

## **Needs assessment and intervention technique among farmers in Egbeda local government Area of Oyo State, Nigeria**

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**Target Audience:** *Policy makers, livestock farmers, donor agencies and extension officers*

### **Abstract**

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*The successive government is often faced with the challenge of making policies that will ameliorate the farmers' production constraints and improve the economy. The study tries to assess needs and intervention techniques among farmers in the Egbeda LGA of Oyo State, Nigeria. A three-stage sampling technique was used to purposively select about 225 respondents. Parameters measured were household characteristics, and assessed needs using focus group discussion (FGD) and structured questionnaire. Data were analyzed descriptively and the need assessed using the pair-wise ranking and simple matrix. The five prioritized challenges listed in FDG among crop-livestock farmers were poor pricing of agricultural produce (Pb1), lack of capital (Pb2), the infestation of Cacao pests and diseases (Pb3), lack of processing (Pb4) and lack of farm Input (Pb5). The pairwise comparison of the percentage of Pb1 versus (vs.) Pb2 was 80/20%, Pb1 vs. Pb3 was 90/10%, Pb1 vs. Pb4 was 70/30%, Pb1 vs. Pb5 was 80/20%, Pb2 vs. Pb3 was 70/30%, Pb2 vs. Pb4 was 30/70%, Pb2 vs. Pb5 was 10/90%, Pb3 vs. Pb4 was 20/80%, Pb3 vs. Pb5 was 10/90%, vs. Pb4 vs. Pb5 was 70/30% respectively. The poor pricing was ranked highest as farmers' need assessed for possible intervention in Egbeda LGA.*

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**Key words:** *Donor agencies, interventions, participatory approach, production system, project implementation.*

### **Description of Problem**

An acceptable and objective intervention to address farmers' needs constitutes a challenge to policymakers in the quest to improve their income and living standards. Over the years there has been a dearth of problem-solving policies that will ameliorate farmers' production constraints. Many workers had reported the various systemic challenges that hindered the successful implementation of policies or programs that can solve production constraints. There is a paucity of information on the need assessment and intervention technique among farmers in the Egbeda area of Oyo State, Nigeria.

Policies and programs for the development of agriculture is the statutory responsibility of governments at all levels. The various successive governments had been criticized for poor policies, or poor implementation of good policies and haphazard policy approach towards ameliorating production constraints (1, 2). There had been various policy somersaults over the years leading to the continuous impoverishment of the local farmers. Moreover, farmers had been very vulnerable to policy failures and its attendant negative consequence on the income and production practices over the years (3, 4). As part of the sustainable development goals (SDG) need to promote food security, policy structure

that will stimulate production is very critical (5).

Over the years, there had been series of agricultural programs towards ameliorating the challenges of food security especially in the developing countries. However the implementation of these programs had not produced the required objective largely due to the top-bottom approach (6, 2). This approach does not allow the targeted respondents to have much stake in the decision-making process of the type or model of intervention that could ameliorate the peculiar production constraints and improve the living standard of the rural resource-poor populace (7, 8). Viable research should be geared towards solving the clients' problems, a bottom-top approach is the best (6, 7). In the past, farmers were used to testing information without any feedback on the various test results and the implication of such findings on or to their needs (6, 9).

Many workers had attributed the farmers' needs based on several factors (2, 3, 10, 11, 12). Notably, one of the major constraints of production among farmers in sub-Saharan Africa is the lack of qualitative and quantitative feed to most classes of livestock (9, 13, 14, 15). The severity of these constraints was obvious in the dry season when feed resources are limited (16, 17, 18, 19). The rising price of concentrate feeds and their increasing transaction costs as viewed by farmers in some Ethiopian provinces (20). Furthermore, the availability and access to feed resources for livestock production are important conditions for viable livestock business (2, 11). The various constraints and strategies for improved livestock production were also assessed (11, 14). The benefits of crop-livestock integration were expressed for efficient livestock production in the sub Saharan tropics (8, 16). Some authors (14, 16, 19)

