Assessment of Cowpea (Vigna unguiculata:(L) Warp )
Production in Abuja Central Nigeria

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A survey was conducted to assess the status of cowpea production in the FCT Abuja using two centrally located area councils (Gwagwalada and Kwali) as representative of the entire population. Over 90% of the farmers in both area councils are men while older and more experienced farmers were found at Kwali compared to Gwagwalada. About 50% and 10% of the farmers at Kwali and Gwagwalada respectively had no formal education. Most of the land holdings available for farming in Kwali were relatively larger than in Gwagalada. However, most (70%) of these lands were through inheritance. In Kwali, 25% of the land is used for cowpea production by 62.1% of the population while 60% of the farmers use all of theirs in Kwagalada. Over 70% of the farming system is crop based and the ratio of mixed to sole cropping for cowpea production is 40:60 for both area councils. The crops available for intercropping are maize, yam, cassava, sorghum, and sesame.

Keywords: and Abbreviations: Kwali and Gwagwalada area councils of the FCT (Federal Capital Territory)-Abuja, cowpea, farming system, ADP- Agricultural Development Programme

INTRODUCTION

Cowpea (Vigna unguiculata, Warp) is perhaps the most consumed legume in West Africa generally and this assertion is most obvious in Nigeria being the world’s leading producer (FAO, 2010). The crop lends itself to a variety of uses and the dry pulse can be made into several local delicacies in different parts of the West African sub region. Cowpea is the legume of choice in the menu of most city dwellers as a result the demand for the crop is ever increasing in Abuja (the capital city of Nigeria) and its environs which have been reputed as one of the fastest growing cities in the world.

With an average yield of less than 400 kg ha⁻¹ the crop has very low yield per unit area in Nigeria (Dugje, et al, 2009) because of low plant population and inadequate plant arrangement ( Okorji and Obiechina, 1985), poor fertilizer application (Amujoyegbe, et al, 2008), pests and disease infestation(Singh and Jackai,1985 ) as well as other poor agronomic practices. However it is possible to obtain yields far above three tonnes per hectare with adequate agronomic recommendations (Dugje, et al, 2009).

The production culture for cowpeas has received some attention from research scientists within Nigeria and beyond, however the problem of low output per unit area by the rural peasant farmers had persisted. This may be due in part to the lack of a well coordinated and sustained research programme or due to the paucity of proper baseline information on the actual status of the cowpea production systems in the major production areas of the tropical savannas.

It appears that a very significant quantity of cowpea is produced through intercropping with cereals like sorghum, maize and millets (Uguru, 1996, Segun-Olusanmi, and Bamire, 2010). Cowpea is also grown along with root and
The Nigerian federal capital territory (FCT- Abuja) located 9.2°N; 9.6°E and 6.8°; 7.2°E lie in the heart of the Southern Guinea Savannah having about 1500mm of annual rainfall distributed within seven to eight months-March/ April to October/November (Agboola, 1979). The soils are predominantly luvisols of the ferric-lithic and orthic range which originated from basement complex rocks, cretaceous sediments and volcanic alluvium (Anon 1988).

The main object of this study is to provide background information on the status of cowpea production systems in and around the FCT, as represented by the two centrally located area councils of Gwagwalada and Kwali. It is hoped that this survey will provide the basis for more detailed scientific investigations into the problems of cowpea production in this agro ecological zone.

MATERIALS AND METHODS

2.1 The definition of the study area: The study was carried out at the FCT in two of the six area councils namely Gwagwalada and Kwali. With total land area and population of 1043Km² and 157770 people for Gwagwalada as well as 1206Km² and 85837 people for Kwali (Nigeria population commission, 2006 ). These two area councils are located approximately in the centre of the FCT Abuja which gives access to most of the population of the Federal Territory.

2.2. The tools and method of conducting the survey: The tool of choice for this investigation was a questionnaire to elicit baseline information on the status of cowpea based farming system(s) in the FCT from the respondents in Gwagwalada and Kwali area councils. These area councils form a representative sample of the population of the FCT- Abuja, Nigeria considering their location and land area. The questionnaire was administered to the respondents randomly and those among the respondents that could not read and write were interviewed and the responses were then recorded.

2.3 Data collation, statistical analysis and methods of presentation: The information obtained from the survey was grouped and subjected to simple statistical method of percentages. The result of the analysis was grouped and presented in figures (figures1-3). Information on such basic aspects as age and sex distribution, educational background and relative cowpea farming experience are presented in figure1. In figure 2, are land related issues like land tenure system, size of farm holding, farming system(s), cropping patterns and preferred crop mixtures. Input profile, yield and other production related information were also grouped and presented in figure 3.

