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IMPACT OF MAIZE FARMERS' PARTICIPATION IN COMMUNITY-BASED AGRICULTURE AND RURAL DEVELOPMENT PROGRAMME (CBARDP) PROMOTED THROUGH RADIO JINGLES IN KADUNA STATE

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ABSTRACT

This study assessed the impact of Maize farmers' Participation in the Community-Based Agriculture and Rural Development Programme (CBARDP) promoted through radio jingles in Kaduna State. The study described the socioeconomic characteristics of the farmers; and assessed the impact of farmers' participation on the yield and income of the farmers. Data were collected from 189 respondents sampled through a multistage procedure using a structured questionnaire. Ranking, Chi-square and Z-test were used to analyze the data. The results showed that the majority (86.2%) of the participants were married, while male respondents were 94.0% with a mean age of 43 years and no formal education (50.0%). The estimated average annual yield increased from 1340.04kg/ha before the participation to 2087.25kg/ha after the participation, while the average annual income also increased from ₦111,459 before the participation to ₦193,903.70 after participation. The study concluded that farmers' participation in CBARDP promoted through radio jingles significantly increased their yield and income after participation. Therefore, it was recommended that more radio jingles should be utilized to mobilize farmers towards participating in similar programmes across other locations in Nigeria so as to move the farmers from their present status of yield and income to where they ought to be.

Keywords: CBARDP, Farmers' yield, Maize Farmers' income, Radio jingles

INTRODUCTION

The Nigerian rural environment has remained a major resource base for the exploitation of the nonoil sector for the economic development of the country. It is enormously endowed with arable lands, water bodies, thick vegetation and a supportive human population needed for high productivity (Iwuagwu *et al.,* 2020). Little wonder, government at all levels and periods have prioritized efforts to mobilize, equip and develop both the rural people and rural area for greater productivity. Such efforts and initiatives have brought home Programmes like the Green Revolution, Operation Feed the Nation (OFN), Agricultural Development Programme (ADP), Fadama Development Programme (FDP), Anchor Borrowers Programme (ABP), Community-Based Agricultural and Rural Development Programme (CBARDP). The uniqueness of CBARDP in mobilizing rural dwellers for increased participation and productivity in Nigeria makes it the focus of this study.

In the words of Parfitt (2004), "It is clear that participation has become one of the central influences in mainstream development thinking". Farmers' participation in the rural development process is critical. However, the pessimism of Dichter (2003) is that while the concept of participation has taken the characteristic of a panacea, conventional, blue-print or 'top-down' approach that placed emphasis on the transfer of innovation in addressing rural developmental challenges without the involvement of beneficiaries in the development process has failed to deliver on the goals of rural development.

The CBARDP in Nigeria is a rural development programme aimed at improving the farm yield and income of the rural poor and other vulnerable groups (women, children.). The programme is funded by the Federal Government of Nigeria (FGN), the state government and the International Fund for Agricultural Development (IFAD), the focus of the programme is on expanding economic opportunities by increasing productivity, enhancing value-added processing and increasing commercialization through private sector led to growth and development.CBARDP was designed to improve the living conditions of the rural poor with an emphasis on women and other vulnerable groups. The project goal is the reduction of poverty through improving the living conditions of the rural poor by empowering and supporting them to effectively manage their own development activities. The project's objective is to contribute to the country's food security efforts, and increase access to rural infrastructure facilities in the project areas using a participatory, community-based, demand-driven approach. The project's components include capacity building, production development, community development and management and coordination (Project Implementing Unit, 2013).

The ADF-CBARDP has the long-held belief by development experts that the problem of Nigerian agriculture is low technical efficiency. In view of this, the ADF-CBARDP set out to address this by making technologies available to farmers in a section of Nigeria where such technical capacity was considered low. The programme also assumed that once technologies are adopted and agricultural inputs are provided, crop production would increase and farmers would become food secured, rural income would rise, drift from rural to urban areas would reduce, wage-earning activities would increase, there would be an improvement in infrastructural facilities, the capacity building would be enhanced and rural livelihood would improve (PIUs, 2013).

Maize Farmers' participation in CBARDP has received criticism that the programme was not benefiting the farmers (Ucha and Chimobi, 2010); that farmers were simply left out of the programme conception, planning and design stages. The authors further attributedthe low participation of farmers to the use of poor sensitization channels and contents that constrained

illiterate to comprehend and appreciate the programme. Okoroma *et al.* (2015) noted that media contents like radio jingles enable rural development agencies to sensitize beneficiary farmers using native dialects and context to garner their participation. Hence, where radio jingles are not effectively utilized as in the case of CBARDP in Kaduna State what results is a programme that contrasts farmers or local ethics, culture and socio-economic characteristics, undermining the programme's effectiveness (Igbal, 2007). Against this background, the study was designed to assess the impact of farmers' participation in CBARDP promoted through radio Jingles in Kaduna State.