gave insight on the relevance of feed resources and its availability to overall success and viability of the livestock enterprises especially the ruminant production in Nigeria. Moreover, (21) and (22) stressed that feed interventions would be better enabled when integrated with market-oriented livestock commodities. But this was at variance with what was observed for introduced forages by others (23). Feed is central to livestock productivity as feed shortage is one of the major problems in most of the developing countries to augment livestock production and productivity (3, 5). The purpose of the Feed Assessment Tool (FEAST) is to offer a systematic and rapid methodology for assessing feed resources at the site level to develop a site-specific strategy for improving feed supply and utilization through technical or organizational interventions (3, 10, 24, 25, 26, 27, 28, 29).

Hence, intervention techniques towards arriving at a consensus need among the stakeholders in the production system require a cursory look. The different strategies employed by various researchers towards ameliorating the lopsidedness in policy implementation is very imperative. The study tries to assess the need and intervention technique among farmers in Egbeda LGA, Oyo State.

### **Materials and Methods**

The study took place in the Egbeda LGA of Oyo State, Nigeria. The area is ethnically heterogeneous with a high concentration of smallholder crop and livestock farmers, considered as the occupational group with a high incidence of poverty. The population is 81,115 out of which 52% are males and 48% are females. The area lies within Longitudes 1°5' W and 1°39' W and Latitudes 7°9' N and 7°36' N, covering an area of 1,782.2 km<sup>2</sup>. It has a bimodal rainfall pattern ranging

between 1200 and 1500 mm with a major rainy season from April to August, and a minor rainy season from August to November (2).

A three-tier multi-stage sampling technique was used to elicit information from a total of 225 respondents in the study area. Fifteen (15) respondents per village were randomly selected from five villages and three cells from the study area with high intensity of crop-livestock production systems.

Parameters measured with the structured questionnaire were bio-data of the farmers, household characteristics, farm sizes, farm labor availability, seasonal pattern, types of animals raised by households, the purpose of raising animals' and farmers' needs. Farmers' needs were assessed using the Participatory Rural Appraisal (PRA) technique. PRA offers a unique opportunity for a robust discussion among the participant towards proffering solutions to the production constraints identified. PRA has two main components namely Focus Group Discussion (FGD) and structured questionnaire. Data obtained were analyzed using descriptive statistics with frequency distribution, means, percentages, pair-wise ranking.

### Results and Discussion

Table 1 presents farmers need to be assessed and the intervention technique using the PRA approach in Egbeda LGA. From the FGD interaction, the various challenges militating against the production in Crop-Livestock Production System (CLPS) were itemized. Out of which only about ten (10) challenges were listed, only five (5) were given priority. The five prioritized challenges from the FGD were listed as follows: Poor pricing of agricultural products (Pb1), lack of capital (Pb2),

incidences pest, and diseases especially cocoa (Pb3), lack of processing (Pb4) and lack of farm inputs (Pb5). The FGD also tried to provide solutions to the above production challenges from their robust discussion at the system level (as in Table 1).

*Poor pricing of agriculture products (Pb1):* During the bumper harvest, there is a massive production of agricultural products leading to the market price reduction. Most agricultural products are seasonal and produced almost at the same time by farmers. There should be a deliberate effort to preserve these farm produce during the time of harvest till the offseason. At the offseason, the produce are scarce, prices are relatively higher which will stimulate farmers' income and economy. Wastage of agricultural produce at their seasons is one of the major production constraints of farmers.

The result agreed with 8, 30, 31, 32, 33, 34 that reported on the availability of crop residues and agricultural waste as essential feed resources for livestock enterprises.

Nigeria loses over 50% of harvested produce due to such post-harvest issues as poor storage, poor handling, inefficient distribution, and seasonality (2, 3). Also, many workers had similar production constraints of farmers especially in sub-Saharan Africa (35, 7, 36, 2). However, a possible panacea to the challenges and production constraints gave rise to crop-livestock integration in the tropics (37, 4, 38, 39, 27).

