetable cultivation in particular has a potential for generating income for poor households within the KPUI because it can be cultivated intensively on smaller plots of land and has a short production cycle.
- Gender is a key determinant of the adoption of livelihood activities within the KPUI. For instance, very few men participated towards the end of the BYN project since trading, traditionally associated with women, was promoted as the favoured livelihood activity. Men were more likely to participate in and benefit from activities, which required the transfer of new skills and knowledge. It is important to consider the role of gender in determining men and women's ability to participate in livelihood activities when implementing livelihood interventions.
- Urbanisation may entail constraints but it also presents people in the KPUI with opportunities. People in the KPUI were aware of opportunities arising from urbanisation and reacted to them to the extent possible. If provided with access to relevant information and support in the form of tangible assets (financial and physical), KPUI inhabitants could take advantage of opportunities arising from urbanisation.

Notes

[1] edlamaberra@gmail.com and ruditthk@yahoo.com
[2] The project was funded by the Natural Resources Systems Programme (NRSP) of the UK Department for International Development (DFID).
[3] Rakodi, 1998.
[4] Simon *et al*, 2001.
[5] Tacoli, 1998.
[6] Yankson and Gough, 2000.
[7] Gordon *et al*, 2000; Kombe, 2005.
[8] Kombe, 2005:130.
[9] Gough and Yankson, 2000; Kombe, 2005.
[10] Gordon, *et al*, 2000.

[11] Keraita *et al*, 2002; Simon *et al*, 2004.
[12] King *et al*, 2001, Simon *et al*, 2004.
[13] Simon *et al*, 2004.
[14] Final Technical Report R7854, 2001.
[15] Where relevant, reference is made to earlier projects also supported by DFID within the KPUI.
[16] Participatory Action Planning took place in a preceding project entitled 'Natural Resource Strategies Implementation Plans for Kumasi Peri-Urban Interface' implemented between May 2001 and January 2003.
[17] Non-farm natural resource based activities were defined as those that required limited land but continued to rely on natural resources, namely beekeeping, mushroom cultivation, grasscutter rearing, rabbit rearing, and snail rearing. Training was provided for those who adopted for these activities. Communities also continued to be interested in pursuing crop farming where land was available for this purpose. Thus, farming was also supported as a key livelihood activity within the project. Finally, the project supported processing and marketing of products which involved soap making and petty trading (Final Technical Report, R8090).
[18] Abrepo, Atafoa, Apatrapa, Duase in Kumasi Metropolitan Assembly; Maase and Swedru in Kwabre District; Behenase, Ampabame II, Asaago, Adagya, and Esreso in Bosomtwe Atwima Kwanwoma District; and Okyerekrom in the Ejisu Juabeng District.
[19] Quantitative data sets from the BYN project were analysed using SPSS and Excel. All data sets were collected by the project team at the Centre for the Development of People (CEDEP).
[20] Earlier projects also funded by DFID such as 'Kumasi Natural Resources Management' (R6799), 'Further Knowledge of Livelihoods affected by Urban Transition' project (R7854); Implementation Plans for Natural Resource Management Strategies for the Kumasi Peri-urban Interface (R7995).
[21] Final Technical Report, R7854, p.9; Final Technical Report, R7330 p.46-49.
[22] Final Technical Report, R7854, p.13.
[23] For example farmers in Apatrapa who lost between 2 and 15 acres of farm land to housing development were not compensated in most cases. Where they were compensated, this was insignificant. For example, a farmer in Swedru was given ¢300,000 when the land he was cultivating was sold off for housing (Final Technical Report, R7854, p. 34).
[24] Final Technical Report, R7854, p.G47.
[25] Final Technical Report, R7854, p.i
[26]Statements from the Questionnaire Survey (2004) about earnings from farming include the following: "Income from the farming activities is high. I am able to care for my children in school and the entire family". (Nicholas Ofori Adu, Assago, Grasscutter rearing group); "Farming fetches more money than grasscutter rearing". (Ernest Asamah, Swedru, Grassuctter rearing group); "At times I get an amount of ¢500,000 from the sale of cassava alone". (Akosua Addai, Swedru, Rabbit rearing group); "It (*earnings from farming*) is quite substantial as I grow okro which is harvested and sold every three months. I also grow maize". (Adjei Robert, Swedru, Grasscutter rearing group).
[27] Stakeholders' Workshop Proceedings, March 24- 25, 2004, p.24.
[28] Responses to open-ended questions, Questionnaire Survey 2004.
[29] Case Studies, June 2005.
[30] Responses to open ended questions, Questionnaire Survey, 2004.
[31] One British pound is the equivalent of 17,000 Ghanian Cedis.
[32] Final Technical Report, R7854, p.C10
[33] This is based on the classification of KPUI communities according to urbanisation within the BYN project. Accordingly, Aprepo and Apatrapa are considered urban, Atafoa, Duase, Esereso, Okyrekrom as peri-urban (or intermediate) and Swedru, Ampabame II, Behenase, Asaago, Adagya, Maase as rural (Final Technical Report, R8090, Annex BiB, p.9). The project team used a combination of factors to create this classification based on their observation and experiences. These factors included the observed dominance of farming activities, availability of facilities and services (electricity, road, shops) and extent of land use for housing. The type of livelihood activities selected by community members was also used to create the urbanisation classification. Those communities which selected farming predominantly were considered rural and those that opted more for trading were classified as urban (Interview, Ben Fosu-Adjei , CEDEP, 27.06.05).
[34] Final Technical Report, R7854, G 32-33.
[35] Case Studies, June 2005.
[36] Loans were disbursed to individuals in cycles such that a community could apply for further credit once outstanding debts from the first cycle were repaid.
[37] One project member felt that the failure of farmers to repay loans might not necessarily reflect problems with production. Rather, the credit delivery system during first loan cycle was not fully

