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Role Performance of Cassava Stakeholders in Research Output Uptake in Oyo State, Nigeria

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Abstract

The study analysed factors affecting the role performance of cassava stakeholders in the uptake of research outputs in Oyo State. Three hundred and twenty stakeholders were purposively selected along the cassava value chain using proportionate sampling. Data collected were analysed using percentages, means, and factor analysis. The results showed that the mean age of all the stakeholders along the cassava value chain was 50.04±5.1 years, and the mean years of experience was 16.76±4. All the cassava stakeholders had at least 50% of their expected roles performed above their grand mean score (1.91). Mean contributing factor percentages are: linkages (24.25), job experience (20.42), socio-economic status (15.74), association/organisation membership (16.30), and motivation (11.36). Linkages, job experience, socio-economic status, motivation and organization membership were common related factors identified to be influencing the effective role performance of various cassava stakeholders towards research output uptake in Nigeria. Government should organise capacity building for all stakeholders, with adequate monitoring and periodic assessment of stakeholder performance, while also providing adequate policy support to capture stakeholders' needs for agricultural transformation and value addition.

Keywords: Research output uptake, stakeholders' linkages, cassava value chain.

Introduction

Cassava is a vital staple crop in Nigeria, serving as both a crucial food source and economic provider. As the world's largest producer, Nigeria's cassava production increased from 42.5 million tons in 2010 to 66 million tons in 2022 (NAERLS, 2022). The crop's significance stems from its adaptability to various agro-ecological zones and its potential for year-round cultivation. Cassava production, processing, and marketing support numerous small and medium enterprises through value-addition processes, creating employment opportunities and ensuring food security. Globally, cassava production grew from 250 million tons in 2010 to 311.5 million tons in 2022 (NAERLS, 2022).

Various research has been carried out on cassava and across its value chain process. These research findings and improved technologies were introduced to intended users to transform agriculture in the country. Low uptake of these improved technologies can be a result of some factors such as high cost of the technologies, improved technologies that are not built on biophysical and socio-economic conditions within which smallholder farmers operate, as well as weak linkages and interaction between stakeholders (Kolapo et al., 2021; Adekunle & Farinde, 2025). The net result of these constraints is the continued practice of subsistence agriculture with low inputs and low productivity, and farmers' inability to convert the region's agricultural potential into wealth creation. This has led to the vast majority of end-users wallowing in poverty, food insecurity, increased vulnerability to environmental shocks, and malnourishment, often culminating in ill health and low life expectancy (Ayinla et al., 2025; Arthey et al., 2021). The emergence of Integrated Agricultural Research for Development (IAR4D) presented an opportunity to address complex issues that require participation and contributions from a range of stakeholders with direct or indirect interest (International Fund for Agricultural Development (IFAD, 2020). This is yet to be directly and permanently adopted within the Nigerian agricultural research and farming system. This may be linked to several factors.

Adopted improved agro-technologies must be relevant to local needs to achieve the set vision of transforming agriculture, with cassava research output inclusive, Stakeholders along the chain process of any crops or animals in agriculture such as researchers, extension agents, farmers, processors and farm inputs and output suppliers must play crucial roles in identifying research problems, adapting the recommendations to local conditions and providing feedback to researchers about innovations that have been developed. Past approaches to agricultural research and development, the “technology generation-transfer-adoption model” and subsequent models including “REFILS”, had a design flaw in focusing on the supply of new knowledge from research to farmers, rather than providing a mechanism for nurturing the innovative capacity of multi-stakeholders (NAERLS, 2022; Ayinla et al., 2025). Most research on technology adoption focuses on one stakeholder but fails to examine the interrelated factors associated with the adoption and uptake of modern farming technologies or research outputs among various stakeholders. Such research includes Latent Actors in Cassava Value Addition Activities (Ayinla et al., 2025) and Assessment of knowledge uptake of stakeholders in fruit tree production training (Oyedele et al., 2025). Hence, this study focuses on ways to synergise the factors associated with stakeholders' role performance to influence the rate of uptake of these research outputs by intended users, to achieve the expected objective of food security and agricultural transformation in the country.

The main objective of the study was to analyse the related factors associated with the role performance of cassava stakeholders in research output uptake. The study specifically sought to:

i) identify the various cassava stakeholders in the cassava value chain process;
ii) determine those related factors influencing the role performance of cassava stakeholders towards the research output uptake; and
iii) analyse those related factors that influence the research output uptake among stakeholders along the cassava value chain.

