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Training Needs of Agro-Dealers in Southwest, Nigeria

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Abstract
The study identified the training needs of agro-dealers in South-west, Nigeria. A proportionate sampling procedure was used to select 122 agro-dealers for the study. A survey questionnaire and focus group discussion were used to collect data. The data were analysed using percentages, ranked discrepancy scores (RDS) and the Wilcoxon signed rank test. The Wilcoxon signed rank test at a 5% level of significance indicated the need for training in good agronomic practices (z= -7.679), planning of demonstration plots (z= -4.434), evaluation of trials (z= -3.818), financial management (z= -3.765), and business planning (z= -2.412). However, the need for training in recording and reporting (z= -0.395), and input ordering and distribution (z= -0.440) were not significant. Agro-dealers need training to develop their knowledge and technical capacity on the agro-inputs they sell, in order to provide up-to-date and authentic information about these products. Therefore, it is crucial to organize more training workshops for agro-dealers on the identified areas of training to improve their knowledge and skills for the services they provide.

Introduction

The agricultural sector plays a crucial role in Nigeria's economy, providing employment opportunities for millions of people and contributing significantly to the country's GDP (Asaleye et al., 2023; Ayomitunde et al., 2020). Agro-dealers are key players in this

sector, serving as intermediaries between the farmers and the suppliers of agricultural inputs such as fertilizers, pesticides, and seeds (Staudacher et al., 2021). They not only provide farmers with access to necessary farm inputs but also play a crucial role in disseminating information on the safe and effective use of agricultural products. Their expertise and knowledge can greatly impact farmers' productivity and overall agricultural development (Kwakye et al., 2019; Rother 2018; Rutsaert & Donovan, 2020).

Agro-dealers play a vital role in ensuring the availability and accessibility of these inputs to farmers (International Fertilizer Association [IFA], 2018). They provide extension services to farmers (Owoade & Akinwale, 2019; Owoade et al., 2022; Verma et al., 2019) and inform them about possible solutions developed from research work to their problems, such as choosing the right chemicals or hybrid seeds for their farmland (Isah et al., 2023). However, there are several challenges that agro-dealers face in effectively carrying out their duties. These challenges include a lack of technical knowledge and specialized skills, inadequate access to finance, poor market information, and limited business management skills (Kumar and Kumar 2021).

To address these challenges and enhance the capabilities of agro-dealers, there is a need for targeted training and capacity building initiatives. These training programs should aim to equip agro-dealers with the necessary knowledge and skills to effectively cater to the needs of farmers, improve their business operations, and contribute to the overall development of the agricultural sector (Ogutu et al., 2022). Singh et al. (2021) highlighted the need for training in scientific agriculture, product knowledge, and customer service skills for agro-dealers to effectively serve the farming community.

Training needs assessment is a crucial step in developing effective training programs. It involves identifying the specific areas in which individuals or groups require training in order to improve their skills and performance. Once these training needs are identified, it is important to prioritize them based on their level of importance and relevance to the intended beneficiaries (Sharma, 2018). The identification of training needs is the basis for knowing the training program design, and objectives of learning, and assessing the delivered training (Mazhisham et al., 2019).

To determine the specific training needs of agro-dealers in the South-west region of Nigeria, this study explored the range of agro-inputs they stock and utilizes the Ranked Discrepancy Model, (RDM), to prioritize areas for training. By assessing the competence and importance of various skills, the study aims to provide valuable insights into the training needs of agro-dealers and contribute to their professional development.

Methodology

The area of study was Ekiti, Osun and Oyo States in South-west region of Nigeria. Ekiti State is situated in the northeastern part of the region. The coordinates for Ekiti State are approximately 7.7190° N latitude and 5.3110° E longitude. The coordinates for Osun State are approximately 7.5629° N latitude and 4.5200° E longitude. The coordinates for Oyo State are approximately 8.1574° N latitude and 3.6147° E longitude.

The population of the study consisted of agro-dealers, who are classified into three categories: main (distributors), sub (bulk purchasers) and casual (retailers). There are 450, 304 and 52 registered agro-dealers in Oyo, Osun and Ekiti State, respectively. A

proportionate sampling technique was used to select 15% of the agro-dealers in each state. The selection was based on the population of agro-dealers in each state, resulting in a total of 122 agro-dealers (68 from Oyo, 46 from Osun, and 8 from Ekiti). Data were collected using a questionnaire and focus group discussion. The importance and; competency of these skills were measured on a 5-point Likert scale ranging from very important, important, moderately important, slightly important, and not important; very competent, competent, moderately competent, slightly competent, and not competent. The data were analysed using frequency count, percentage, and mean score and presented using Tables and Bar charts.