developed and the consequent delays and problems in the delivery of credit could have restricted farmer's capacity to repay loans.

[38] There were individuals from target communities who were mobilized and trained to liaise between the project and the project communities.

[39] Final Technical Report , R7854, p G4.

[40] "Family members access land through their family heads. All family members are entitled to use-rights to family land. The land can be used as long as it is required by the user and can be inherited under the matrilineal descent system…strangers to a community can request access to land from any landholding family head" (Final Technical Report , R7854, p.31).

[41] Findings on peri-urban farming elsewhere also confirm the trend that vegetables are grown mainly in low lying wet land or valleys. For instance, vegetable gardening (okra, pumpkins and potatoes) in Nyantira, a settlement 18 km away from Dar es Salam in Tanzania (Kombe, 2005:119).

[42] Richard Naaso, CEDEP, Interview, 20.0.05.

[43] Adjei explained that he rented a piece of land in the valley bottom during the dry season to cultivate vegetables in order to access water whereas during the rainy season he is able to cultivate in an upland location and rely on rainwater.

[44] For instance, those who remain in farming in Apatrapa were reported to be cultivating land in other regions such as Brong Ahafo and Western Regions (Final Technical Report, R7854, p.G 55). The number of those acquiring land outside KPUI villages and becoming absentee farmers is also on the rise (Final Technical Report, R7854, p A4). Such cultivation of plots outside their villages by peri-urban farmers in response to conversion of peri-urban land into residential areas has been reported in the context of other African cities such as Dar es Salam (Kombe, 2005:123).

[45] Final Technical Report, R7854, p.E 7.

[46] Subsistence production on smaller plots which are not owned by farmers is more common in urbanised communities of the KPUI such as Abrepo and Apatrapa (Final Technical Report, R8090, Annex BiB, p.30).

[47] Final Technical Report, R8090, Annex BiB, p.7.

[48] Final Technical Report, R7854, p B14, p A5.

[49] Final Technical Report, R7854, p I & p 15.

[50] Richard Naaso, CEDEP, Interview, 24.06.05.

[51] For example, in a study of Kumasi region, Ashanti, gross profit margin per acre for cabbage cultivation was found to be ⊄2,712,500 compared to ⊄630,000 for maize (Final Technical Report, R7854, p. C5).

[52] Case Studies, June 2005.

[53] Business Plan Preparation Data, 2004.

[54] Final Technical Report, R7854, p. A13.

[55]Richard Naaso, CEDEP, Interview, 24.06.05.

[56] Final Technical Report, R7854, p.17.

[57] Final Technical Report, R8090, Annex BiB, p.7.

[58] Richard, Naaso, CEDEP, Interview, 25.06.05.