Methodology

The study was carried out in Oyo State, Nigeria. The State is located in southwestern Nigeria at latitude 70 51'13" N and longitude 30 55'57" E. The State covers 54.448 square kilometres of land that favours cassava growth. A proportionate sampling procedure was employed, where stakeholders were purposively selected along the cassava value chain. Forty per cent of the stakeholders were randomly selected from their group based on the available members' register. The selected stakeholders were farmers, agricultural research scientists, cassava processors, agricultural extension agents, agricultural input suppliers, cassava produce marketers and policymakers. A total of three hundred and twenty (320) stakeholders across cassava value chains were finally selected as respondents. Questionnaires were used to collect data from the stakeholders after validation and were subjected to a reliability test. Data collected were analysed using percentages and means. Factor analysis was used to analyze and isolate those related factors identified to have influenced the role performance of stakeholders towards cassava research output uptake.

To assess the factors associated with stakeholders' role performance in cassava research output uptake, the important variables were inter-correlated and run with a Varimax factor rotation matrix. The results of the Varimax factor rotation pattern, with the measures that were highly loaded on each isolated factor, were presented below. The factors in each group were labelled based on the established criteria (Ayinla et al., 2025) as follows;

i) Researchers' subjective interpretation of the experience from the literature.
ii) Selecting synonyms of the highest-loaded variables on each factor.
iii) Retaining the label based on the synonyms of the features represented in the contributing variables to the factor
iv) Joint interpretation of the meaning of the positive and highly loaded variables in each factor.

To decide which factors to exclude, Kaiser's criterion was used to select factors with an eigenvalue greater than one. Eigenvalue is a measure of variance values attached to each of the factors identified or isolated (Ayinla et al., 2025).

Results and Discussion

Stakeholder's Characteristics

Agricultural extension agents: Table 1 reveals that the majority (85.6%) of the agricultural extension agents were male. The mean years of experience in extension work was 12.7±5.2. Most (61.1%) have spent more than 10 years in service. Experience gained from performing tasks improves job performance and productivity. Most (61.6%) of the agricultural extension agents were aged 41-50 years, while the mean age was 42.4±5.1. The majority (90%) of the agricultural extension agents had at least a first degree in their field of discipline. All agricultural extension agents also belong to one or more professional organisations, such as the Agricultural Extension Society of Nigeria (AESON) and/or the Nigeria Forum for Agricultural Services (NIFAAS). Table 2 shows that Radio and

television sets are the most used sources of information and linkages to intended users of research output, apart from face-to-face contact.

Cassava farmers: Table 1 reveals that the majority (87%) of the cassava farmers were male. The mean years of farming experience was 12.54±4.8. Almost all of them have spent more than 10 years farming. Experience is a catalyst for effective performance for any stakeholder who is dedicated to his/her profession. The majority (57%) of cassava farmers were aged 51-60 years, while the mean age was 51.40±7.3. Over 90 per cent of cassava farmers had a minimum of a primary school certificate. All cassava farmers also belonged to the Cassava Growers Association of Nigeria (CAGAN). Active membership gave stakeholders access to loans and other incentives that can improve their performance. The mean area of land cultivated for cassava was 2.25±2.12 hectares, largely on rented land and mostly using hired labour. Their mean annual income was ₦791,000. The Nigerian cassava system, characterised by small-scale farmers/holdings cultivating less than 2.5 hectares of cassava on average, is subsistence in nature, primarily cultivated for the traditional food market, and not oriented to the industrial market. Any surplus cassava is either processed on the farm or sold to local processors. Table 2 shows that they used radio and television as their main sources of information and linkages for receiving innovation. Agricultural extension agents and their colleagues in the association also play vital roles in communicating new ideas on agricultural innovation. The findings revealed that effective communication and adequate linkages with other stakeholders promote effective role performance among the farmers. This corroborates Tijani et al. (2023), who found that effective communication and socio-economic factors improve adoption of agricultural technology.

