AN ANALYSIS OF PRODUCTION OBJECTIVES OF SMALL-SCALE RURAL FARMING HOUSEHOLDS IN KWARA STATE, NIGERIA

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Ⅰ. Introduction

Nigerian agriculture has, to a large extent, not divorced itself from most of the characteristics of a peasant economy that were prominent in the pre-independence period. Resource-poor farmers in rural areas, representing over 90 percent of the farming populace, produce as much as 85 percent of the total agricultural production. In addition, agriculture offers employment to about 80 percent of the population (Okeowo et al. 1998; Omotesho et al. 1995). The quality of planning and decision-making by these resource-poor farmers will largely determine the outcome and productiviy of the Nigerian agricultural sector. This is because, planning is the most basic function of management and it is the genesis of any agricultural business (Kay 1986). Planning involves the organisation of resources such as land, labour and capital, so that as far as possible the future operation of the business will best comply with the objectives set for it. Absence of planning entails hesitation, wrong steps, and untimely changes

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of direction that are freguent causes of weakness if not of disaster in business(space) (Koontz et al. 1968). When agricultural enterprises fail to achieve the desired results, management deficiencies are hardly mentioned as the major causes of failure. Instead the cause is often mistakenly assigned to inappropriate technologies. Forever, technologies only make production and productivity possible; it is people who actually achieve production and productivity.

Agricultural planning, apart from shedding light on efficient utilization of farm resources, makes possible the charting of courses of action that help in the attainment of maximum net returns choosing the best farm plan among a number of alternatives is a major challenge, especially to the small-scale farmers with little or no formal education.

It used to be held that planning is not often required in traditional farming, because farmers mainly practice agriculture which is suited to the soil type and that such programms have stood the test of time. This is however proving to be no longer tenable and as new technologies are introduced, there is a need to combine and recombine resources in other to achieve the farmer's desired goal(s) (Adewumi et al. 1999). According to Soyibo (1983) any 'real life' decision-maker is often confronted with multiple conflicting and sometimes non-commensurable objectives. Unfortunately at the policymaking level in Nigeria and many other African nations, farm planning models are either not available or based upon the assumption of profit maximization or cost minimization as the single production objectives. Empirical studies have however, shown that the 'real life' decision-maker bases decisions on more than one objective. Hence, a closer approximation to 'real life' decision modelling is to take into account the multiple, conflicting objectives of the decision-makers.

If the scanty resources available to the many small-scale farmers in Nigeria are to be efficiently utilted, optimum farm plans that must include the multiple, and perhaps conflicting, objectives of farmers must be formulated for these farmers in specific localities of states. More over, these small-scale farmers will

constitute the backbone of Nigerian agriculture for the next 25 years(Idachaba 2000).

Planning is a basic management function that enhances efficiency in the use of resources, and it can also help policymakers to forecast producers' responses to decision variable. Farmers' goals and objectives are very crucial in planning as they guide, direct and focus the decision-making and provide a means for comparing and selecting the better and finally the best of the alternative plans. Well-defined goals are therefore necessary for making the planning procedure meaningful. The first important question to settle in any business planning is to determine individual and family goals that grow out of needs, interests, past experiences and values. These goals or objectives are the end toward which individuals, families and organization work.

The foundation of the decision-making process lies in the objectives that give it purpose, direction and continuity. Before initiating any course of action, the objecive(s) in view must be clearly determined, understood and formulated. According to McFarland(1974) an objective is the end point toward which management directs its decision-making. It is a specific category of purpose that includes the attainment by an organization of certain states of conditions. Economists have not made a fine distinction between golas and objectives but have used these terms interchangeably (Hornby et al. 1997). This style is adopted in this study. According to Norman (1976), defining the goals of farmers is not easy. It may even be difficult for many farmers to explicitly define their own goals.

In recognition of its potential benefits, agricultural planning research has become very popular in the developed nations of the world. In many parts of Africa south of the Sahara, agricultural planning is still in a rudimentary phase. Many studies on small-scale farmers are modelled on the neo-classical economic theory, without paying attention to other objectives of the farmers (Onyenwakwu et al. 1982; Dittoh 1985; Omotesho 1991).

