



## Postharvest advisory competency and training needs of *N-Power Agro* Advisors in Benin metropolis, Edo State, Nigeria

Stephen O. Konkwo\* and John Egbdion

Department of Agricultural Economics and Extension Services, Faculty of Agriculture, University of Benin, Benin City

### ABSTRACT

This study assessed the postharvest advisory competency and training needs of *N-Power Agro* (one of the Federal Government of Nigeria's Social Investment Programmes for youth in Agriculture, launched in 2016, to alleviate its citizens from poverty through capacity building) advisors in Benin Metropolis, Edo State, Nigeria. Multi-stage sampling procedure was adopted to select 120 *N-Power Agro* advisors. A structured questionnaire was used to collect data for the study. Collected data were analyzed using descriptive statistics such as frequency, percentages and mean while the Spearman rank correlation analysis was applied for relevant inferences. Results showed that the most performed postharvest advisory activities were those relating to the processing of crop products ( $\bar{x}=2.79$ ), current market prices ( $\bar{x}=3.27$ ) and formation of cooperatives for loans ( $\bar{x}=3.17$ ). The respondents were not significantly competent in providing advice on any of the storage activities but were most competent in providing advice on the processing of crop products ( $\bar{x}=2.31$ ) and writing business plans ( $\bar{x}=2.90$ ). The major areas of training needed by the advisors were on processing livestock products ( $\bar{x}=3.39$ ), pricing ( $\bar{x}=2.65$ ) and formation of cooperatives for loan access ( $\bar{x}=2.60$ ). The most significant constraints encountered by them were; poor linkage to research institution ( $\bar{x}=3.36$ ), low institutional support ( $\bar{x}=3.31$ ) and inadequate training ( $\bar{x}=3.31$ ). There was a significant but inverse relationship between advisors' competency level and their training needs ( $r = -0.428$ ;  $p = 0.000$ ). The study therefore concluded that postharvest losses may continue to rise if greater effort is placed on increased food production without relevant training of produce handlers to ensure that harvested produce is properly preserved. It was therefore recommended that there is a need for the provision of continuous training to *N-Power Agro* advisors on postharvest handling of produce in the areas of low competence to ameliorate wastage and improve food security.

### HIGHLIGHTS

- Postharvest losses are mainly caused by poor handling of stored farm produce
- Regular training is fundamental for effective task performance.
- Advisors are competent in crop processing and storage but not in livestock
- Weak linkages to the research institutions constrained competency development

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## 1. Introduction

Postharvest losses have been identified as a serious threat to food security and economic advancement of many nations. Annually, about one-third of the total food produced for human consumption is wasted across the supply chain (Ishangulyyev, *et al.*, 2019). This degree of postharvest wastage has generated issues of global concern aimed at providing sustainable approaches to ensuring food security for the world's increasing population. As a way out, the Food and Agriculture Organization (FAO, 2009) proposed the need for increased food production by 70% to feed the world population estimated to hit 9.1 billion by the year, 2050. Hence, given the physical limits to land for agriculture and its competition for alternative uses, climate change and other changing socio-economic variables, this proposition could be greatly challenged. This is because, it may not be economically feasible to produce more food, only to start wasting the food which we already have (Verchot, 2014). It is therefore important to plan within the available resources for the sustainable attainment of food security by ensuring that a greater proportion of harvested farm produce is properly stored and utilized. Hence, without the services of competent and well-trained individuals, this important objective may not be reasonably achieved.

Essentially, the human resource management of any organization is to guarantee the hiring of a competent and willing workforce for the attainment of set goals. However, for a firm to maintain its competitiveness and growth, it must ensure that the workers are qualified, put in the right positions, committed, well-trained and competent. The agricultural sector is not exempted from this mandate because for its programme to significantly succeed, it will be reliant on the prevailing competency expressed by individuals performing specific duties (Omotesho *et al.*, 2021). Competency exists when a worker is well-trained and equipped with the skill, personal characteristic, or motive demonstrated by essential behaviours that contribute to outstanding performance in a job (Issahaku, 2014). It is the quality of being adequately or well qualified and having the ability to perform a specified task (Nzimakwe and Utete, 2024). Highlighting core competencies assists organizations in outlining the responsibilities, knowledge, and skills required by their advisors for a particular position (Omotesho *et al.*, 2021).