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Research scientists: Table 1 shows that many research scientists fell within the 41-50 age range, while the mean age was 44.9±5.36. Most (60%) research scientists were male. The mean years of experience was 12.42±4.2. Almost all of them had more than 10 years of service. The majority (90 per cent) of the research scientists had at least a first degree in their field of discipline. Also, all of the research scientists belong to one or more professional organizations or associations related to their field of study. Table 2 shows that they mostly rely on the Internet and Journals as sources of information and linkages for research output. Active access to information from other stakeholders provides an opportunity for adopting innovations, which invariably boost productivity.

Agricultural input suppliers: Table 1 shows that most (76%) agricultural input suppliers were male. The mean year of input supply experience was 20.77±6.30. Most (67.1%) of them have spent more than 10 years in the service of farm input supply. The majority (67.7%) of the agricultural input suppliers were aged 51-60 years, while the mean age was 54.08±5.1. Over 50 per cent of the agricultural input suppliers had a minimum of a first degree in the related field of discipline. The mean annual income of agricultural input suppliers was ₦1.202,000. All agricultural input suppliers considered belonged to the Association of Input Supply Union (AISU) and other associations related to the type of input they deal with. Radio and television were the major sources of information and linkages used to receive research output or innovations related to their field, as well as information from colleagues in the association, as shown in Table 2.

Cassava produce marketers: Table 1 shows that the majority (89%) of the cassava produce marketers were female. The mean years of experience was 13.71±8.07. More than half (61%) of cassava produce marketers have spent more than 10 years marketing cassava and its products. Many (55%) cassava produce marketers fell within the 41-50 age range, with a mean age of 52.5±6.57. Also, about 85 per cent of the cassava produce marketers had at least secondary school education. All cassava produce marketers belong to one or more professional groups or associations related to the cassava produce/products they market. The mean income realisable by cassava produce marketers was ₦ 1,100,500 ± 540,800 annually. Table 2 shows that Radio and Television were their main sources of information; likewise, their members provide adequate information and linkages for any innovation in agricultural produce.

Cassava produce processors: Table 1 reveals that more than half (65.5%) of the cassava produce processors were female. Most (62.5%) cassava produce processors were aged 41-50 years, with a mean age of 45.10±6.98. The mean years of experience was 12.40±6.76. Over 80 per cent had more than 10 years of experience in the cassava processing industry. About 83 per cent of the cassava produce processors had at least secondary school education. Also, all cassava produce processors belong to one or more professional groups or associations related to the cassava products they produce. The mean income of cassava produce processors was ₦ 807,500 ± 115,400 annually. Most processors use radio and Television as their primary sources of information, along with information from colleagues, as major linkages for innovation development, as shown in Table 2. Adequate access to information indicates the need to raise awareness among stakeholders and increase adoption of related innovations. The findings agree with Luqman et al. 2023) that radio and media campaigns help build resilience and encourage stakeholders to support agricultural programmes.

The results suggest that all stakeholders have extensive experience in their areas of specialisation and affiliated association membership, which may encourage them to accept new research output. Most operations in the cassava value chain were male-dominated. These findings were in support of Pinga et al. (2024) that stakeholders' involvement is universal engagement, not sex-related, despite the male dominance. Radio and Television were identified as the most used sources of their information and linkages towards assessing research output for transformation and development. These findings are corroborated by Olarinde et al. (2020), who found that effective linkages and communication facilitate adoption of research outputs among intended users in agriculture.

Table 1: Cassava stakeholders' characteristics

Stakeholders Variables	RS %	AE %	AIS %	CF %	CPP %	CPM %
Sex						
Male	60	85.6	76	87	55.5	11
Female	40	14.4	24	13	44.5	89
Age						
31-40	25	16.2	16.3	2	12.5	8
41-50	65	61.6	67.7	34	62.5	34
51-60	10	22.2	16.4	57	17.5	55
Above 60				7	7.5	3
Mean	44.9	42.4	44.8	51.4	45,1	52.6
Level of education						
Primary education				28	17.5	13
Ordinary level			11.5	41	60	52
NCE/OND			23.1	22	12.5	22
HND/Bachelor	90	83.3	50	9	10.0	13
Postgraduate	10	16.7	15.4			
Years of experience						
1-10	36	30.6		3	17.5	31
11-20	59	63.1	67.1	31	68	61
21-30	5	6.3	24.6	55	12	7
31-40			8.3	7	2.5	1
Above 40				4		
Mean	12.4	12.7	18.7	22.5	12.4	13.71
Organization membership						
Ordinary	55	74	59.2	11	60	71
Committee	10	20.5	13.8	53	10.5	20
Executive	35	5.5	27	36	29.5	9
Income generated (₦)						
1000-500000			38.5	35	37.5	25
500001-1000000			11.5	32	20.0	37
1000001-1500000			35.8	23	17.5	26
1500001-2000000			11.5	8	15.0	10
Above 2000000			2.7	2	10.0	2
Mean			1,202,000	791,000	807,500	1,100,500

