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Assessment of Cooperative Societies Effectiveness in Agricultural Credit Delivery in Ikpoba Okha Local Government Area, Edo State, Nigeria

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ABSTRACT: The study is an assessment of the effectiveness of Cooperatives in Agricultural credit delivery in Ikpoba- Okha Local Government Area, Edo State, Nigeria. It identified the socio economic characteristics of the cooperative societies assess farmers' access to cooperative loans, determine the arrival rate of loan requests and the service rate, idle time and traffic intensity of the cooperative societies in order to assess their overall effectiveness in credit delivery. Primary data was sourced with the aid of a well structured questionnaire. The information was analysed using descriptive statistics and Queue model. The result showed that Cooperatives received loan request, have overall approval rate of 99.16%, arrival rate of 43, service rate of 43 per month which resulted in a traffic intensity of 1.01 and Idle time of -0.01. Empirical results showed that, the Cooperatives were effective in Credit Delivery.

Keywords: Cooperative Societies, Credit delivery, Queue Model, Traffic intensity

Introduction

In developing countries as in the case of Nigeria, Agriculture dominates the nation's economy. It has been established that about 70 percent of Nigeria population is engaged in Agriculture (Obasi and Agu, 2000) while 90 percent of Nigeria total food production comes from small farms and 60 percent of the country population earn their living from these small farms (Oluwatayo *et al*, 2008). The recent importation of food items into the country to make up for the shortfalls in food supply is a dangerous indication of dwindling farm productivity and a warning sign that if the nation continue with business as usual, the prospect of food security will be bleak for millions of people (Nweze, 2003). The fall in agricultural production could be attributed to inadequate infrastructure, under mechanisation and inadequate finance (Oshioyokoya, 1987). According to Ojo (1998), one problem confronting small scale enterprise including that in agriculture is inadequate capital.

Inadequate finance has remained the most limiting problem of agricultural production. This is because capital is the most important input in agricultural production and its availability has remain a major problem to small scale farmers who account for the bulk of agricultural produce of the nation. In Nigeria, credit has long been identified as a major input in the development of the agricultural sector (Balogun, 1990). Credit is considered the catalyst that activates other factors of production and make under used capacities functional for increased production (Ijere, 1998). It is a major factor necessary for technological transfer in traditional agriculture (Oyatoye, 1981). Farm credit

can be obtained from either the formal source which include the banks and other government owned institutions or the informal sources which are self help group, money lender, cooperatives and non government agencies (NGO).

According to Afolabi and Fagbero (1998), the informal source of credit is more popular among small scale farmers which may be due to the relative ease in obtaining credit devoid of administrative delay, non existence of security or collateral, flexibility built into repayment which is against what is obtained in the formal sources. Ojo *et al* (1993), observed that the institutional lending system has failed to meet the objective for which they were set up. According to him only 15 percent of the trading bank credit to agriculture has been covered. The major short comings of their transactions he observed are due to the inaccessibility of these funds to rural farmers as a result of the bureaucratic procedures and high service cost, which are very difficult for the farmers to meet.

The situation have attracted the attention of Nigeria government and this has led the Federal Government of Nigeria to the creation of specialised institution such as the Nigerian Agricultural and Cooperative bank (NACB) which later translated into the Nigeria Agricultural Cooperative and Rural Development Bank (N.A.C.R.B.D) to cater for the credit need in the agricultural sector. However, Alufohai and Ahmadu (2005), studied its queue management and reported its ineffectiveness in credit delivery.

In spite of the importance of loan in agricultural production, its acquisition is fraught with a number of problems. The small scale farmers are forced to source for capital from relations, moneylenders and contribution clubs. All of these are known to be ineffective in providing capital for substantial increase in agricultural production. The last hope for the small scale farmers then lies with the cooperative societies (Ijere, 1981), the cooperative has been identified to be a better channel of credit delivery to farmer than the NGO's in term of its ability to sustain the loan delivery function (Alufohai, 2006).

Cooperatives are defined as "an autonomous association of persons who unite voluntarily to meet their common economic and social needs and aspiration through a jointly owned and democratically controlled enterprise (ICA, 1995). Cooperatives are established by like-minded persons to pursue mutually beneficial economic interest. Researchers are of the opinion that under normal circumstance Cooperative play significant role in the provision of services that enhance agricultural development. Patrick (1995), described Cooperatives as a medium through which services like provision of farm input, farm implements, farm mechanisation, agricultural loans, agricultural extension, members education, marketing of members farm produce and other economic activities and services rendered to members. Regular and optimal performance of these roles will accelerate the transformation of agriculture and rural economic development. Ijere (1981), further explains that, it is the cooperative that embraces all type of farmers and a well organised and supportive Cooperative is a pillar of strength for agriculture in Nigeria.

Previous studies have shown that cooperative carry out the function of credit delivery to farmers but there is ample evidence that farmers face difficulties in obtaining credit and the problem of sourcing for capital still lingers on. The question therefore is, whether these cooperative are effective or not in credit delivery to farmers. Do farmers actually patronise them or is it that the cooperative are slack in rendering this service? If they do, are there delay, does queue exist, if there is, what is the arrival rate, service rate, idle time and traffic intensity.