If agricultural policy is to facilitate the accomplishment of

small farmers' objecives, then a central issue must be the determination of small-farm operators' goals. The main thrust of this study is to explore the production objectives of the rural farming households in the study area. The specific objectives are:

    a) to describe the socio-economic characteristics of the rural farming households in the study area;

    b) to explore the reasons why farming households in the study area go into farming business;

    c) to examine the relative importance of the stated reason;

    d) to highlight the policy implications of the findings.

II. Methodology

The target population for this study is the small-scale farming households in rural areas of Kwara State. A three-stage sampling technique was used to select the sample for this study. The first stage involved the random selection of Zone D out of the four ecological zones of the Kwara State Agricultural Development Programme(KWADP). Out of the seven Local Government Areas(LGAs) in zone D, Oyun and Offa were purposely left out because they are largely urban based. The study therefore concentrated on Irepodun, Ifelodun, Isin, Oke Ero, and Ekiti LGA's. These Local Government Areas are culturally and ecologically homogeneous. Four villages were randomly selected from each selected LGA in the second stage using the KWADP village listing. The final stage involved the selction of 15 farming households within each of the already selected villages. Accordingly, a sample of 300 farmers was taken for this study, however only 291 questionnaires were found useful. Essentially, the data were cross-sectional in nature.

The data obtained wrer analysed with descriptive statistics using frequency distribution, means, ratios, range, precentages of various resource inputs and the paired comparison method.

The method of paired comparisons used by Bradley (1976), Wilmer et al. (1980) and adapted by Durojaiye (1991) was used to develop the ranking of a goal hierarchy for the

respondents. The assumptions of the paired comparisons model used in this study are as used by Mosteller (1951). The model allows the determination of a rank ordering of the goals, and with the selection of one goal, scale values are developed for each goal. This places the goals on a relative continuum.

The respondents were presented with a list of all possible pairings of elicited production objectives and the respondents selected the preferred goal in each pair. The number of pairs for a given set of objectives is indicated by:

(1) $[n(n-1]/2$

where n＝nunber of production objectives to beranked.

The relative frequency with which an objective is chosen was used to establish its ordinal rank. This objective rankig was tested for statistical significance using the method reported in Urquhart et al. (1987). The test statistic at the 0.05 level of significance is:

(2) $LSD = 1.96 \ [SF(n)(n+1)]^{1/2}$

Where LSD ＝ Least Significant difference
SF＝the of surveyed farming households
b＝number of production objectives to be ranked
The hypothesis tested here are
H_o : Rank of i-th production objective ＝ Rank of $(i+1)$-th production objective
H_1 : Rank of i-th production objective $\neq$ Rank of $(i+1)$-th production objective
Where(i＝1, 2, 3)

The null hypothesis is rejected if $(N_1 - N_{i+1}) > LSD$
Where N_i=total number of times that a given objective is preferred over any other objective.

III. Results and Discussion

In a traditional setting where most small-scale farming households in the sample belong, both sexes co-exist and engage in production. The analysis reveals that more males (90 percent) than female. This result conforms with the cultural setting where men have more access to farmland and other farm inputs.

Age affects labour productivity and output. It also affects the adoption of innovation in traditional farming. The study revealed that only about 35 percent of the household heads are between 26-45 years of age, which could be regarded as the most active age bracket. The mean age of the household heads is 48.85 years and 46-50 years is the modal age group. This has implications for the available family labor resource and productivity of the labor force. The result implies that most of the household heads are elderly, with the consequent reduction in their productive activity. Given the ageing nature of the sample, their might be a reduction in the effective labor force for agricultural productivity in the study area.

The study further revealed that 60 percent of the farming household heads are illiterate, having no form of formal education. Only 30 percent of the literate formers have primary education. Those who had tertiary education probably constitute the civil servants who engaged in part-time farming in the area. It is therefore expected that increased productivity through adoption will be low in the study area.

In the Nigerian rural setting, labour resource resides in farming households individuals in the family are potential sources of labour on the farm, thereby enabling the cultivation of large hectarage and reducing the cost of hired labour.

The average farming household in the study area, has 10 members. About 41 percent of the respondents have family sizes greater than this average number. The majority of the farming households (55 percent) had a family size of between 6-10 members.