RS=Research scientist
AEA=Agricultural Extension Agents
AIS= Agricultural Input Suppliers
CF=Cassava farmers
CP=Cassava processor
CM=Cassava marketer

Table 2: Cassava stakeholders by sources of information and linkages

Stakeholders Sources	RS Mean	AEA Mean	AIS Mean	CF Mean	CP Mean	CM Mean
Television	0.55	1.0	1.00	1.00	1.00	1.00
Radio	0.5	0.94	1.00	1.00	1.00	1.00
Newsletter/ Journal	0.7	0.69	0.28	0.03	0.03	0.01
Internet	0.95	0.78	0.28	0.14	0.18	0.11
Research scientists	0.9	0.83	0.28	0.02	0.03	0.01
Agric. Ext. agents	0.85	0.92	0.65	1.00	0.78	0.98
Agric. input suppliers	0.2	0.44	0.99	0.12	0.05	0.01
Farmers	0.4	0.86	0.96	0.99	0.80	0.93
Processors	0.45	0.5	0.42	0.13	0.95	0.81
Marketers	0.25	0.5	0.35	0.26	0.58	0.99
Grand mean	0.58	0.75	0.62	0.47	0.54	0.51

RS=Research scientist
AEA=Agricultural Extension Agents
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CM=Cassava marketer
Source: Field survey, 2025

Roles Performed by Cassava Stakeholders Towards Research Output Uptake

Cassava farmers: Table 3 reflects that facilitating a memorandum of understanding among stakeholders (2.70) was rated highest among roles identified as being performed by farmers towards uptake of cassava research output. Innovation platform facilitation was rated lowest among roles rarely performed by farmers in the study area.

Agricultural extension agents: Table 3 shows that information dissemination (2.85) and stakeholder networking (2.84) were mostly rated high among the roles always performed, above the grand mean score (2.20), by agricultural extension agents. But commercialising the supply of cassava inputs/outputs was rated lowest among the roles poorly and rarely performed by agricultural extension agents in relation to uptake of cassava research output.

Cassava produce marketers: Table 3 shows that marketing system linkages were rated highest among the roles always performed by marketers of cassava and its produce. Capacity building (1.75) was rated lowest among the roles performed by cassava marketers towards the uptake of research output.

Agricultural input suppliers: Table 3 reveals that sourcing cassava inputs (2.65) was rated highest among the roles that were highly performed by agricultural input suppliers towards the uptake of cassava research output. Meanwhile, experimentation on cassava (1.20) was least performed by agricultural input suppliers.

Research scientists: Table 3 reveals that identification of felt need (2.80), brainstorming on cassava knowledge (2.81 and evaluation, experimentation and empirical study (2.81) on the cassava value chain were mostly rated among the roles always performed by research scientists towards research output uptake on cassava. Marketing system linkage (1.30) was rated as a role being performed by the research scientists.

Cassava produce processors: Table 3 shows that building awareness at the local level (2.50) was rated as the most performed role by processors. Meanwhile, liaison with foreign experts on cassava was the least considered role performed by processors of cassava and its products.

To achieve the targeted objective of these stakeholders toward effective uptake of cassava research output, the Cluster Development Approach should be used. This approach involves identifying, bringing together, and coordinating stakeholders at different levels to achieve a common goal. Clusters should be market-driven. Therefore, the private sector should lead it. The advantages of cassava cluster development include improved production and processing efficiency. It also enhances rural development by providing infrastructure, such as good road networks for all and sundry. The findings also corroborate Ayinla et al. (2025) on the roles of latent actors in the cassava value chain. Individual actors need to perform their roles effectively to achieve expected results. More effective interaction among stakeholders is needed to ensure effective engagement in their various roles; this can be achieved through media campaigns for specific agricultural programmes.

