FACTORS INFLUENCING ROLE PERFORMANCE OF STAKEHOLDERS ON CASSAVA RESEARCH OUTPUT UPTAKE IN OYO STATE, NIGERIA

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Abstract

The study determined the factors influencing the role performance of stakeholders in cassava research output uptake in Oyo State, Nigeria. It specifically described the cassava stakeholders' characteristics, determined the performed roles of stakeholders and identified factors influencing their effective role performance towards cassava research output uptake. Multistage sampling procedure was employed to select respondents. Stakeholders were purposively selected along the cassava value chain. 40 % of the stakeholders were proportionately selected based on the sampled population in the State to make a total of 325 respondents. Data collected were analysed with appropriate descriptive and inferential statistics. The mean age of the stakeholders along the cassava value chain was 50.04±5.1 years and mean years of experience was 16.76±4 years. All the cassava stakeholders had at least 50 % of their expected roles been performed above their grand mean score. There exists a positive and significant relationship between the role performance of stakeholders and motivational factors available to them during the course of cassava research output transfer and 5iits uptake by intended users (r=0.552). In conclusion, personal experience, socio-economic, motivations and production demand driven were common factors found to be influencing the effective role performance of stakeholders towards cassava research output uptake.

Key words: Role performance, Stakeholders, Research output uptake and Factors

Introduction

Nigeria is the highest cassava producer in the world, producing a third more than Brazil and almost double the production capacity of Thailand and Indonesia. She currently produces about 38 million metric tonnes (MT) per annum, a figure expected to double by 2020 (FMARD, 2011). Although the world leader in cassava production, Nigeria is not an active participant in cassava trade in the international markets because most of her cassava is targeted at the domestic food market. Her production methods are primarily subsistence in nature and therefore unable to support industrial level demands (FMARD, 2011). The low uptake of improved technologies is among the number of factors that characterize African agriculture. The Agricultural Research and Development (ARD) efforts failed to respond to these challenges with interventions that are tailored to address the complex local farming system problems with due consideration to local knowledge and requirements as well as biophysical and socio-economic constraints and opportunities (Kirsten, 2009). Current approach to agricultural research is often described as sectorial and fragmented with little or no involvement of relevant stakeholders (Research Into

Use, 2009). The net result of these constraints is continued practise of subsistence agriculture with low inputs and low productivity and the inability of the farmers to convert the agricultural potentials into wealth creation. This has led to the vast majority of end-users encapsulated in poverty, food insecurity and increased vulnerability to environmental shocks (Research into Use, 2009). According to Akinwumi (2012), as part of the Federal Government of Nigeria's effort to revamp the agriculture sector, ensure food security, diversify the economy and enhance foreign exchange earnings, the FMARD embarked on a transformation agenda with a focus on the development of agricultural value chains, including the provision and availability of improved inputs, increased productivity as well as the establishment of staple crop processing zones. It also addresses reduction in post-harvest losses, improving linkages with industry with respect to backward integration, as well as access to financial services and markets. The increase in budgetary allocation has not been directed to facilitate the core functions of the sectors such as research and development, human resource development, agricultural related infrastructure resulting in poor provision of agricultural support services, weak policy implementation and inadequate enforcement of regulations (Akinwumi, 2012).

Statement of the Problem

A country assessment found that knowledge outputs from the nation's agricultural research institutes were not being utilized by intended users due to institutional and other barriers (RIU, 2009). Farmers, post-harvest processors, produce marketers and agro-allied businesses are in need of knowledge, technologies and business practices that would increase their production, income and competitiveness. Yet, some relevant research outputs that would address these objectives are not getting out of the agricultural research institutes and into practical economic use. Therefore, the vision for cassava to spur rural industrial development, raising incomes for producers, processors and marketers, likewise contributing to the food security status of its producers and consumers, by a shift from cassava as principally a sustenance food to an industrial crop used in the processing of cassava products and for the country to achieve earnings of over US$5 billion from value added cassava exports are still a mirage which are yet to be achieve. The problems and challenges are as a result of non-defined expected and actual roles of stakeholders in cassava research output uptake process in relation to cassava research and development in Nigeria. There is a need for bridging the gap between the demand and supply for new knowledge and technology on cassava. Hence, need for adequate documentation of roles of various stakeholders and factors that may improve technologies uptake especially in the cassava value chain in Nigeria. Empirical studies show that Ajala et al., (2012) examined effectiveness of improved cassava production technologies among cassava farmers in Nigeria. Daudu & Madukwe (2012) examined the role performance effectiveness of Fadama II project facilitators in Nigeria. Babatunde (2011) investigated the 'Value Addition, Key to Cassava Revolution in Nigeria'. Nweke (2004) examined the new challenges in the cassava transformation in Nigeria and Ghana. International Institute of Tropical Agriculture (Department of Agriculture) (IITA)/DoA. (2013) examined Cassava Development in Nigeria: A Country Case Study towards a Global Strategy for Cassava Development.