Objectives of the study a) assess the effects of radio jingles in mobilizing maize farmers to participate in CBARDP **b)** examine the impact of farmers' participation on the yield and income of the farmers c)determine constraints to effective participation of maize farmers in CBARD Programme

METHODOLOGY

The study area was Kaduna State. The state lies in the northwestern part of Nigeria. It lies between latitudes 9^0 and 12^oN of the equator and longitudes 6^o and 9^oE of the Prime Meridian. Kaduna State shares boundaries with Katsina and Kano States to the north, Plateau to the northeast, Nasarawa and Abuja to the south and Niger and Zamfara State to the west (Kaduna State Government, 2012). The State occupies an area of approximately 68,000 square kilometres or 7% of Nigeria's land mass. The state has 23 Local Government Areas (NPC, 2006). The mean annual rainfall shows a marked decrease from South to North (1,524mm to 635mm). Two distinct seasons (rainy and dry) are experienced in the State. The total population of the State is 6.11 million (NPC, 2006). Maize is among the stable cereal crops cultivated in the State.

A multi-stage sampling technique was used for this study. In the first stage, two Local Government Areas (LGA_S) in Kaduna state were purposively selected because they have the highest number of participating farmers out of the participating LGA_S. The selected Local Government Areas are Zaria and Sabon-Gari. In the second stage, three villages were randomly selected from each of the selected LGA_S through the lottery method. The villages selected from Sabon-Gari LGA are Bomo, Basawa and Muchia while those of Zaria LGA are KuguDutsen Abba, Wuciciri Abba and Kofar Galadima. Finally, 15% of the participating farmers whose list was obtained from the CBARDP were proportionately selected, to give a total sample size of 189 respondents. The study used primary data collected using a structured questionnaire.

To determine the effects of radio jingles in mobilizing farmers to participate in CBARDP the sampled maize farmers were asked to indicate if their exposure to different types of radio jingles on CBARDP influenced their participation in CBARDP activities and this was determined using the Chi-square test of independence. Secondly, to assess the impact of the farmers' participation in CBARDP on their yield and income the farmers were asked to indicate their yield in ton/ha and income in Naira before and after participating in the CBARDP programme. A Z-test analysis was performed to ascertain if the difference in the yield and income of the farmers before and after participating in the program was significant. Finally, the selected maize farmers were asked to identify issues that constrain them while participating in the CBARDP programme. Their responses were ranked based on the severity of the constraints indicated.

RESULTS AND DISCUSSION

Effects of radio jingles in mobilizing maize farmers to participate in CBARDP

To determine the effects of radio jingles in mobilizing farmers to participate in CBARDP Chi-square test of independence was carried out at a 5% significance probability level. The result of the analysis as presented in Table 1 revealed that Native folklore song radio jingle (X^2_{cal} = 4.9097; P = 0.000), Dramatized native radio jingle (X^2_{cal} = 2.944; P = 0.001) and Local sound signal radio jingle (X^2_{cal} = 2.444; P = 0.003) mobilized the farmers to participate in the programme. This corroborates the findings of Orisakwe and Okoroma, 2020; Salik et al., 2021; Glory (2022) which found the use of native language effective in mobilizing local people for development action.

This suggests that using native language and cultural elements in radio jingles enhances their effectiveness in engaging farmers and motivating them to participate in development programs. Native dialect enables the farmers see the information as authentic message designed for their own benefits and adaptable to their own context, thereby increasing adoption and/or compliance with research recommendations. Implicitly, radio jingles tailored to local contexts and interests are more likely to succeed in mobilizing rural farmers for participation in development programs such as CBARDP. Therefore, efforts aimed at promoting farmer participation through radio communication should prioritize the use of culturally relevant content to maximize impact.