RESULTS AND DISCUSSION

3.1 The characteristics of the cowpea farmers:

The profile of cowpea farmers in Gwagwalada and kwali area councils of the FCT Abuja is presented in figure 1. The result of this survey shows that cowpea farming in the two area councils under consideration overwhelmingly male dominated as indicated by the 91.7% and 95% of the respondents in Kwalli and Gwagwalada respectively. This observation tend to agree with the prevailing land tenure and ownership of Nigeria where only the male children can inherit and consequently have access and rights to land. The issue of land ownership and tenure system in these local area councils like in other areas of Nigeria is still grossly influenced by socio-cultural factors where land inheritance is gender bias in favour of male children. Though the FCT by law is supposed to make land available to all Nigerians irrespective of gender affiliation, what really obtains on ground is that the portions of land that are available for farming are still firmly held by the indigene rural peoples who have the right to these lands prior to the advent of the FCT (1989). These indigene people hold the land as an integral and sacred part of their socio-cultural as well as their traditional religious beliefs which are very typically African and by implication highly male dominated.

Assessment of the age distribution of the cowpea farmers in kwali and Gwagwalada area councils of the FCT-Abuja revealed that most of them fall between the age range of 21 and 60 years. However majority (45.8%) of farmers in kwali were older (41-60years), while 29.2% fell within the 21-40 years range. The situation in Gwagwalada was slightly different because out of the 21-60years broad age range, the largest group (37.5%) was of the younger (21-40years) fraction just as 22.5% were of the older (41-60years).

It most likely that Kwali’s location farther away from Abuja main city centre and thus less cosmopolitan than Gwagwalada will naturally have higher number of older farmers than Gwagwalada. On the other hand also Gwagwalada is most likely to have more unemployed youths who may find ready though temporary employment in cowpea farming.

It is observed that significant number (47.9%) of the respondents in Kwali area council did not attend formal school while 31.3% of the cowpea farmers in this survey went to primary school only. The estimate of those that had secondary school education was 20.8% and none of the respondents went beyond the secondary school. In Gwagwalada the situation remarkably different though the trend is slightly similar because a majority (50%) attended primary school followed by those that acquired secondary education (25%) while 15% had some sort of tertiary education and only 10% had no formal education. The fact that Gwagwalada is closer to the city centre may be responsible for the presence of more educated people than Kwali. This assertion becomes more valid when we
Figure 1: Biodata and farming experience of cowpea farmers in FCT-Abuja (2011)

Figure 2: Land ownership and Tenure systems of Cowpea farmers in the FCT-Abuja (2011)

Figure 3: Description of the Farming Systems of FCT-Abuja Cowpea farmers (2011)
consider the fact that most of these people were young between the ages of 21-40 years that may be classified as unemployed school leavers especially in the secondary and post secondary age bracket. For both area councils it was observed that most of the cowpea farmers either attended primary school or did not go to school at all.

3.2.1 Land tenure system: The land used for farming in this two area councils is mainly inherited as 70.8% and 70% of the farm lands in Kwali and Gwagwalada indicated. The second important type of land is acquired by lease which represented 12.5% and 11.5% for Kwali and Gwagwalada area councils in that order. In Kwali 10.5% of the farmers purchased their lands while only 6.25% of them had the land allocated to them. In Gwagwalada however the allocated and purchased lands accounted for 7.5% and 5.0% respectively. From this result it would appear that most of the farmers in these area councils are indigent peoples because they are the most likely to inherit lands from their ancestors. It is also logical to expect that the second most important source of land for cowpea farming is through lease in view of the relative cost of land in these area councils which makes it very difficult to purchase large area of land or get government approved allocation for farming purposes. The major emphasis for land use in the FCT is mainly for real estate development and civil constructions such as highways, bridges, public recreational parks etc. Most of the lands committed to crop production are in remote locations far away from the main city centres and at the sites of development, hence area councils like Gwagwalada and Kwali located about 65 and 70 km from the city gate is most likely to have enough land that can be used for crop production.