Objective of the study: To identify the factors influencing the effectiveness of role performance by the Stakeholders in cassava research output uptake in Nigeria.

Materials and Methods

Theoretical and conceptual frameworks

This study adopted general system theory which states that a system is an assemblage of interrelated parts that works together by way of some driving process. This theory could be applied to the roles performance of individual stakeholders in the innovation system as a system consisting of stakeholders as components, units or parts that have functional roles as well as structural interrelationships between one stakeholder and another in terms of roles expected to be performed. These stakeholders when they work together effectively to achieve a common goal i.e. effective research output uptake and whatever affects a part or component will have effect on the whole system because the roles of these stakeholders complement one another (Pidwimy, 2010). The concept of Innovation System Approach (ISA) was used as a framework that guides multi-institutional learning to better understand what to change and influences needed in order to improve the performance of Agricultural Research and Development (ARD). This involves the identification and analysis of the role players or stakeholders and their roles in the development of the Nigerian cassava sector (Hounkonnou et al., 2012;World Bank, 2006).

Sampling Technique

Multistage sampling technique was employed in selecting agricultural research scientists, farmers, agricultural extension agents, policy makers, agricultural input suppliers, cassava produce processors and cassava produce marketers as respondents from the sample population in Oyo State. Purposive sampling technique was used in the selection of Oyo State among the States in Nigeria, based on high concentration of stakeholders along the cassava value chain and other related factors to cassava programme. 20 research scientists who worked on cassava related technologies were randomly selected from anchored research institutions such as International Institute of Tropical Agriculture (IITA), Institute of Agricultural Research and Training (IAR&T) and University of Ibadan, Ibadan. Out of sampled agricultural extension agents or personnel in the State, 36 were selected, only 100 of cassava farmers were systematically selected at random across the ADP zones from the sampled population in the State. From the sampled registered agricultural input suppliers in the State, 26 of these agricultural input suppliers were selected at random across the ADP zones. Among cassava produce processors in the State, which cut across the processors of various cassava products, 40 were randomly selected at various locations across the ADP zones in the State for interview. Only 100 cassava produce marketers were randomly selected across the State. The total number of stakeholders amounted to 325 for the study. Descriptive and inferential statistical tools such as frequency, percentages, mean, standard deviation, factor analysis, correlation analysis and regression analysis were used to analyze the data collected for the study.

Research instruments and data collection

Primary data were collected using a combination of quantitative and qualitative methods. Questionnaires were used to obtain quantitative data from the research scientists, agricultural extension agents and agricultural input suppliers. Likewise interview schedule was used for the cassava produce processors, cassava produce marketers and cassava farmers in the selected institutions and farm locations in the State. The secondary data and other information were obtained from the records available at the Federal and State Ministry of Agriculture, Research Institutes centres, Agricultural Institutions of learning, Journals and Past theses related to the study.

Role Performance: The perceived role was measured using the 5-point likert-type scale for 15 opinion statements to generate the scores for the dependent variable. Summation was used as dependent variable. The independent variables such as age, sex, income, farm size, sources of information, level of [illegible] criptive and other statistical tools

Results and Discussions

Personal and socio-economic characteristics of stakeholders

Table 1: Distribution of stakeholders according to socio-economic characteristics