Table 1: Effects of radio jingles in mobilizing maize farmers to participate in CBARDP at P≤ 0.05

Radio Jingle	Farmers' Mobilization for CBARDP participation X^2	P-value	Decision
Native folklore song radio jingle	4.9097	0.000*	Significant
English voiceover radio jingle	1.332	1.736	Not significant
Dramatized native radio jingle	2.944	0.001*	Significant
English music radio jingle	1.666	2.330	Not Significant
Local sound signal radio jingle	2.444	0.003*	Significant

Source: Result of field survey data analysis (2012)

Impact of participation in CBARDP on yield and income of maize farmers

To ascertain the impact of maize farmers' participation in CBARDP on their yield and income Z-test analysis was done by comparing the yield and income of the farmers before and after participating in the CBARDP. The yield was measured in terms increase or decrease in the yield of the farmers per hectare. Similarly, the income is measured in terms of increase or decrease in average annual income in Naira. Table 2 result showed that the estimated average yield of farmers was 1340.04t/ha before the participation and 2087.25t/ha after the participation. The Z-critical value of 18.27 was significant at 1% level of probability, implying that the yield of the farmers was significantly impacted after their involvement in CBARDP activities. Also, the result revealed that the average income was N111,459.00 before the participation and N193,903.70 after the participation in CBARDP. The Z-critical value of 10.09 was significant at 1% level of probability, indicating that the income of farmers after participation was greater than income before the participation.

The finding is consistent with previous studies by Adeolu & Taiwo, 2004; Jumpah *et al.*, 2020; Fasakin *et al.* (2022) which highlighted the positive impact of participation in agricultural development programs on yield and income. The increase in yield and income observed in this study suggests that CBARDP interventions effectively enhance agricultural productivity and contribute to poverty alleviation among rural farmers. The implication therefore is that initiatives aimed at mobilizing farmers to participate in programs like CBARDP can lead to tangible improvements in agricultural outcomes and socioeconomic well-being. Therefore, policymakers and development practitioners should continue to prioritize investments in such programs to promote sustainable agricultural development and rural livelihood improvement.

Table 2: Impact of participation in CBARDP on yield and income of maize farmers

Variable	Before (2002)	After (2012)	Difference	Differential (%)	Z-critical
Yield(t/ha)					
Mean	1340.04	2087.25	747.21	55.76	18.27***
Income (Naira)					
Mean	111459.90	193903.70	82443.85	73.97	10.09***

Source: Result of field survey data analysis (2012) *** = p< 0.01

Constraints to Effective Participation of maize Farmers in the CBARD Programme

The results in Table 3 showed the ranking of the constraints according to the order of severity. It was revealed that inadequate planting materials and farm inputs were ranked first as 93.1 % of the respondents encountered this problem. Onuekwusi and Ottah, 2006; Agoda *et al.*, 2017; Manu *et al. (*2019) in their findings identified lack of infrastructure and essential inputs hinders farmers' participation in agriculture and rural development activities. Inadequate finance and credit facilities were ranked second and this was closely followed by high cost of farm inputs and lack of market for produce which were ranked third among the constraints faced by the farmers. More than three-quarters of the respondents encountered these constraints. The problem of the communication barrier was the least among the constraints to the effective participation of farmers in the CBARD programme. Igonoh (2011) reported that low level of education and training, untimely disbursement of funds, untimely distribution/high cost of inputs, hijack of inputs and funds by the elites, delay in association contribution, poor storage facilities, poor marketing system and weak extension contact were the major impediments to agricultural programme implementation. Ogunbameru et al. (2006) also identified factors such as access to credit and other agricultural inputs as militating against the active participation of women in the WIA programme.

Table 3: Constraints to effective participation of the respondents in the CBARD programme

Constraints		Frequency	Percentage	Rank
i.	Inadequate planting materials and farm input	176	93.1	1
ii.	Inadequate finance and credit facilities	170	89.9	2
iii.	High cost of farm input	169	89.4	3
iv.	Lack of market for produce	169	89.4	3
v.	Poor educational background	57	30.2	5
vi.	Lack of cooperation between farmers and extension workers	39	20.6	6
vii.	Low participation of women due to religious reasons	40	21.2	7
viii.	Communication barrier	42	22.2	8
ix.	Health Problem	10	5.3	9

Source: Field survey data, 2012

CONCLUSION AND RECOMMENDATIONS

The study concludes that local content radio jingles were effective in mobilizing farmers to participate in CBARDP. Through farmers' participation in the CBARDP, their yield and income recorded a significant impact. While inadequate planting materials and farm inputs were ranked first as Inadequate finance and credit facilities were ranked second and this was closely followed by high cost of farm inputs and lack of market for farm produce which were ranked third among the constraints faced by the farmers. More than three-quarters of the respondents encountered these constraints. The Problem of the communication barrier was the least important among the constraints to the effective participation of farmers in the programme.

Therefore, it was recommended that a similar programme should be organized in other LGAs by Government agencies and planting materials, farm inputs and credit facilities should be made available to farmers at subsidized rates so as to improve farmers' income, yield and level of living.

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