Table 3: Role performed by cassava stakeholders

Performed roles	RS Mean	AEA Mean	AIS Mean	CF Mean	CP Mean	CM Mean
Information dissemination	1.70	2.85	2.27	2.24	1.98	2.25
Training of stakeholders	1.70	2.84	2.38	2.70	1.98	1.58
Experimentation on cassava	2.80	1.72	1.42	2.05	1.73	1.64
Identify the felt need of the stakeholder	2.81	2.47	1.97	2.33	2.08	2.14
Marketing system linkage	1.37	1.94	2.04	2.17	1.77	2.65
Brainstorming on knowledge of cassava and its value chain	1.80	2.47	1.88	2.56	2.23	2.43
Networking of stakeholders	1.55	2.84	1.50	2.21	1.95	2.22
Capacity building on M&E	2.10	2.33	1.65	2.55	2.00	1.75
Facilitating MoU	1.35	1.39	1.31	2.70	1.65	2.43
Building awareness at the local level	1.45	2.39	2.08	2.33	2.50	2.06
Sourcing for input on cassava	1.45	2.36	2.65	2.37	2.10	2.46
commercializing supply of inputs/outputs	1.50	1.35	2.42	2.13	2.18	2.40
Innovation platform facilitation & operationalization	1.40	1.97	1.20	1.82	1.50	2.27
Advocacy for linkage	1.30	2.61	1.98	1.90	2.25	2.50
Liaison for foreign expert on cassava	1.70	1.44	1.62	2.19	2.00	2.14
Grand mean score (1.90)	**1.80**	**2.20**	**1.90**	**2.13**	**1.98**	**2.12**

RS=Research scientist
AEA=Agricultural Extension Agents
AIS= Agricultural Input Suppliers
CF=Cassava farmers
CP=Cassava processor
CM=Cassava marketer
Source: Field survey, 2025

Factors Associated with the Roles of Cassava Stakeholders in Research Output Uptake

Table 4 shows the variables' contributions to role performance using principal component analysis.
Cassava farmers: The Table shows that the job experience factor accounted for 20.09%, the linkages factor accounted for 16.41 per cent, socio-economic status accounted for 13.16 per cent, motivation accounted for 11.50%, and the organisational factor accounted for 9.04 per cent. This implies that job experience, linked to information on improved

farming technologies, coupled with cassava farmers' socio-economic factors, would have a greater influence on their role performance and uptake of cassava research output in their area. The variance of these known variables was higher than that of the unknown variables. These findings corroborate Adekunle and Farinde (2025) that linkages and improved socio-economic factors influence effective role performances of stakeholders along the cassava value chain.

Agricultural extension agents: Under agricultural extension agents, the linkages factor accounted for 23.45 per cent, the job experience factor accounted for 22.73 per cent, followed by the socio-economic factor accounted for 19.60 per cent, the organisational factor accounted for 13.92 per cent, and the educational factor accounted for 10.20 per cent. This implies that professionalism with good linkages, coupled with job experience, would enable staff to perform effectively in their expected roles in a conducive environment, with better incentives that would motivate efficient dissemination of cassava research output to the target audience. This corroborates Olamide et al.'s (2020) assertion that effective linkages promote adoption of farming technologies.

Agricultural input suppliers: Table 4 shows that the linkages factor accounted for 33.88 per cent, followed by the job experience factor (16.60 per cent), organisation membership (16.20 per cent), the motivational factor (12.80 per cent), and the socio-economic factor (12.31 per cent). This result implies that adequate information and communication linkages with the job experience of agricultural input suppliers, coupled with a high economic standard, would influence them to perform their expected role effectively towards the uptake of cassava research output. The findings align with Egbetokun et al. (2023) and Kolapo et al. (2020), which found that adequate access to information and farm inputs by intended users of farming technologies, coupled with training, facilitates effective adoption of research outputs.

Research scientists: Table 4 shows that the linkage factor accounted for 26.57 per cent, followed by the organisational factor, which accounted for 19.31 per cent; the job experience factor accounted for 14.52 per cent; organisational membership accounted for 16.30 per cent, while the motivational factor accounted for 11.40 per cent. The result implies that membership of organization coupled with good job experience, effective communication and linkage with other stakeholders by research scientists in the cassava value chain would greatly promote efficient uptake cassava research output in a sustainable way and towards achieving rapid agricultural development in the country, as opined by Adekunle and Farinde (2025) that effective linkages promote the role performance of farmers and extension agents.