The training needs of agro-dealers were determined by exploring the Ranked Discrepancy Model, RDM. The RDM, proposed by Narine and Harder (2021) is a descriptive approach that bypasses these hitches of the Borich model.

Positive ranks (PR), negative ranks (NR) and tied ranks (TR) were calculated by performing the Wilcoxon Signed Rank Test at a 5% level of probability (Xia, 2020) between paired responses of importance and competency for each skill.
Below are the steps for calculating the competency rating (Narine & Harder, 2021).
Step 1: Calculation of the number of PR, NR and TR occurrences.
Step 2: Conversion of PR, NR and TR to percentages as follows:-
PR%, NR% and TR%
Step 3: Application of Weight (W) to calculate Ranked Discrepancy Score (RDS).
PR is W_{PR}=1, NR is W_{NR}=-1 and TR is W_{TR}=0
RDS=NR%(-1)+PR%(1)+TR%(0)
Therefore, a standardized score ranging between -100 to 100 is a Ranked Discrepancy Score (RDS).

Results and Discussion

Agro-inputs Stocked by Agro-dealers

The bar chart in Figure 1 illustrates the agro-inputs stocked by agro-dealers in Ekiti, Osun and Oyo States. The overall demand for both organic and inorganic fertilizers by farmers was relatively low at 35.6%. However, in Oyo State, 47.9% of agro-dealers sell fertilizer.

According to the International Fertilizer Development Centre (IFDC, 2020), there was a 42% decrease in apparent consumption of fertilizer from 2018 to 2019. The high cost of fertilizer was a concern raised by the National President of the All Farmers Association of Nigeria (AFAN), Kabir (2021). Fertilizer prices have risen to between ₦6,700 and ₦8,000, while Urea is sold for about ₦8,800 and ₦13,000. Kabir mentioned that fertilizer may not be readily available and affordable, as it was during the four years of the Growth Enhancement Support Scheme (GESS) period, which had subsidized rates. This suggests that without access to subsidized fertilizer or when faced with high prices, farmers may resort to using natural soil fertility methods, which can affect the stocking of fertilizer by agro-dealers. The implication of agro-dealers stocking less fertilizer across the three states could be attributed to farmers using other cheaper forms of fertilizer, such as poultry waste, cow dung, and food waste. However, in Oyo State, over 40% of agro-dealers still stock fertilizer, possibly due to its higher demand in that particular state.

Substantially, the chart reveals that agro-dealers (96.2%) stock a large number of herbicides across the states. This could be due to the high demand for herbicides among farmers. Uncontrolled weeds have been a major cause of low crop yields experienced by farmers. The use of herbicides enables farmers to implement a flexible and easy weed management strategy, which is why they regularly purchase herbicides from agro-dealers to control weeds. Furthermore, 52.1% of agro-dealers across the three states stock improved seeds. This indicates that seeds are crucial agro-inputs used by farmers, and there is a consistent need to purchase them.

A larger percentage of agro-dealers (67.9%) across the three states engage in the sales of other items besides agro-inputs. Additionally, the chart illustrates that a significant number of agro-dealers (66.6%) sell other agro-inputs. Some examples of other agro-inputs sold by agro-dealers include animal feeds, spray pumps, and farm implements such as hoes, cutlasses, and wheelbarrows. These are simple tools used by farmers. Furthermore, aside from agro-inputs, agro-dealers also sell various items categorized as "other items." These items include charcoal, building materials such as nails, roofing sheets, paints, and cement.