Stakeholders	R.S		AEA		AIS		CSF		CPP		CPM	
Variables	**Fre**	**%**	**Fre**	**%**	**freq**	**%**	**Fre**	**%**	**Freq**	**%**	**Freq**	**%**
Age												
31-40	5	25	8	22.2	7	26.3	2	2	5	12.5	8	8
41-50	13	85	20	55.6	15	57.7	34	34	17	42.5	44	44
51-60	2	10	8	22.2	4	15.4	47	47	15	37.5	45	45
Above 60							17	17	3	7.5	3	3
Mean	44.9			44.2		54.08	54.4		50.1		50.57	
Sex												
Male	14	70	33	91.7	25	96.2	93	93	17	42.5	19	19
Female	6	30	3	8.3	1	3.6	7	7	23	57.5	81	81
Educational level												
Primary education							28	28	3	7.5	13	13
Ordinary level					3	11.5	41	41	24	60	52	52
NCE/OND					6	23.1	22	22	5	12.5	22	22
HND/Bachelor	2	10	30	83.3	13	50	9	9	8	20.0	13	13
Postgraduate	18	90	6	16.7	4	15.4						
Years of service												
1-10	12	60	11	30.6			3	3	7	17.5	31	31
11-20	7	35	22	61.1	15	57.7	36	36	26	65	61	61
21-30	1	5	3	8.3	9	34.6	45	45	6	15	7	7
31-40					2	7.7	12	12	1	2.5	1	1
Above 40							4	4				
Mean	10.4			13.7		20.77	25.5		16.5		13.71	
Professional membership												
Ordinary	11	55	24	66.7	5	19.2	17	17	24	60	68	68
Committee	2	10	10	27.8	14	53.8	47	47	5	12.5	13	13
Executive	7	35	2	5.5	7	26.9	38	38	11	27.5	9	9
Income generated (₦)												
1000-500000					10	38.5	35	35	15	37.5	25	25
500001-1000000					3	11.5	32	32	8	20.0	37	37
1000001-1500000					8	30.8	23	23	7	17.5	26	26
Above 1500000					5	18.2	10	10	10	25.0	12	12
Mean					492		392			307		999500
					300		100			500		

Source: Field survey, 2021

KEY

RS- Research Scientists
AEA- Agricultural Extension Agents
AIS-Agricultural Input Suppliers
CSF- Cassava Farmers
CPP- Cassava Produce Processors
CPM- Cassava Produce Marketers

Table 2: Distribution of stakeholders by sources of information or linkages towards cassava research output uptake

Stakeholders	R.S		AEA		AIS		CSF		CPP		CPM	
Sources	**M**	**R**	**M**	**R**	**M**	**R**	**M**	**R**	**M**	**R**	**M**	**R**
Television	0.55	5th	1.0	1st	1.00	1st	1.00	1st	1.00	1st	1.00	1st
Radio	0.5	6th	0.94	2nd	1.00	1st	1.00	1st	1.00	1st	1.00	1st
Newsletter/ Journal	0.7	4th	0.69	7th	0.28	8th	0.03	9th	0.03	9th	0.01	8th
Internet	0.95	1st	0.78	6th	0.28	8th	0.14	6th	0.18	7th	0.11	7th
Research scientists	0.9	2nd	0.83	5th	0.28	8th	0.02	10th	0.03	9th	0.01	8th
Agric. Ext. agents	0.85	3rd	0.92	3rd	0.65	5th	1.00	1st	0.78	5th	0.98	4th
Agric. input suppliers	0.2	10th	0.44	10th	0.99	3rd	0.12	8th	0.05	8th	0.01	8th
Farmers	0.4	8th	0.86	4th	0.96	4th	0.99	4th	0.80	4th	0.93	5th
Processors	0.45	7th	0.5	8th	0.42	6th	0.13	7th	0.95	3rd	0.81	6th
Marketers	0.25	9th	0.5	8th	0.35	7th	0.26	5th	0.58	6th	0.99	3rd
Grand mean	**0.58**		**0.75**		**0.62**		**0.47**		**0.54**		**0.51**	

Source: Field survey, 2021

KEY

RS- Research Scientist
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Age: Result in Table 1 shows that the mean age of the research scientists was 44.9±5.36.Agricultural extension agents' mean age was 46.19±5.55. Cassava farmers' mean age was 54.42±7.37.Agricultural input suppliers' mean age was 54.08±5.59.Cassava produce processors' mean age was 50.10±6.98. While, cassava produce marketers' mean age was 50.5±6.57. The mean age range of stakeholders was 44-54 years. This implies that majority of the respondents were at their productive age, agile and had high tendency for transforming the cassava research output effectively. Age is one of the factors that could be used to measure people's level of maturity, strength and ability to accomplish tasks (Adekunle, 2017).

Sex: Result in Table 1 shows that majority (70%) of the research scientists were male and majority (91.7%) of the agricultural extension agents were male. Also, majority (96.2%) of the agricultural input suppliers were male and majority (93%) of the cassava farmers were also male. But majority (57.5%) of the cassava produce processors were female and majority (81%) of the cassava produce marketers also were female. This implies that processing and marketing of cassava were been perceived as female jobs as nearly all activities involved were female dominated. Other stakeholders along the chain process were male dominated with respect to the activities involved in each category of stakeholder. This may foster effective uptake of research output in cassava.