Emphasis on skilled manpower in advisory service delivery is of central focus in agricultural development today. The *N-Power Agro* is an arm of the general *N-Power* scheme of the Federal Government of Nigeria job creation and empowerment initiative of the Social Investment Programme, designed to drastically increase youth empowerment in Nigeria (Obadan, 2017). The

\* CONTACT: S. O. Konkwo; [stephen.konkwo@uniben.edu](mailto:stephen.konkwo@uniben.edu); Dept. of Agric. and Ext. Services, University of Benin, Benin City, Nigeria

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focus is to provide our young graduates and non-graduates with the skills, tools and livelihood to enable them to advance from empowerment to empowerment, entrepreneurship and innovation (Akujuru and Enyioko, 2019). The *N-Power Agro* volunteers are meant to function as intermediaries between research and farmers. They operate as facilitators and communicators, helping farmers in their decision-making and ensuring that appropriate knowledge is implemented to obtain the best results on the farm (Aderonmu, 2017). There is a selection preference for persons with a bachelor's degree, Higher National Diploma (HND) or Ordinary National Diploma (OND) in nutrition, agricultural science, agricultural economics, agronomy, animal science, crop science, food science and technology and other agro-related disciplines; persons that studied courses not related to agriculture are also considered for employment. Also, participants undergo initial induction training prior to deployment (Obadan, 2017). Hence, there is a need for continuous training for improved performance of the advisors.

Training has been recognized as one of the essential skills for effective task performance (Nzimakwe and Utete, 2024). Given that most *N-Power* advisors are fresh graduates, Obasi and Wokoma (2023) asserted that in addition to the formal knowledge they acquired from higher institutions, there should be a provision for regular training that fosters the attainment of set goals in areas of assigned roles. One of those areas in agriculture requiring urgent attention is the postharvest advisory services. Postharvest handling constitutes a dynamic and intricate network of activities that takes place from the time of harvest to the point of sale to the final consumer (Arjay, 2023). Postharvest losses of perishable products before consumption have been estimated at nearly 40% in low- and middle-income countries (LMICs) (Spang *et al.*, 2019), while global losses are estimated at 22% (FAO, 2019). Concerning Nigeria, the country accounts for about 60% of postharvest losses for perishable crops (Ogundele, 2022). According to Barau *et al.*, (2023), poor and inappropriate storage results in contamination of harvested produce leading to food losses or wastage most especially in the tropics. Losses during storage depend upon several factors such as poor handling and storage structures and wrong timing at harvesting among other factors.

Previous research has been carried out to examine the competency and training needs of agricultural advisory service providers, but not much work has addressed the level of competency possessed by the *N-Power Agro* advisors on postharvest handling of produce hence, their training needs. For instance, a study by Nwaogu and Akinbile (2018), concentrated on the competencies of Agricultural Development Program (ADP) workers in the effective delivery of extension services in Oyo and Ogun States, Nigeria. Another study by Timothy (2015) was centred on the analysis of competency and training needs among agricultural extension workers in Lagos State, Nigeria. However, none of these studies focused on the competency and training needs of *N-Power Agro* advisors. This study was therefore conceived to address these issues by assessing the postharvest advisory competency and training needs of *N-Power Agro* advisors in Benin metropolis, Edo State, Nigeria. The specific objectives of the study were to:

- i. identify the postharvest advisory activities performed by *N-Power Agro* advisors in the study area;
- ii. examine the level of competency possessed by the respondents;
- iii. identify the area of training needed by the respondents; and
- iv. identify constraints to the level of competency possessed by the respondents.