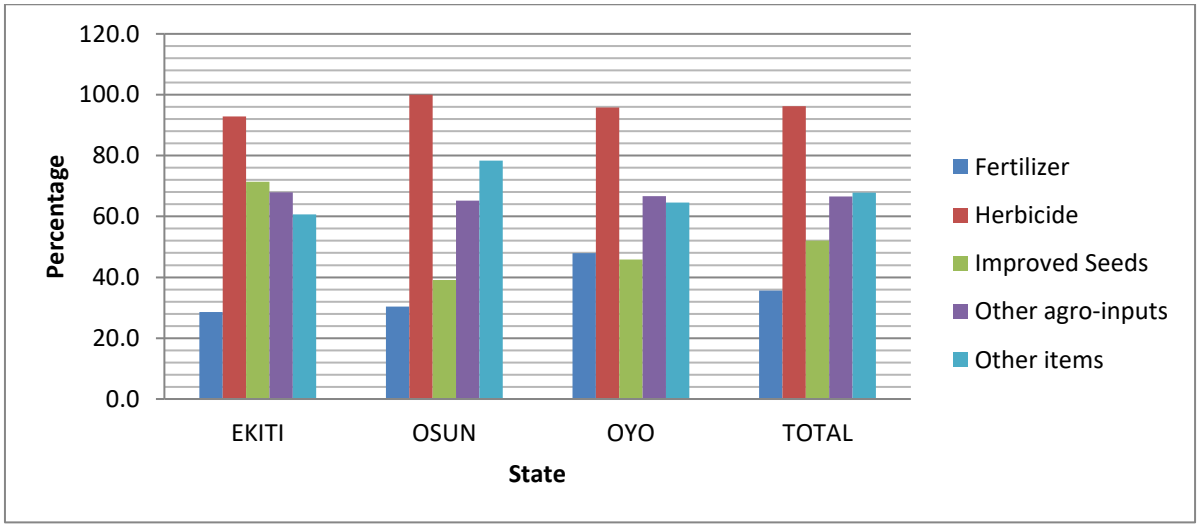

Figure 1: Agro-inputs sold by agro-dealers (Source: Field survey, 2021)

Agro-dealers not only sell agricultural inputs but also frequently retail non-agricultural goods such as foodstuffs, planks, charcoal, and building materials like roofing sheets, nails, and cement. They may also be involved in selling and transporting farm outputs, selling accessories for solar panels, and selling animal feed. These additional activities help strengthen the business operations of agro-dealers and supplement the sales of agricultural inputs, providing them with diverse sources of revenue and improving the overall sustainability of their businesses (Alliance for a Green Revolution in Africa [AGRA], 2020).

Agro-dealers' Attendance of Training

The results indicate that the majority (72.0%) of agro-dealers have attended training. Most of them reported attending training once or twice a year (according to Table 2). This suggests that agro-dealers actively seek opportunities for training to enhance their technical knowledge in the agro-dealer business. During the focus group discussion, it was revealed that several agencies are involved in training agro-dealers. In Ekiti State, the Fountain Agricultural Marketing Agency (FAMA) was mentioned as

one of the agencies that provided training on the types, administration, and safety measures of agro-chemicals for agro-dealers. Additionally, some participants mentioned that their agro-dealer association collaborates with Non-Governmental Organizations (NGOs) such as Indorama and Croplife, which produce agrochemicals, to organize training sessions. These training sessions typically occur once or twice a year and cover topics such as herbicide application, the benefits of improved agricultural inputs, and other relevant information.

Table 1: Agro-dealers' attendance of training

Attendance	Percentage (n =122)
No	28.0
Yes	72.0
Number of training attended yearly	
Once	36.7
Twice	25.9
Thrice	9.47
No response	28.0

Source: Field survey, 2021

Discrepancy in Agro-dealers' Skills

Table 2 displays the discrepancy in skills among agro-dealers, where 7 out of 9 skills had a negative ranked discrepancy score (RDS), indicating a gap in competency to perform those skills. However, it's important to note that both negative and positive RDS values reflect a discrepancy or need for training. The RDS scores in Table 3 also indicate the magnitude of training required for each skill. Based on the findings, the following skills require training: good agronomic practices (RDS = -53), financial management (RDS = -31), planning of demonstration plots and evaluation of trials (RDS = -21), recording and reporting (RDS = -14), business planning (RDS = -13), input ordering and distribution (RDS = -5), chemical administration (RDS = 5), and communication skills (RDS = 3). These findings highlight the specific areas where agro-dealers require training to improve their competencies. According to Adam et al. (2020), good agronomic practices, such as using high-yield varieties and recommended plant protection products, can significantly increase agricultural productivity. This implies that training agro-dealers on these practices will enable them to pass on the knowledge to farmers, leading to improved outcomes.

Further findings from the study highlighted a need in financial management skills among agro-dealers. Emphasizing the significance of financial management indicators for the success of any business, including agro-dealer enterprises, Lee (2023) identified key metrics such as profitability, revenue, return on investments, cash flow, human resources management, and product and service quality. To enhance their business operations, providing financial management training to agro-dealers can be instrumental.

Additionally, the establishment of demonstration plots at agro-dealers' shops, as outlined by Sseguya et al. (2021), allows for the evaluation of trials and facilitates the adoption of improved agricultural technologies by farmers. Farmers can observe these demonstration plots while purchasing inputs from agro-dealers, motivating them to adopt the same practices in their own farming operations.