[59] Final Technical Report, R7854, p. A14.

[60] Final Technical Report, R7854 , p.G35.

[61] Case Studies, June 2005.

[62] Results from a household survey (in R6799) in four KPUI villages showed that women dominated food and vegetable farming (62% and 55% respectively) and men were more dominant in tree crop production (56%) (Final Technical Report, R7854, p. G 30).

[63] Although financial success in farming does not necessarily ensure loan repayment (other factors relating to the individuals circumstances may shape this), it may give some indication of which farmers were or were not able to repay their loans. This is important in view of the lack of other data on the outcomes of crop farming within the BYN project.

[64] Final Technical Report, R7854, p. C5.

[65] However, men who work on their own farms incur an opportunity cost as they are unable to engage in additional livelihood activities unlike women farmers who rely on hired labour.

[66] Final Technical Report, R7854, p.G4.

[67] Case study for trading, Martha Fosua, pp.27, this document.

[68] Final Technical Report, 7854, p.21.

[69] For instance, this was reported in the case of okra cultivation in Swedru (Final Technical Report, R8090, Annex BiB, p.7).

[70] For example, this reported as a problem for cassava producers in Amapbame II (Final Technical Report, R8090, Annex BiB, p.22).

[71] The description of plan 3 at earlier stages of the project does not emphasise trading (Final Technical Report, R7995, p. 6) although it was mentioned when communities were identifying their preferred livelihood activities e.g. participants from Ampabame II identified trading as one of their preferred livelihood activities (ibid, Appendix IV d.5, p.1).
[72] Case studies, June 2005.
[73] Case Studies, June 2005.
[74] Although a total of 208 loans were provided for individuals to engage in trade, a few took loans twice.
[75] These were defined mainly as cooking ingredients (oil, salt etc) and/or other consumption items such as soap.
[76] Cooked food (chips, rice, corn or cassava dough, cooked rice, banku, doughnut, fante kenkey, gari, kawuro, 'akpeteshie' (local alcohol), fish, ice water, 'konkote' (cooked cassava powder), rice porridge, tea and bread, 'kokoo' (corn dough porridge); Uncooked food (fruits, garden eggs, palm oil and palm kernel oil, pork meat, cassava, yam, dry fish, dry bush mean, corn, plantain, maize, fowls, groundnuts, okro, orange, palmnut, pepper, onions); Non-food items (sandals, charcoal, firewood, soap, second hand clothes, cattle skin).
[77] Final Technical Report, R8090, p.13.
[78] Case studies, June 2005.
[79] Case Studies, June 2005.
[80] Final Technical Report, R7854, p. H 33.
[81] Also noted in Final Technical Report, R8090, Annex BiB, p.25.
[82] Final Technical Report, R8090, Annex BiB, p.41.
[83] Richard Naaso, CEDEP, Interview 24.06.05.
[84] Richard Naaso, CEDEP, Interview 24.06.05
[85] Richard Naaso, CEDEP, Interview 24.06.05
[86] There has been limited emphasis thus far on PUI markets, their structure, development and linkages with rural and urban markets.
[87] Case Studies, June 2005.
[88] Final Technical Report, R8090, Annex Bib, p.36.
[89] Final Technical Report, R8090, p.13.
[90] Case Studies, June 2005.
[91] For instance it is reported that beneficiaries overestimated the level of demand for non-farm natural products (Final Technical Report, R8090, p.14).
[92]Akosua Boatemaa, Swedru.
[93] Loan Repayment Data, 2005.
[94] Richard Naaso, CEDEP, Interview, 28.06.05.
[95] Loan Repayment Data, 2005.
[96] Quarterly Report, July-Sept, 2003, Appendix ii, p.5, Adagya; p.6 Okyrekrom; p.7 Duase; Monitoring Visit Report, 11-12 December, 2003.
[97] Quarterly Report, July- Sept, 2003.
[98] Stakeholder's Workshop Proceedings, March 24- 25, 2004, p.51.
[99] Monitoring visit Report, 12-17 July 2004.
[100] Monitoring visit Report, 12-17 July 2004, p.12.