The research hypothesis was expressed in the null form as there is no significant relationship between the competency level and training needed by *N-Power Agro* advisors in the study area.

## 2. Methodology

The study was conducted in Benin metropolis, Edo State, Nigeria. Benin City is the capital of Edo State, Nigeria and lies within Latitudes 6° 33' N and Longitudes 5°37' E with a population of about 1.4 million people. The city is characterized by the humid tropical rainforest belt of Nigeria with dense precipitation in September with an average of 338 mm. By implication, this geographical description is favourable for an all-year-round agricultural production, hence the need for effective dissemination of relevant information to farmers. The State plays host to great

**Table 1.** Activities performed by *N-Power Agro* personnel

Advisory activities	Not Performed		Rarely performed		Performed		Always performed		Mean	Rank
	f	%	f	%	f	%	f	%		
Processing and storage										
Processing of crop products	36	30.0	10	8.3	17	14.2	57	47.5	2.79*	1 <sup>st</sup>
Processing of livestock products	69	57.5	7	5.8	40	33.3	4	3.3	1.83	2 <sup>nd</sup>
Storage of agricultural products	65	54.2	14	11.7	38	31.7	3	2.5	1.83	3 <sup>rd</sup>
Providing market information service										
Information on pricing	13	10.8	15	12.5	19	15.8	73	60.8	3.27*	1 <sup>st</sup>
Dissemination of market information	13	10.8	16	13.3	18	15.0	73	60.8	3.26*	2 <sup>nd</sup>
Advertisement	16	13.3	15	12.5	13	10.8	76	63.3	3.24*	3 <sup>rd</sup>
Market data collection	13	10.8	19	15.8	16	13.3	72	60.0	3.23*	4 <sup>th</sup>
Processing and analysis of market data	15	12.5	15	12.5	18	15.0	72	60.0	3.23*	5 <sup>th</sup>
Grading of products	16	13.3	16	13.3	14	11.7	74	61.7	3.22*	6 <sup>th</sup>
Credit/Sourcing for credit schemes										
Formation of cooperatives for loan	19	15.8	13	10.8	17	14.2	71	59.2	3.17*	1 <sup>st</sup>
Advising on loan repayment	17	14.2	18	15.0	13	10.8	72	60.	3.17*	2 <sup>nd</sup>
Writing business plan	18	15.0	17	14.2	13	10.8	72	60.0	3.16*	3 <sup>rd</sup>
Advising farmers on type of loan interest rate	16	13.3	20	16.7	13	10.8	71	59.2	3.16*	4 <sup>th</sup>
Coordination of cooperative activities	19	15.8	16	13.3	13	10.8	72	60.0	3.15*	5 <sup>th</sup>

\*Significantly performed (Mean  $\geq$  2.5); f: frequency; %: percentage

institutions responsible for developing competencies in advisory services, and training of agricultural personnel in the area including the following: University of Benin, Nigerian Institute for Oil Palm Research (NIFOR), Rubber Research Institute (RRIN) and the State Agricultural Development Programme (ADP). A multi-stage sampling procedure was adopted in the study as follows: The first stage involved the purposive selection of three (3) Local Government Areas (LGAs) out of the five (5) LGAs that made up the Benin Metropolis. This selection of 3 LGAs was based on the significant involvement of *N-Power Agro* advisors in postharvest advisory service delivery to farmers in the areas. The 3 LGAs selected for the study based on the established criterion were: Egor, Ikpoba Okha and Oredo. At the second stage, a preliminary survey was conducted and a list of 179 registered *N-Power Agro* advisors was cumulatively obtained from the LGAs secretariats and this constituted the population for the study. The third stage comprised a simple random sampling of Two-thirds ( $\frac{2}{3}$ ) of the population (179 participants) which approximately gave a total of 120 respondents for the study. Emphasis on  $\frac{2}{3}$  of sampling frame was derived from Foot's (2008) assertion that, "generally speaking, two-thirds of demography can explain everything"; whether that verything; is business planning, the stock market, housing, education, health, recreation, leisure, or social and global trends. This therefore formed the basis for sample size selection criterion for this study.