Experience: Result in Table 1 shows that the mean year of experience by research scientists was 10.35±6.22 and the mean year of experience for agricultural extension agents was 13.67±5.29. Moreover, the mean year of experience of agricultural input suppliers was 20.77±6.30 and the mean years of farming experience was 25.54±8.82 while the mean year of processing experience was 16.40±6.76 and the mean year of marketing experience was 13.71±8.07. The mean range of stakeholders based on their years of experience in their field category was 10-26 years. This implies that all the stakeholders had more than 10 years of experience in their field of work which promotes effective performance and enhances uptake of research output on cassava. The wider experience a stakeholder had the more opportunities of effective link with other stakeholders to address areas of concern on cassava research output and its uptake (Adekunle, 2017)

Level of Education: All of the research scientists had minimum of first degree in their field of discipline with 90% having postgraduate degree. All of the agricultural extension agents had minimum of first degree in their field of discipline. Over 50 % of the agricultural input suppliers had minimum of first degree in the related field of discipline. Over 90 % of cassava farmers had minimum primary school certificate. Above 90 % of the cassava produce processors had minimum of secondary school education. 80% of the cassava produce marketers had minimum of secondary school education. The implication of these results is that research scientists, agricultural extension agents considered that their job of effective transfer of research output required advanced education especially in their field of specialization for effective transmission of knowledge on the subject matter. Meanwhile cassava processors, farmers and cassava marketers feel that their job and activities along the chain process does not require more advanced education rather than skill acquisition on the subject matter for them to perform effectively in the uptake process of the research output and put it into practical utilization. Education gives them opportunity of effective interaction and dissemination of those cassava research output effectively among stakeholders as in support with (Adekunle, 2017).

Income level: The mean annual income of agricultural input suppliers was ₦1.192, 300±368122, the mean annual income realised by cassava processors was ₦307, 500±119,420 and the mean annual income realized by cassava produce marketers was ₦999,500±466,812. The results implies that agricultural input suppliers, cassava processors, farmers and cassava marketers all operating under small and medium scale enterprises. There is a need for adequate link of these stakeholders with financial bodies either private or government established, to be in partnership towards boosting their productivity through regular loan or bond with moratorium at minimum interest rate.

Farm size: The mean area of land cultivated for cassava was 2.25±2.12 hectares, majorly on rented land and mostly used hired labour. The Nigerian cassava system, characterized by small-scale farmers/holdings cultivating less than 2.5 hectares of cassava in average, is primarily cultivated for the traditional food market, is subsistence in nature and not oriented to the industrial market. Any surplus cassava is either processed on the farm, or sold to local processors. The average production figure per hectare in Nigeria was 10.5 MT/Ha (Ezedinma, 2005).

Group participation: All the respondents in each category of stakeholders along the cassava chain process were involved in active participation in their group or organizations which are basically their professional and vocational associations. This foster linkages and encourages networking among other groups either for advice or other assistance that could promote their productivity.

Sources of information or linkages used by stakeholders towards cassava research output uptake

Research scientists: Result in Table 2 shows that majority of research scientists responded positively to Internet (mean=0.95), colleagues (mean=0.90), agricultural extension agents (mean=0.85), newsletter/publication (mean=0.70).

Agricultural extension agents: Result in Table 2 shows that majority of agricultural extension agents mostly use television (mean=1.00), radio (mean=0.94), colleagues (mean=0.92), farmers (mean=0.86), other stakeholders/research scientists (mean=0.83) and internet (mean=0.78)

Agricultural input suppliers Result in Table 2 shows that radio, television and colleagues (mean=1.00), farmers (mean=0.96) and agricultural extension agents (mean=0.65) were the major sources of information mostly used by agricultural input suppliers. This was due to availability and adequacy of the facilities of these sources of information to agricultural input suppliers.

Cassava farmers Result in Table 2 shows that, majority of farmers responded favourably to some sources information such as colleagues, agricultural extension agents, radio and television (mean=1.00).

Cassava produce processors Result in Table 2 shows that cassava produce processors mostly use of radio/television (mean=1.00), colleagues (mean=0.95), farmers (mean=0.80), and agricultural extension agents (mean=0.78) as major sources of information for development of their business or for receiving new ideas or technology related to their cassava processing.

Cassava produce marketers: Result in Table 2 shows that most of the cassava produce marketers made use of radio, Television and colleagues (mean=1.00) as major source of information on cassava and its marketing.

The findings reveals that radio, television, and colleagues were sources of information rated high and above grand mean score as commonly used by cassava stakeholders to access information related to cassava research output. But use of internet and newsletters/publications were less patronized by majority of stakeholders for information on cassava and its output uptake which may not be unconnected with low literacy level, unavailability of facilities and other related factors. There must be a need to promote commonly used sources of information and making adequate provision for the facilities of those that were not commonly used, so as to encourage the stakeholders on cassava to get themselves acquainted to these sources of information, so that it can promote uptake of various research output not only on cassava but other agricultural technologies developed towards improving agricultural development in the country.