References

Business Plan Summaries (2001), Centre for the Development of People, Kumasi, Ghana

Case Studies (2005), Centre for the Development People (CEDEP), Kumasi, Ghana

Devas, N. & Korboe, D. (2000)'City Governance and Poverty: The Case of Kumasi', *Environment and Urbanisation*, 12 (1):123-135

Final Technical Report (2001), Further Knowledge of Livelihoods Affected by Urban Transition (R7854), International Development Department, University of Birmingham

Final Technical Report (2002), Implementation Plans for Natural Resource Management Strategies for KPUI (R7995), Centre for the Development of People (CEDEP), Kumasi

Final Technical Report (2005), Who Can Help the Peri-Urban Poor (R8090), Centre for the Development of People (CEDEP), Kumasi

Final Technical Report (2000), Kumasi Natural Resource Management (R6799), Natural Resources Institute, University of Greenwich

Final Technical Report (2002), Peri-urban Natural Resource Management at the Water Shed Level, Kumasi Ghana (R7330), Centre for Developing Areas Research (CEDAR), Royal Holloway, University of London

Gough, K.V. & Yankson, P.W.K. (2000) 'Land Markets in African Cities: The Case of Peri-urban Accra, Ghana', *Urban Studies*, 37(13): 2485-2500

Gordon, A., Davie, J., Long, A. & Meadows, K. (2000) *The Role of Natural Resources in the Livelihoods of the Urban Poor*, Natural Resources Institute, University of Greenwich

Keraita, B., Drechsel, P. & Amoah, P. (2002) 'Influence of Urban Wastewater on Stream Water Quality and Agriculture in and Around Kumasi, Ghana', *Environment and Urbanisation*, 15 (2): 171-178

King, R., Inkoom, D. and Mensah-Abampah, K. (2001)'Urban Governance in Kumasi: Poverty and Exclusion', *Working Paper 23*, Urban Governance, Partnership and Poverty, University of Birmingham

Kombe, W.J. (2005) 'Land Use Dynamics in Peri-urban Areas and their Implications on the Urban Growth and Form: The Case of Dar es Salaam, Tanzania', *Habitat International*, 29: 113-135

Loan Repayment Data (2005), Centre for the Development People (CEDEP), Kumasi, Ghana

Monitoring Visit Report (2003: 11-12 December Who can help the Peri-urban Poor? (R8090), Centre for the Development of People (CEDEP), Kumasi

Monitoring Visit Report (2004: 12-17 July) Who can help the Peri-urban Poor? (R8090), Centre for the Development of People (CEDEP), Kumasi

Natural Resource Institute (1995)' Peri-Urban Interface Research: Workshop Proceedings, 22-25 August, Kumasi, Natural Resources Institute, University of Greenwich

Quarterly Report (2003: July-September) Who can help the Peri-urban Poor? (R8090), Centre for the Development of People (CEDEP), Kumasi

Questionnaire Survey Data (2004), Centre for the Development People (CEDEP), Kumasi, Ghana

Rakodi, C. (1998)' Poverty in the Peri-Urban Interface', NRSP Research Advances, No. 5
http://www.livelihoods.org/cf/search/showrecord.cfm?ID=47

Simon, D., Nsiah-Dgyabaah, K., Warburton, H., Adu-Gyamfi, V., & McGregor, D. (2001), 'Changing Urban-Rural Interface of African Cities: Conceptual Issues and an Application to Kumasi, Ghana', Workshop Paper, Africa-Studiecentrum, Leiden, the Netherlands, 9-11 November

Simon, D., McGregor, D. & Nsiah-Gyabaah, K. (2004) 'The Changing Urban–Rural Interface of African Cities: Definitional Issues and an Application to Kumasi, Ghana', *Environment and Urbanization*, 16(2): 235-247

Stakeholders Workshop Proceedings, March 24- 25, 2004, Who can help the Peri-urban Poor? (R8090), Centre for the Development of People (CEDEP), Kumasi

Tacoli, C. (1998) 'Rural-Urban Interaction: A Guide to the Literature', *Environment and Urbanization*, 10(1): 147-166

ANNEX

Table 1: Main Livelihood Activity of Individual Beneficiaries

Livelihood Activity	**Percentage of Individuals**
Crop Farming	27.5
Trade (cooked food)	25.9
Trade (uncooked food)	35.3
Trade (non-food items)	5.8
Non-farm natural resource based	2.9
Non natural resource based	2.9