The preliminary study also indicated that the entire *N-Power Agro* participants were literates and were therefore interviewed with the use of 120 copies of questionnaire. The research instrument was structured into four (4) sections, where section A focused on postharvest advisory activities performed by the respondents, section B addressed the level of competency possessed by them, section C concentrated on the area of training needs while section D considered constraints to the level of competency possessed by the respondents. Collected data were

adequately cleaned through proper inspection to correct perceived errors and standardized by using appropriate units of measurement and scales for analysis. For instance, nominal, ordinal and interval data were carefully treated and incorporated into the SPSS analytical software for analysis and the variables were appropriately measured in line with the international standards of measurements such as the Food and Agriculture Organization (FAO). The postharvest advisory activities performed, level of competency possessed, training needs and constraints were achieved with the use of frequency counts, percentages and mean scores while relationship between competency level and training needs of respondents were determined with the use of Spearman Rank Correlation (SR) using SPSS (Agwu & Egbule, 2015). The model is stated below as:

$$SR = 1 - \frac{6 \sum d_i^2}{n(n^2 - 1)}$$

where  $d$  is the difference between competency level and training needed of the respondents, and  $n$  is the number of estimated variables

### 3. Results and Discussion

#### 3.1. Postharvest advisory activities performed by *N-Power Agro* advisors

The results on the processing and storage activities, as depicted in Table 1, shows that the processing of crop products ( $\bar{x}=2.79$ ) was the most performed postharvest advisory activity by the *N-Power Agro* advisors. Again, the advisors were most involved in providing marketing information on pricing ( $\bar{x}=3.27$ ) of farm produce. Other marketing activities significantly performed by the respondents were; dissemination of market information

**Table 2.** Level of competency possessed by respondents on advisory activities

Advisory activities	Not Performed		Rarely performed		Performed		Always performed		Mean	Rank
	f	%	f	%	f	%	f	%		
<b>Processing and storage</b>										
Processing of crop products	48	40.0	14	11.7	31	25.8	27	22.5	2.31	1st
Storage of agricultural products	76	63.3	12	10.0	29	24.2	3	2.5	1.91	2nd
Processing of livestock products	59	49.2	17	14.2	40	33.3	4	3.3	1.66	3rd
<b>MARKETING</b>										
<b>Providing Marketing Information Service</b>										
Information on pricing	28	23.3	17	14.2	15	12.5	60	50.0	2.93*	1st
Dissemination of market information	28	23.3	18	15.0	14	11.7	60	50.0	2.93*	2nd
Grading of products	26	21.7	17	14.2	17	14.2	60	50.0	2.92*	3rd
Advertising	27	22.5	16	13.3	17	14.2	60	50.0	2.90*	4th
Market data collection	27	22.5	18	15.0	15	12.5	60	50.0	2.89*	5th
Processing and analysis	24	20.0	20	16.7	16	13.3	60	50.0	2.88*	6th
<b>CREDIT</b>										
<b>Sourcing For Credit Schemes</b>										
Writing business plan	26	21.7	20	16.7	14	11.7	60	50.0	2.90	1st
Advising farmers on type of loan interest rate	28	23.3	16	13.3	16	13.3	60	50.0	2.90	2nd
Advising farmers on loan repayment	33	27.5	15	12.5	12	10.0	60	50.0	2.88	3rd
Formation of cooperatives	33	27.5	15	12.5	12	10.0	60	50.0	2.83	4th
Coordination of co-operatives	30	25.0	14	11.7	16	13.3	60	50.0	2.83	5th