The solution proffered from the FGD was the value addition technique to agricultural produce, especially during the time of bumper harvest. The farmers suggested the adoption of an efficient processing technique that will utilize excess farm produce, to ameliorate the poor pricing.

**Table 1: The need assessment of Egbeda farmers using PRA**

<b>PROBLEMS</b>	<b>SOLUTIONS</b>
Problem1: Poor Pricing	Value addition techniques via processing of farm produce and packaging especially during increased harvest
Problem 2: Lack of capital	Source for funds from local finance houses, credit and thrift organization, income generation from other sources
Problem 3: Pest and Diseases control in Cacao production	Planting a variety of Cacao resistant to Pest and Diseases
Problem 4: Lack of processing	Provision of low-cost processing machine and technique to local farmers
Problem5: Lack of farm inputs	Accessibility to appropriate forms of input.

Through value addition, the shelf life of the agricultural produce are enhanced; and productivity is improved. More often, farmers face the difficult task of selling almost at the same time and market with others, thereby leading to poor pricing. Any technique that will mop up the massive harvest of farm produce will increase the price of the commodity both at the system level and market. Moreover, the following solutions were recommended; nearness to market, quality products at the point of sale, good sales value due to the high quality of produce (2), adequate storage facilities, maintenance of controlled temperature during storage and transport, good road network (36, 23, 40) and infrastructure (1, 5), sufficient working capital and unlimited access to credit, good supply chain and good government support (29).

*Lack of Capital (Pb2):* Capital is indispensable in any production and agricultural production is no exception. Capital in the form of cash to execute some farm operations and activities is also a challenge to production. Sourcing funds from local finance houses, credit and thrift organizations, as well as income generation from other non-agricultural sources as a possible panacea to the lack of capital, was suggested at the FGD in the study area. In the CLPS, farmers are to seek other means of livelihood apart from agriculture through integration. At the system level, other means

of livelihood (or income generation) includes artisans, services, marketing, lease or rent of agricultural equipment and tools as well as remittance from wards at cities and abroad.

All these income generations and sources of funds for agricultural production agreed with the findings of (3, 9, 27) while the possibilities of additional income generation from other crop-livestock integration were also reported by (36, 34, 33).

*The infestation of pests and diseases especially Cacao (Pb3):* Pest and diseases (Blackpod disease) infestation on cacao plantation is also a major constraint to most farmers in the study location. Some pests constitute a menace to the fruiting of cacao; thus leading to income loss to farmers. At the FGD, planting resistant varieties of cacao to pest and disease infestation was proffered to the problem of cacao pests and diseases. Egbeda LGA belongs to the rainforest ecological zone where farmers still have cacao plantation as an important cash crop. Income from the harvest of cocoa had been dwindling in the last few years which the farmers attributed to the infestation of pests and diseases. However, farmers need to know technology on the planting of resistant varieties to the common diseases and pest attacks. The result supported the findings of (41) that cacao and other tree crops thrive well in the rainforest ecological area.

Cocoa is the main economy of the farmers in the study area, necessary and relevant extension messages on the challenges of cocoa production should be given to the farmers through an effective extension delivery system (42, 2). Messages on Black pod disease control and other pests that can affect the productivity of cacao should be part of the extension technical messages at the fortnight training meetings (FNT) and farmers' field school (FFS).

*Lack of processing (Pb4):* To maximize income and curb wastage of agricultural produce, the processing is very necessary. Lack of processing technique and cottage machines had a serious defect on the abundant agro produce. Most agricultural produce that would have been discarded as waste will be a source of raw materials to the processing machine. The solution proffered to Pb4 (as in Table 1) was the provision of low-cost processing machines and techniques to local farmers. Most of the costs of the processing unit of agricultural produce are very expensive beyond the reach of the peasant farmers. Small scale processing machines should be developed by research that will make these machines affordable to the farmers at the system level. The maintenance cost of locally fabricated processing machines (through research) should be made affordable to farmers. This;

in turn will ensure better and efficient utilization of agricultural produce at the systems level. The solutions proffered to Pb4 (as in Table 1 &2) was the provision of low-cost processing machines and techniques to local farmers. The appropriate processing techniques should be delivered to the farmers through an efficient extension delivery system that makes value addition affordable and cheap to farmers (33).