Source: Loan Repayment Data, 2005

Table 2: Location of Crop Farmers in the KPUI

Community	**% of Loan Recipients that Opted for Crop Farming**
Assago	2.4
Behenase	12.2
Ampabame II	28
Okyerekrom	2.4
Swedru	20.7
Duase	7.3
Apatrapa	2.4
Maase	9.8
Atafoa	2.4
Esereso	1.2
Adagya	11

Source: Loan Repayment Data, 2005

Table 3: Crops Cultivated by Male and Female Individual Beneficiaries

Type of Crop	**% of Loan Recipients Opted for Crop Farming**
Carrot and Cabbage	2.4
Cassava	2.4
Cow Pea	1.2
Garden Eggs	3.7
Ground Nuts	4.9
Maize	4.9

Maize & Cassava	28
Maize, Cassava & Okro	1.2
Okro	17.1
Okro & Garden eggs	1.2
Okro & Maize	1.2
Okro, Onions & Pepper	2.4
Onions	3.7
Pepper	4.9
Plantain & Cassava	1.2
Tomatoes	17.1
Yam	2.4

Source: Loan Repayment Data, 2005

Table 4: Preferred Farm Based Livelihood Activities of KPUI Inhabitants (R7995 Planning Stage)

Community	Livestock keeping	Garden eggs	Maize	Cassava	Okra	Pepper	Tomatoes
Duase	4	5	5	100	10	20	20
Asaago	20	13	89	96	4	2	4
Atafoa	0	0	6	2	3	2	0
Ampabame	0	15	60	54	10	85	25
Maase	0	1	31	40	12	6	3
Esreso	5	5	33	33	0	2	3
Okyrekrom	12	1	30	30	0	0	5
Behenase	0	0	58	56	4	0	0
Adagya	16	0	35	35	5	4	0
Abrepo	0	0	7	0	0	3	0
Apatrapa	0	14	40	40	30	21	10
Swedru	20	3	24	108	35	2	5
Total	77	57	418	594	113	147	75

Community	Cowpea	Plantain	Yam	Onions	Cabbage	Groundnuts	Ginger	Cocoyam
Duase	5	0	20	10	10	0	0	0
Asaago	5	5	8	2	4	11	2	0
Atafoa	0	0	0	0	1	0	0	0
Ampabame	6	15	10	6	5	0	4	1
Maase	0	1	2	3	5	0	0	0
Esreso	4	6	5	2	0	0	0	0
Okyrekrom	1	2	0	1	1	0	1	0
Behenase	0	2	1	2	0	11	0	0
Adagya	1	1	5	3	7	1	0	0
Abrepo	0	0	0	0	0	0	0	0
Apatrapa	20	0	32	6	16	0	0	0
Swedru	3	4	7	0	4	2	2	0
Total	45	36	90	35	53	25	9	1

Source: Final Technical Report, R7995

Table 5: Crops cultivated by Male and Female Individual Beneficiaries

Type of Crop	% Male	% Female
Carrot and Cabbage	100*	0
Cassava	0	100
Cow pea	100	0
Garden eggs	66.7	33.3
Ground Nuts	0	100
Maize	25	75
Maize & Cassava	60.9	39.1

Maize, Cassava & Okro	0	100
Okrp	21.4	78.6
Okro & garden eggs	100	0
Okro & maize	0	100
Okro, onions & pepper	50	50
Onions	66.7	33.3
Pepper	100	0
Plantain & Cassava	0	100
Tomatoes	78.6	21.4
Yam	50	50

Source: Loan Repayment Data, 2005

* Percentage within type of crop.

Table 6: Outstanding Debt amongst Farmers

Location	**Community**	**Mean Outstanding Debt**	**Number**	**Std. Deviation**
Urban	Apatrapa	4.8	2	6.7
Intermediate	Okyrekrom	0	2	0
	Duase	53.3	6	38.7
	Atafoa	57.9	2	59.6
	Esereso	100	1	0
Rural	Asaago	0	2	0
	Behenase	51.9	10	32.9
	Ampabame	12.6	23	28.7
	Swedru	22.4	17	37.4
	Maase	39.4	8	37.6
	Adagya	29	9	43.5

Source: Loan Repayment Data, 2005

Table 7: Cross Tabulation of Current Livelihood Activity by 'Additional'* Livelihood Activities prior to participation in the BYN project