Significant level of competency (Mean  $\geq$  2.5); f: frequency; %: percentage

**Table 3.** Areas of respondents' training needs

Areas of training needed by respondents	Not needed		Slightly needed		Needed		Highly needed		Mean	Rank
	f	%	f	%	f	%	f	%		
<b>PROCESSING AND STORAGE</b>										
Processing of livestock products	23	19.2	21	17.5	10	8.3	66	54.2	3.39*	1st
Processing of crop products	18	15.0	7	5.8	6	5.0	89	73.3	3.00*	2nd
Storage of agricultural products	25	20.8	19	15.8	9	7.5	67	55.0	2.99*	3rd
<b>MARKETING INFORMATION</b>										
Information on pricing	56	46.7	8	6.7	14	11.7	42	35.0	2.65*	1st
Advertisement	53	44.2	9	7.5	14	11.7	44	36.7	2.59*	2nd
Dissemination of market information	46	38.3	11	9.2	11	9.2	52	43.3	2.58*	3rd
Processing and analysis of market data	58	48.3	9	7.5	12	10.0	41	34.2	2.41	4th
Collection of market data	46	38.3	10	8.3	11	9.2	53	44.2	2.35	5th
Grading of products	45	37.5	8	6.7	11	9.2	56	46.7	2.30	6th
<b>CREDIT SOURCING</b>										
Formation of cooperatives for loan	46	38.3	11	9.2	8	6.7	55	45.8	2.60*	1st
Writing business plan	50	41.7	9	7.5	12	10.0	49	40.8	2.60*	2nd
Advising farmers on the type of loan interest rate	59	49.2	10	8.3	10	8.3	41	34.2	2.50*	3rd
Advising on loan repayment	46	38.3	9	7.5	12	10.0	53	44.2	2.38	4th
Coordination of co-operative activities	55	45.8	11	9.2	8	6.7	46	38.3	2.28	5th

Significant level of competency (Mean  $\geq$  2.5); f: frequency; %: percentage

( $\bar{x}$ =3.26), advertisement ( $\bar{x}$ =3.24), and market data collection ( $\bar{x}$ =3.23) among others. This result conforms to the findings of Gambo (2020) which identified price as the most vital form of market data sought by respondents and refers to the value of a product that is usually expressed in monetary terms. Again, Ogundele (2022) maintained that food losses give rise to high food prices by creating food shortages in food supply to the market, thereby resulting in economic loss or wastage.

The result in Table 1 also presents that the workers actively advised farmers on the formation of cooperatives for loans ( $\bar{x}$ =3.17). This was followed by advising on loan repayment ( $\bar{x}$ =3.17), writing a business plan ( $\bar{x}$ =3.16), advising farmers on the different types of loans and their corresponding interest rates ( $\bar{x}$ =3.16) and coordination of cooperative activities ( $\bar{x}$ =3.15) which ranked 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> position respectively. This result agrees with the findings of Ogiamien *et al.*, (2023) in which agricultural cooperatives facilitated easy access to credit/loans at affordable interest rates, which makes farming activities easier thereby improving the welfare of members. In a similar study, Enwa *et al.*, (2024) found that weak advisory services and supervision, poor credit delivery, high interest rates, collateral requirements, short repayment terms, favouritism, and incompetence on the part of some association leaders comprised major obstacles that farmers faced when applying for agricultural credit.

### 3.2. Level of competency possessed by respondents on the activities performed

The result in Table 2 shows that respondents were not very competent in providing advice on processing and storage activities with information on the processing of crop products ( $\bar{x}$ =2.31) as top in the list of identified variables. On the other hand, the respondents significantly advised farmers on the pricing ( $\bar{x}$ =2.93) of produce and therefore ranked first (1<sup>st</sup>) position. This was followed by dissemination of market information ( $\bar{x}$ =2.93), and grading of products ( $\bar{x}$ =2.92) which ranked 2<sup>nd</sup> and 3<sup>rd</sup> positions,

respectively. The result implies that the respondents possessed the highest competency level in information on pricing.