Cassava produce processors: Table 4 shows that socio-economic factors accounted for 23.55 per cent, followed by job experience factors accounting for 19.37 per cent and motivation for 11.35 per cent. This implies that job experience, coupled with socio-economic background, has a greater influence on role performance and uptake of cassava research output. However, several principles should guide the acquisition of cassava processing equipment for small- and medium-scale enterprises (SMEs). Beyond efficiency, due consideration should be given to the technical details of machinery

imported or sourced locally for cassava processing enterprises. Machinery should be sourced from reputable organizations from within and outside Nigeria with a history. These findings support Ayantoye (2021) that motivation and job experience strongly influence production performance in agriculture.

Cassava produce marketers: Table 4 shows that the job experience factor accounted for 26.55 per cent, coupled with information linkages at 15.26 per cent. Organisational membership factor accounted for 13.22 per cent, motivation 11.00 per cent, while the socio-economic factor accounted for 10.22 per cent. The findings reflect a high level of variance in known factors contributing to the uptake of research output. This result implies that job experience with adequate information contact, coupled with better economic status of cassava produce marketers, would encourage cassava produce marketers to perform their expected role effectively, which would invariably promote uptake of cassava research output in the area. The findings corroborate Olamide et al. (2019) that effective marketing of new varieties of cassava products to end users requires adequate information on the products to be marketed.

Overall, the findings show that linkages and communication have the highest mean percentage variance (24.25), followed by Job experience of stakeholders (20.42) and organisation membership/affiliation (16.30), and socio-economic status of stakeholders (15.74). Meanwhile, stakeholder motivation had the least variance (11.36). To achieve effective uptake of research outputs by intended users, including cassava research outputs, linkages and communication, job experience, membership affiliation, and motivation factors must be prioritised when research outputs are disseminated to intended users in the \agriculture value chain. Each factor captures different aspects of the value addition process, highlighting the complexity and diversity of activities undertaken by stakeholders towards the research output uptake. The findings support Ayinla et al. (2025) that effectively capturing factors associated with latent actors' involvement in cassava will enhance production performance. This revelation could help improve research output uptake in cassava value addition and develop interventions targeted at enhancing productivity and efficiency in cassava production and value addition toward effective agricultural transformation.

Table 4: Factors contributing to role performance of cassava stakeholders

Factors	**R** $\Sigma L^2 = \lambda$	**AE** $\Sigma L^2 = \lambda$	**AI** $\Sigma L^2 = \lambda$	**F** $\Sigma L^2 = \lambda$	**CP** $\Sigma L^2 = \lambda$	**CM** $\Sigma L^2 = \lambda$	**M**
Linkages	1.85	2.12	3.17	2.27	1.76	1.77	**24.25**
Organization	1.95	2.20	1.50	1.33	1.55	1.38	**16.30**
Socio-economic	1.52	1.46	1.10	1.91	2.02	1.15	**15.74**
Job experience	1.68	1.79	1.56	1.87	1.62	1.93	**20.42**
Motivation	1.41	1.24	1.48	1.45	1.40	1.35	**11.36**

L=loading for factor; $\mathbf{L^2}$= square of loading factor; **λ=** latent root for the factor [summation of the square loading] %**=** % Variance; **R=** Research Scientists; **F=** Cassava farmers; **AE=**Agricultural Extension Agents; **CP=** Cassava Processors; **AI=**Agricultural Input Suppliers; **CM=** Cassava Produce Marketers
Source: Field survey, 2025

Conclusion and Recommendations

All cassava stakeholders, including farmers, Agricultural extension agents, Cassava processors, Research scientists, Input suppliers, and marketers, performed above average in their expected roles. Linkages, job experience, socio-economic status, organisation membership, and motivational factors were common factors identified as having strongly influenced the effective role performance of various cassava stakeholders towards uptake of research output.

The following recommendations were deduced: An adequate innovation platform should be operationalised by stakeholders to allow effective interaction and linkages among stakeholders in agriculture, not the cassava value chain alone. The government should organise capacity building for all stakeholders, with adequate monitoring and periodic assessment of the performance of various stakeholders. Adequate policy support by the Government is needed to capture the needs of various stakeholders towards the transformation of agriculture and its value addition.

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