		Current Livelihood Activity				
		Petty	Crop production	Animal rearing	Artisan	Salary work
Other livelihood activity prior to project	Petty	89.6 **	9.8	25	6.7	50
	crop production	6.3	86.9	0	6.7	0
	animal rearing	6.3	3.3	50	0	0
	artisan	4.2	0	25	73	0
	salary work	0	0	0	0	50
	other	0	0	0	13.3	100

* Activities further to one's main source of subsistence

**percentages

Source: Questionnaire Survey, 2004

Table 8: Livelihood Activities of Individual Loan Beneficiaries

Livelihood Activity	Number of Individuals	Percentage
Farming	85	27.3
Trade	208	66.9
Non-farm natural resource based	8	2.6
Non-natural resource based	10	3.2

Source: Loan Repayment Data, 2005

Table 9: Types of Goods Sold in the KPUI Traders

Type of Trade	Number of Traders	% of Traders	Type of Trade	Number of Traders	% of Traders
Akpeteshie (alcohol)	1	0.5	Kawuro	1	0.5
Bakery	1	0.5	Kenkey	24	11.6
Banku	2	1	Kenkey & fish	1	0.5
Cassava	4	1.9	Konkonte	2	1
Cassava and yam	1	0.5	Kookoo	1	0.5
Cattle skin	1	0.5	Maize	5	2.4
Charcoal	9	4.3	Maize, plantain & cassava	1	0.5
Chips	1	0.5	Meat	2	1
Chips and doughnut	2	1	Okro	1	0.5
Chop bar	2	1	Onions	2	1
Cooked rice	9	4.3	Oranges	2	1
Cooked Yam	1	0.5	Palm oil	1	0.5
Corn & cassava dough	1	0.5	Palmnut	2	1
Corn dough	3	1.4	Patrice	1	0.5
Corn, cassava, rice	2	1	Pepper	1	0.5
Doughnut	4	1.9	Petty trading	1	0.5
Dried Fish	5	2.4	'Pito' brewing	1	0.5
Drinks	2	1	Plantain	11	5.3
Dry bush meat	1	0.5	Pork meat	1	0.5
Dry fish and yam	1	0.5	Rice	3	1.4
Eggs	5	2.4	Rice & Banku	1	0.5
Fanti kenkey	3	1.4	Rice & Gari	1	0.5
Firewood	3	1.4	Rice porridge	1	0.5
Fish	13	6.3	Rice water	6	2.9
Fish and Yam	2	1	Pepper & onions	1	0.5
Fowls	2	1	Sandals	1	0.5
Fried eggs	1	0.5	Soap	1	1
Fried yam	2	1	Sugarcane	1	0.5
Fruits	4	1.9	Tea & bread	1	0.5
Gari	3	1.4	Used clothes	1	0.5
Gari & sugar store	1	0.5	Vegetables	1	0.5
Gari & doughnut	1	0.5	Wood work	1	0.5
Groundnuts	4	1.9	Yam	13	6.3
Cooking Ingredients (oil, salt etc)	15	7.2	Yam & fish	1	0.5

Source: Loan Repayment Data, 2005

Table 10: Distribution of Traders by Community

Location	Community	Number of Traders	% of Total Traders
Urban	Abrepo	29	13.9
	Apatrapa	18	8.7
Intermediate	Okyrekrom	26	12.5
	Duase	29	13.9
	Atafoa	29	13.9
	Esereso	10	4.8
Rural	Asaago	25	12
	Behenase	10	4.8
	Maase	17	8.2
	Adagya	15	7.2

Source: Loan Repayment Data, 2005

Table 11: Basis for Adoption of Livelihood Activities

		Basis for Choice				
		Less time consuming	Less space required	Stable market	Easy to do	other
Main Livelihood Activity	Trading	0	3.8	50	19.2	26.9
	Snail Rearing	34.5	17.2	17.2	17.2	13.8
	Mushroom Cultivation	4.5	4.5	40.9	9.1	40.9
	Rabbit Rearing	9.1	9.1	36.4	0	45.5
	Grasscutter Rearing	15.4	7.7	23.1	15.4	38.5
	Alata Soap Making	13.8	3.4	62.1	3.4	17.2
	Farming	0	0	75	6.3	18.8

Source: Questionnaire Survey, 2005