According to Ambuko *et al.*, (2018), enormous postharvest losses negatively impact the potential benefits of produce, often forcing farmers to be 'pricetakers'. If on-farm postharvest storage is lacking, farmers may need to accept whatever price is offered (Yeshiwas and Tadele, 2021), and are obliged to sell produce immediately after harvest, even when the market is oversupplied and profit margins are low (Rutta, 2022). Again, the result in Table 2 shows that the *N-Power* advisors significantly performed the advisory role in the aspect of writing business plans and providing advice to farmers on loan interest rates with a leading mean ( $\bar{x}$ ) value of 2.90. This result was closely followed by loan repayment ( $\bar{x}$ =2.88) and the formation of cooperatives for loans ( $\bar{x}$ =2.83). This implies that respondents possessed the highest level of competency in writing business plans and advising respondents on key conditions for accessing loans and the possible interest rates. This result aligns with the findings of Akujuru and Enyioko (2019) on the professional competence needs of agricultural advisory service providers.

### 3.3. Postharvest advisory training needs of the advisors

As shown in Table 3, the *N-Power Agro* advisors indicated the most needed training in the area of processing of livestock products ( $\bar{x}$ =3.39) This was followed by processing of crop products ( $\bar{x}$ =3.00) and storage of agricultural products ( $\bar{x}$ =2.99) which ranked 2<sup>nd</sup> and 3<sup>rd</sup> position respectively. This suggests that the *N-Power Agro* advisors significantly needed training on all aspects of processing and storage activities with that of processing livestock products. This result agrees with the findings of Omotesho *et al.*, (2021) who reported similar results among extension agents.

In the area of marketing information, the result in Table 3 shows that the respondents needed training on pricing ( $\bar{x}$ =2.65) of produce. Others included advertisement ( $\bar{x}$ =2.59), and dissemination of market information ( $\bar{x}$ =2.58) which ranked 2<sup>nd</sup>



**Table 4.** Constraints encountered by *N-Power Agro* personnel

Constraints encountered	Not encountered		Rarely encountered		Encountered		Always encountered		Mean	Rank
	f	%	f	%	f	%	f	%		
Poor linkage to a research institution	104	86.7	6	5.0	7	5.8	3	2.5	3.36*	1st
Low institutional support	0	0.0	15	12.5	64	53.3	41	34.2	3.31*	2nd
Inadequate training	0	0.0	4	3.3	80	66.7	36	30.0	3.31*	3rd
Poor funding	0	0.0	3	2.5	77	64.2	40	33.3	3.27*	4th
Bribery and corruption	16	13.3	3	2.5	75	62.5	26	21.7	3.22*	5th
Difficulty in accessing farmers	3	2.5	1	0.8	66	55.0	50	41.7	3.18*	6th
Non-receptive attitude of farmers	106	88.3	0	0.0	12	10.0	2	1.7	3.09*	7th
Top-down administration	70	58.3	2	1.7	30	25.0	18	15.0	3.08*	8th
Inadequate farm size	0	0.0	4	3.3	101	84.2	15	12.5	2.93*	9th
Low interest among agents	0	0.0	1	0.8	96	80.0	23	19.2	2.55*	10th
Dearth of subject matter specialist	0	0.0	6	5.0	71	59.2	43	35.8	2.00	11th
Insufficient information	63	52.5	3	2.5	45	37.5	9	7.5	1.97	12th
Poor government policies	0	0.0	6	5.0	99	82.5	15	12.5	1.25	13th
Non-payment of stipends	29	24.2	5	4.2	77	64.2	9	7.5	1.24	14th

and 3<sup>rd</sup> positions respectively. The result infers that most of the respondents needed training in the area of improved knowledge of farm produce pricing. The result concurs with the findings of Wahab *et al.*, (2014) where agricultural advisory service providers had an urgent need for agricultural marketing information on the current market prices of farm produce.