*Lack of Farm Input (Pb5):* From the FGD, the solution proffered was accessibility to appropriate farm input as well as subsidized programs for the purchase of farm inputs. Farmers go through a lot of stress especially during major farm operations to access appropriate farm inputs. If such farm inputs are made available to the farmers, the productivity will be better enhanced. Livestock farmers usually have the problem of feed ingredient availability. If feed ingredients are made available or subsidized by the government, productivity will be improved.

From the FGD, government agenda under the GES program should provide farm inputs to farmers at a subsidized rate, thereby boosting agricultural production and sustainability (43). Farmers are also advised to key into these agricultural policy programs.

**Table 2: Pair-wise comparison of problems at Egbeda**

COMPARISON	MORE IMPORTANT
PROBLEM 1VS PROBLEM 2	1
PROBLEM 1VS PROBLEM 3	1
PROBLEM 1VS PROBLEM 4	1
PROBLEM 1VS PROBLEM 5	1
PROBLEM 2VS PROBLEM 3	2
PROBLEM 2VS PROBLEM 4	4
PROBLEM 2VS PROBLEM 5	5
PROBLEM 3VS PROBLEM 4	4
PROBLEM 3VS PROBLEM 5	5
PROBLEM 4VS PROBLEM 5	4

**PROBLEM 1: POOR PRICING**

The Pair-wise comparison of problems among respondent farmers in the study area (as in Table 2). In the FGD, crop-livestock farmers in Egbeda compared two problems at a time and they came up with a problem that is more important than the other.

The five (5) prioritized problems were listed as in Table 1 while poor pricing of agricultural produce (Pb1) were compared with problems 2, 3, 4, and 5 in the frequency order of importance. Pb1 (poor pricing) occurred four times in the order of importance, Pb4 (lack of processing) occurred three times while Pb5 occurred two times in the order of more importance. Pb2 (lack of capital) occurred once while Pb3 (infestation of pest and disease especially cacao) did not occur as more important in the order importance. The problem with the highest frequency order of more importance is problem 1 (Poor pricing of agricultural produce). Thus the need assessed for possible intervention by respondent farmers alters the pairwise ranking in CLPS in Egbeda LGA followed by problem 4 (Lack of processing machines technology).

With the result in Tables 1 and 2, the need assessment of respondent farmers in CLPS in Egbeda LGA allowed a robust discussion using the PRA technique against the traditional use of the top-bottom approach. Using the group dynamic mechanism, intervention programs from the international donor agencies and other corporate bodies will have holistic beneficiary effect on the populace at the system level. Moreover, the impact of such interventions programs will both be significant, justifiable, and sustainable. Thus, poor pricing is the area of possible intervention for respondent farmers in Egbeda LGA.

The problem with the highest frequency in the order of more importance is Problem 1 (Poor pricing of agricultural produce). Thus,

poor pricing is the area of possible intervention for respondent farmers in Egbeda LGA. This problem was in contrast to the result of (44) that reported inadequate capital for livestock production in Niger and (19) that reported inadequate training as a major constraint of crop-livestock production in Enugu, Nigeria.

### **Conclusion and Application**

The results obtained in this study showed that:

1. Poor pricing is the problem with the highest frequency and it was also ranked highest as the most priority of the intervention for farmers' need in Egbeda LGA.
2. The Participatory Rural Appraisal method allows for robust interaction among the stakeholders to proffer solutions to the myriads of production standard.
3. When the poor pricing challenge is adequately addressed, the economy and the living standard will be enhanced among farmers in Egbeda LGA.

### **Conflict of interest**

There is no conflict of interest in this paper

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