The findings indicate that agro-dealers need training on maintaining accurate records regarding input ordering, purchase of products from suppliers, sale of products to farmers, and financial transactions. This highlights the importance of training in these skills for agro-dealers. However, the results regarding chemical administration and communication skills suggest that limited training is needed in these areas. These findings align with the study conducted by Staudacher et al. (2021), which reported that a significant percentage of agro-dealers had received instructions on pesticide application, indicating a level of competence in chemical administration. Additionally, Handa et al. (2021) found that agro-dealers demonstrated medium to high levels of communication attributes, including the regular utilization of newspapers, mobile phones, and mass media.

Table 2: Ranked discrepancy scores for training needs of agro-dealers

Skills	RDS
Good agronomic practices	-53
Financial management	-31
Planning demonstration	-21
Evaluation of trials	-21
Recording & reporting	-14
Business planning	-13
Input ordering & distribution	-5
Chemical administration	5
Communication skills	3

Source: Field survey, 2021

Furthermore, Table 3 presents the results of the Wilcoxon Signed Rank Test, which evaluates the proficiency and significance of agro-dealers' skills. The Wilcoxon test compares the absolute values of the differences between paired observations and calculates a statistic based on the number of negative and positive differences. In this context, the negative signs of the Z-values across all skills (as shown in Table 3) indicate that the competence scores were lower than the importance scores.

The findings in Table 3 indicate a significant difference between the competence and importance of good agronomic practices (z= -7.679). Good agronomic practices, as defined by the Food and Agricultural Organization (FAO, 2016), refer to measures taken during on-farm and post-production processes to ensure the production of safe and healthy food and non-food products, while considering economic, social, and environmental sustainability. This concept emphasizes the optimal utilization of environmentally friendly agricultural resources such as fertilizers, pesticides, and water. Agro-dealers who stock these agricultural inputs need to have a good understanding of these practices in order to effectively relay this knowledge to farmers as they sell these products.

There was a significant relationship between the competence in planning demonstration plots and the importance of planning demonstration plots (z = -4.434). Similarly, there was a significant difference between the competence in the evaluation of trials and the importance of the evaluation of trials (z = -3.818). These findings highlight the importance of demonstration plots for agro-dealers to showcase the performance of different inputs, in collaboration with input supply companies, to farmers. This is consistent with the findings of Sseguya et al. (2021), who emphasized the role of demonstration plots in promoting the adoption of improved technology and

good agronomic practices. Establishing demonstration plots and conducting trials on inputs were not commonly observed at agro-dealers' shops, indicating the need for training in these areas. Mamadou et al. (2020) demonstrated that combining training with demonstration plots had a positive impact on the adoption of improved seeds by farmers. Therefore, supporting agro-dealers in establishing demonstration plots could be beneficial in promoting the adoption of new technologies and enhancing the overall impact of training efforts.

Further results reveal a significant difference between competence in financial management and the importance of financial management (z= -3.765). Similarly, there is a significant difference between competence in business planning and the importance of business planning (z= -2.412). This implies that training of agro-dealers in financial management and business planning should also encompass other revenue areas beyond the selling of agricultural inputs. Wanyonyi et al. (2021) emphasized the need for agro-dealers' business planning to be conducted in a sustainable environment in order to thrive. This suggests that when agro-dealers receive training, they become effective in advising farmers on the benefits of using the inputs they sell.

Table 3: Difference in competence and importance of agro-dealers' skills

Competence vs Importance of skills	Z -values
Com on communication skills – Imp of communication skills	-0.921[b]
Com on evaluation of trials – Imp of evaluation of trials	-3.818[c*]
Com on planning demonstration –Imp of planning demonstration	-4.434[c*]
Com on recording and reporting – Imp of recording and reporting	-0.395[b]
Com on chemicals administration – Imp of chemical administration	-1.918[c]
Com on financial management – Imp of financial management	-3.765[c*]
Com on business planning – Imp of business planning	-2.412[c*]
Com on good agronomic practices – Imp of good agronomic practices	-7.679[c*]
Com on input ordering and distribution – Imp of input ordering and distribution	-0.440[b]

Com-competence; Imp-importance; p ≤0.05; * Significant

a. Wilcoxon Signed Ranks Test,
b. Negative ranks,
c. Positive ranks.

Source: Field survey, 2021

Conclusion and Recommendations

Agro-dealers require training in various areas such as good agronomic practices, planning of demonstration plots, evaluation of trials, financial management, and business planning. This training is crucial to enhance their knowledge and technical skills regarding the agro-inputs they sell, enabling them to provide accurate and up-to-date information about these products. The government, non-governmental organizations, and private consultants should improve their efforts to provide adequate training and support to agro-dealers. This will help enhance their business operations and acumen.

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