Finally, the result in Table 3 shows that the *N-Power Agro* worker needed training on the formation of cooperatives for loan access ( $\bar{x}$ =2.60). This was followed by writing a business plan ( $\bar{x}$ =2.60) and advising farmers on the type of loan interest rate ( $\bar{x}$ =2.50). The result indicates that the formation of cooperatives for loan access was the most important area of training needed by the advisors. This result concurs with similar findings by Chikaire, *et al.*, (2017) where cooperative society formation was the most needed area of training by extension workers. According to the extension workers, such training enhances the acquisition of skills to enable them to organize farmers into groups that facilitate both formal and informal linkages. Another study by Ogamien *et al.*, (2023) provides that agricultural Cooperative was a major source of financial support services received by farmers which helped in boosting their farm productivity and income.

### 3.4. Constraints encountered by *N-Power Agro* personnel

The result in Table 4 presents that the most significant constraint encountered by the advisors was poor linkage to the research institution ( $\bar{x}$  =3.36). Following this were low institutional support and inadequate training ( $\bar{x}$  =3.31), poor funding ( $\bar{x}$  = 3.27) and low interest among extension agents ( $\bar{x}$  = 3.18) among others. This result indicates that there was a glaring poor linkage between the *N-Power Agro* advisors and the relevant research institutes responsible for the training of advisors. According to Ginies and Mazurelle (2019), governments and organizations are actively exploring methods to develop university relations with industry through research and other types of collaboration to fully realize their potential in this area.

### 3.5. Relationship between respondents' competency level and training needs

Educational and advisory functions delivered by extension agents are more varied than ever and will continue to change to meet the needs of the clientele they serve (Timothy, 2015). Hence, for effective implementation of any goal, the level of competency of workers should be constantly monitored so as to discover areas where training is needed. Therefore, the result in Table 5 shows a significant but inverse relationship between competency level and training needs ( $r = -0.428^*$ ;  $p = 0.000$ ) of the *N-Power Agro* advisors. By implication, the more the competency levels of the respondent in the performance postharvest advisory activities, the lesser the training needs. According to Obasi and Wokoma (2023), the performance of an institution's advisors is directly related to its success or failure. It is therefore expected that well-trained advisors will contribute positively to organizational growth and vice versa. If advisors do not receive proper training, then there will be a reduction in advisors' competence and job performance (Sari, *et al.*, 2023).

## 4. Conclusions

The major challenge to agriculture in many developing nations is not necessarily low yields but poor handling of produce after harvest. In most situations, a significant proportion of farm produce is not eaten but wasted between the points of harvest to final consumption. To effectively address this postharvest dilemma, it is fundamental to redirect efforts not only on increased food production but also on improving the qualities of individuals charged with the responsibility of handling farm produce after harvest. The study was conducted to assess the postharvest

**Table 5.** Relationship between the competency level and training needed by *N-Power Agro* advisors

Variable	Competency	
	Correlation Coefficient	Probability level
Training needs	-0.428*	0.000

advisory competency level of *N-Power Agro* advisors to ascertain the key areas where training may be needed for improved services. It was found that the most performed postharvest advisory activities were those relating to the processing of crop products, dissemination of current market price of products and formation of cooperatives for loans. However, there was a low competency level expressed by the advisors in the area of providing advice on any of the storage activities. The major areas of training needed by the advisors comprised the processing of livestock products, pricing and formation of cooperatives for loan access but were seriously constrained by poor linkage to research institutions, low institutional support and inadequate training. The study inferred that postharvest losses may continue to rise if greater effort is placed on increased food production without relevant training to ensure that harvested produce is properly preserved. It was therefore recommended that there is a need for the provision of continuous training to *N-Power Agro* advisors on postharvest handling of produce in the areas of low competence to ameliorate wastage and improve food security.

## Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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