In Nigeria, in order to make provision for their families,

many farmers engage in other income-generating activities besides farming. Farmers who engage in fulltime farming are expected to be more efficient and prepared to explore new methods that offer increases in farm incomes, compared with those who engage in farming as a part-time business. On the other hand, part-time occupations may make possible a fuller use of farmers' labor, especially in slack season.

The study revealed that the majority of the sampled household heads (80 percent) have no other occupation other than farming. This implies that a larger proportion of the people in the study area depend wholly on farming for survival.

The model farm size class in the study area is 0.81-1.60 hectares. The average farm size of the respondents was 1.387 hectares. If small-scale farm is defined as ranging between 0.01-2.39 hectares (Ijere 1981), the majority of the respondents is therefore small-scale farmers. The level of fragmentation makes mechanization difficult. Farm size range from 0.1 to 4 hectares with representative farming households having about three plots of farmland, most of which were less than 1 hectare.

Ninety-three percent of the production activities practiced by households consisted of inter-cropping maize withcassava, inter-cropping yam with guinea corn or cultivating either cowpeas or soybean on segregated stands. This study therefore focused on these production activities.

IV. Farming Households' Production Objectives

Although it is recognized that households have many motivations for going into the farming business, based upon pre-test results and earlier study (Adewumim et al. 1999), the four most important objectives as elicited by the farming households were nonetheless used in this study. These are: meeting the minumum farming households' food requirement: maximizing gross margin; minimizing households' cash expenses on farming; and providing the family-employment need of the households. All the households had various combinations of these objectives. The

TABLE 1.   Frequency Matrix and Rank of Households' Production Objectives

	Households' Food Requirement	Farm Gross Margin	Minimum Cash Expenses	Households' Employment	
Households' Food requirement	-	100(34.36)	111(38.14)	108(37.11)	319
Gross Margin	191(65.64)	-	117(40.20)	107(36.77)	415
Minimum Cash Expenses	180(61.86)	174(59.80)	-	146(50.17)	500
Households' Employment	183(62.89)	184(63.23)	145(49.83)	-	512
Preference Frequency	554[a]	458[b]	373c	361[c]	1746 LSD=61.04
Objective Ranking	Ist	2nd	3nd	4th	

Source: Field Survey 2001.

results of the survey of farming households' production objectives are presented in Table 1.

Figures in parentheses are the percentage of the total respondents represented by the frequency. In Table 1, a, b, c are statistically different objectives at 0.05 level of significance.

The numbers in each column indicate the frequency with which an objective was preferred to another objective represented by the respective rows. Reading across the table, the number in a given column of that row indicates the frequency with which the objective represented by that row was not preferred to the objective represented by the given column.

Using the method of paired comparison (Table 1) satisfying farming house hold food requirements ranked first with a total preference frequency of 554, maximizing gross margin objective, ranked second with a total frequency of 458.

Minimizing average family's cash expenses ranked third; this was followed with meeting the employment need of the households, with the least frequency of 361. The Least Significant Difference(LSD) statistic was calculated to be 61.04 at 0.05 level of significance. Given the test criterion and LSD statistic, the analysis failed to reject the null hypothesis only in the case of family employment need and minimizing farming household cash expenses. The preference frequency for minimizing farming households' cash expenses was not statistically different from the preference frequency for households' employment objective since the difference between the preference frequencies for the two objectives(12) was less than 61.04. The two objectives were therefore considered to be of equal importance to the farming households. However the ranking of satisfying family food requirement, maximizing gross margin over the remaining two objectives was statistically different.

V. Conclusions

The result of our analysis demonstrates the possibility of developing a statistically significant hierarchy of production objectives for rural farming households in the country. The emphasis of farming households on meeting the food requirement of households above the gross margin indicates that the household is the relevant unit of analysis rather than the farm enterprise. This orientation suggests that small-scale farming units similar to those in the study area may view their agricultural activities as meeting a personal non-monetary need first and income need second. As suggested by Becker (1965) and Gronau(1977) and supported by Romero et al. (1984) a production function approach would yield more insight into the economic activity of the rural farming households than would a profit maximization approach.

Based on the findings of this study, it would appear that rural development strategies should accurately reflect the appropriate multiple objectives and their relative priorities in the decision-making process.

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