In view of the foregoing, the study is designed to assess farmers' access to loans from cooperative societies, identify the arrival rate of loan request of farmers that have access to loans from these cooperative societies, the service rate and idle time of the cooperative societies and the traffic intensity in order to assess the overall effectiveness of their queue system.

Materials and Methods

The study was conducted in Ikpoba-Okha Local Government Area of Edo State. The list of all registered Cooperative Societies was obtained from the Ministry of Commerce and Industry from which all Cooperatives societies involved in credit delivery were purposively selected.

The data for the study were collected using a well structured questionnaire administered to respondents who were cooperative officials and involved in cooperative activities

Data obtained from the study were collated and analysed using simple descriptive statistics such as means and frequencies as well as the Queue Model as given by Olayemi & Onyenwaku (1999).

The Queue Theory:

A queue is a waiting line. It is an array of items waiting to be served. The queue model is usually employed to determine the effectiveness of the performance of an organisation (Olayemi & Onyenwaku, 1999). The queue model was used to access the arrival rate of loan request of farmers, the service rate, the idle rate and traffic intensity of the

cooperative societies. These were computed by the following formulae given by (Omotosho, 2002; Alufohai and Ahmadu, 2005).

$$\text{Arrival rate} = \frac{\text{Number of arrival}}{\text{Time}}$$

$$\text{Service rate} = \frac{\text{Number served}}{\text{Time}}$$

$$\text{Traffic intensity} = \frac{\text{Arrival rate}}{\text{Service rate}}$$

$$\text{Idle time} = 1 - \text{Traffic intensity}$$

For the purpose of the study, arrival rate depicts the number of loan request per month, the service rate represents the number of application accepted, considered and loan actually provided. Idle time refers to the period when no application was attended to, even when they had been submitted.

Efficiency in queue management is achieved when the traffic intensity is unity that is arrival rate is equal to service rate. In this case no idle time (Idle time = 0).

Results and Discussion

(I) Socio economic characteristics of the cooperatives

The cooperative studied were all multipurpose cooperatives carrying out credit delivery as a function. They were within the age range of 5 – 18 years, with average membership strength of 315 as against an average membership of 46 at their inception, showing that a large number of individual had joined the cooperatives after inception. This growth may be as a result of incentives received by member which motivated others to join.

(II) Access to Credit

The result (in Table 1) shows that an average of 475 loan application were received in 2001 and 471 were approved giving an approval rate of 99.15%. 556 and 514 loan application was received while 550 and 511 were approved for the year 2002 and 2003 respectively giving an approval rate of 98.90% and 99.42%.

In all, the cooperative societies received a total of 1545 loan application and approved 1532 within the study period of three year giving an overall approval rate of 99.16%. An indication that farmers had good access to cooperative loan and were aware of this function of the cooperative hence the request for loan.

Table 1: Average Number of Loan Application and Approval.

| Year | Ave. No. of application | Ave. No. of approvals | Approval rate |
|-------|-------------------------|-----------------------|---------------|
| 2001 | 475 | 471 | 99.15% |
| 2002 | 556 | 550 | 98.90% |
| 2003 | 514 | 511 | 99.42% |
| Total | 1545 | 1532 | 99.16% |

(III) Arrival Rate, Service Rate, Idle time and Traffic intensity

The results (in Table 2) of the study showed that the cooperative had an average arrival rate of 40 and service rate 39 for the year 2001 depicting that an average of 40 loan request were received, 39 of them were considered, approved and loan disbursed. The year 2002 and 2003 had arrival rates of 46 and 43 and service rate 46 and 43 respectively, showing that all loan requested received were all considered, approved and disbursed indicating that the service rate was in accordance with its loan request. It also shows an improvement in the service delivery from the previous year. It is also observed that loans were actually disbursed to all loan request approved. This further reflects the performance of cooperatives in its credit delivery function.

The result of the study showed a traffic intensity of 1.03 and idle time of -0.03 for the year 2001. The year 2002 and 2003 had traffic intensity of 1.00 and idle time of 0.00, which depicts efficiency in the queue management as efficiency is achieved when the traffic intensity is unity and idle time is equal to zero and an improvement from the previous year performance.

The study showed an overall average traffic intensity of 1.01 and an idle time of -0.01 which indicated that the cooperatives had no idle time. This reflects good queue management and the effectiveness of the cooperative societies in consideration and delivery of all loan requested received.

Table 2: Arrival rate, Service rate, Idle time and Traffic Intensity.

| Year | Arrival Rate | Service Rate | Traffic intensity | Idle time |
|---------|--------------|--------------|-------------------|-----------|
| 2001 | 40 | 39 | 1.03 | -0.03 |
| 2002 | 46 | 46 | 1.00 | 0.00 |
| 2003 | 43 | 43 | 1.00 | 0.00 |
| Total | 129 | 128 | 3.03 | -0.03 |
| Average | 43 | 43 | 1.01 | -0.01 |

Conclusion

The study showed high level of farmers' access to agricultural loans from cooperative societies as well as the effectiveness of these cooperative societies in carrying out their credit delivery function. The cooperative societies had a high approval rate, service rate in accordance with the arrival rate resulting in low traffic intensity and zero idle time, a reflection of a good queue system management and the effectiveness of the cooperative societies in credit delivery.

Funding of agricultural programmes and the extending of credit to farmers should therefore be directed through cooperative societies because of their reliability and effectiveness in disbursing agricultural funds to farmers.

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