3.2.2. Farm holdings and proportion land committed to cowpea production: An analysis of table 2 shows that the largest (over thirty hectares) as well as intermediate farms (between 11 and 30 hectares) were more concentrated in Kwali than Gwagwalada. However Gwagwalada had more of smallest (less than one hectare) farms than Kwali as the data reveals. Advancing the same argument we can propose that Kwali seem to be more remote or less cosmopolitan than Gwagwalada as a result it is more likely to find larger farms in the former than in the latter. In the same vein it is more likely to get smaller in Gwagwalada than in Kwali. The closer proximity of Gwagwalada to the main development areas of the city centre appears to have reduced its potential to provide large parcels of land that may be fully committed to farming. In Gwagwalada most probably because of the relatively smaller farm land holdings, most (60%) of the respondents dedicated all of their farm to cowpea production but in Kwali 62.1% of them used only a quarter(25%) of their fairly larger land holdings for the same purpose.

3.2.3. Farming and cropping systems: In both these council areas, the farming system is predominantly crop based because in Kwali 50% of respondents produce only crops and 39.6% grow mainly crops with little animals this makes up 89.6% of all respondents. The situation is not too different in gwgwalada as 40% of the respondents raise only crops and 30% do so with a few animals to total 70% of all the respondents. Perhaps factors like the cosmopolitan nature of these council areas and the activity of the Abuja environmental protection agency may have interacted to cause the restriction in free rearing of animals as a result most farmers are more prone to growing crops than raising livestock. The major animal farmers in this part of Nigeria are nomadic pastoralists (Fulani herdsmen) who are traditionally non sedentary and it highly unlikely that they may be interested in possessing land which is a prerequisite for crop production. Considering the relatively higher level of animal based farming system practiced in Gwagwalada than in Kwali, it was observed that most of the animals kept by Gwagwalada farmers are of the type that can be raised intensively and their products are in great demands in the FCT such as Swine and poultry.

The ratio of the farmers who practice sole cropping to those who practice mixed cropping respectively in Kwali is 58.3% to 41.7%.The figures are approximately the same in Gwagwalada because 60% of the farmers practice sole...
cropping while 40% practice mixed cropping. For most cowpea based crop mixtures in this ecological zone, cowpea is usually introduced late because it is mostly sown between July and August (Omisor, J. K and Mohammed, B.T, 2007). This implies that by that time most of the crops for which the land was prepared had grown very dense canopy (LAI >3). Considering the fact that Kwali and Gwagwalada are the major yam producing areas of the FCT (Chuwang, 2010) this observation is expected in view of the importance the farmers accord to yams so they hardly intercrop the main(yare) yam crops with other crops. This result also reveals that most of the cowpea is produced as sole crop and only 40% is produced in association with other crops and that yam is the main crop that is grown in these areas and to some extent rice which are traditionally less liable to be intercropped. This development may be explained by the fact the crop is usually planted late in July or early in August. The land preparation for yams is traditionally done between late September and early October and the yams are planted well before the onset of the rainfall starting from January to early March. This arrangement offers limited opportunity for intercropping.

In Kwali however, the crop that lends itself to intercropping with cowpea is yam possibly because the last weeding of the yam plots (in July) before harvest can be an opportunity to plant the cowpea at the shoulders of the heaps. This helps to smother late emerging weeds and to add nitrogen (N) to the soil. The second most intercropped species with cowpea in Kwali appears to be maize which makes up 22.9% of all cowpea based intercrops. The other crops are cassava and sorghum in that order. In gwasgwalada maize is the most commonly intercropped plant species with cowpea others are cassava, yam and sesame in that order of importance. For the two area councils generally, the figures show that maize, yams and cassava seem to be the crops that farmers prefer to intercrop with cowpea. The length of the rainy season in the southern Guinea Savannah (about seven months) can allow for two crops of maize. The first crop planted April/May and harvested July/August while a second crop planted July/August is harvested November/December. The cowpea is usually intercropped with the second or late crop of maize. The brown and bunched (achi-shuru) type of cowpeas are usually grown along with the early (first) maize crop. Cassava and yam are the longest duration arable crop species in these council areas hence the farmers may be more prone to spread the cost of production and maximise land and resource use efficiency by planting short season crops like cowpea and melon.

**SUMMARY AND CONCLUSION**

Cowpea is produced in the FCT by local farmers who have very small farm holdings generally but in Kwali the unit land holdings where relatively larger than those held by Gwagwalada farmers who were in turn younger, more educated and less experienced in cowpea farming than Kwali farmers. Generally cowpea farming is still predominantly male controlled most probably because of the land tenure system that is overwhelmingly through filial inheritance which usually favours the male offspring.

The farming system is crop based with some animals kept by the side. Mixed cropping is a significant practice and the most important crop components of these intercropping include yam, maize, cassava and sorghum.

**REFERENCE**