Performed roles of stakeholders towards cassava research output uptake

Table 3:

Distribution of stakeholders by their performed roles toward cassava research output uptake

Performed roles	RS Mean	AEA Mean	AIS Mean	CSF mean	CPP Mean	CPM mean
1) Information dissemination	1.70	2.54	2.27	2.24.	1.98	2.25
2) Training of stakeholders	1.70	2.42	2.38	2.22	1.98	1.58
3) Experimentation on cassava	2.10	1.72	1.42	2.05	1.73	1.64
4) Identify felt need of stakeholder	1.65	2.47	1.97	2.33	2.08	2.14

5) Marketing system linkage	1.55	1.94	2.04	2.17	1.77	2.21
6) Brainstorming on knowledge of cassava and its value chain	1.80	2.47	1.88	2.56	2.23	1.43
7) Proactive networking of stakeholders	1.55	2.86	1.50	2.21	1.95	2.22
8) Capacity building on M&E	2.70	2.33	1.65	2.55	2.00	2.11
9) Facilitating MoU	1.35	1.39	1.31	1.68	1.55	1.43
10) Building awareness from the local level	1.45	2.39	2.08	2.33	2.13	2.06
11) Sourcing for input on cassava	1.35	2.36	2.42	2.37	2.10	2.06
12) Commercializing supply of inputs/outputs	1.50	2.25	2.42	2.13	2.18	2.10
13) Innovation platform facilitation & Operationalization	1.30	1.97	1.19	1.82	1.68	2.17
14) Advocacy for linkage	1.75	2.61	1.98	1.77	2.25	1.57
15) Liaison for foreign expert on cassava	1.70	1.44	1.42	2.19	2.00	2.14
Grand mean score	**1.60**	**2.12**	**1.86**	**2.13**	**1.98**	**1.92**

Source: Field survey, 2021

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Research scientists: Result in Table 3 shows that capacity building in monitoring and evaluation, experimentation and empirical study on cassava value chain were among the roles rated most, as always performed by research scientists towards uptake of cassava research output. While platform facilitating and interaction survey on cassava value chain were among the roles rated as rarely performed by research scientists in relation to uptake of cassava research output uptake.

Agricultural extension agents: Result in Table 3 shows that advisory role on cassava technology, dissemination of practical information and training on new technology in cassava and its products were among the roles rated very high as always performed by agricultural extension agents towards uptake of cassava research output. While facilitating memorandum of understanding within stakeholders and platform facilitating were among the roles poorly and rarely performed by agricultural extension agents in relation to uptake of cassava research output uptake.

Agricultural input suppliers: Result in Table 3 shows that delivering and distribution of farm inputs for new technology on cassava and its products were among the roles rated high as always performed by agricultural input suppliers towards uptake of cassava research output. While platform facilitating and facilitating memorandum of understanding (MoU) within stakeholders

on cassava value chain were roles rated as poorly and rarely performed by agricultural input suppliers towards uptake of cassava research output in the study area.

Cassava farmers: Result in Table 3 shows that training of other farmers and providing information on disseminated new technology on cassava were among the roles rated very high and always performed by cassava farmers towards uptake of cassava research output. While platform facilitating and facilitating memorandum of understanding within stakeholders on cassava value chain were among the roles rated as poorly and rarely performed by cassava farmers in relation to uptake of cassava research output.

Cassava produce processors: Result in Table 3 shows that brainstorming on knowledge of cassava and exploring linkages to credit facilities were among the roles rated higher and always performed by cassava produce processors towards uptake of cassava research output. While, platform facilitating and its operation on cassava value chain were among those rated as poorly performed by cassava produce processors in relation to cassava research output uptake.

Cassava produce marketers: Result in Table 3 shows that provision of information on acceptability of products from new cassava technology and proactive networking stakeholders of cassava and its products were among the roles that were rated very high and always performed by cassava produce processors towards uptake of cassava research output. While, platform facilitating and facilitating memorandum of understanding (MoU) on cassava value chain were among the roles rated as poorly and rarely performed by cassava produce marketers in relation to uptake of cassava research output. The findings revealed that to achieve the targeted objective by these stakeholders towards effective uptake of cassava research output, the Cluster Development Approach should be involved. According to Oyewole, (2002), this approach involves the identification, coming together, and operation of different stakeholders at different levels to achieve a common goal. Clusters should be market-driven, and it should be led by the private sector for effective performance. The advantages that would accrue from a Cassava Cluster Development include improvement in efficient production and processing. It will also enhance rural development through provision of infrastructure, such as good networks of road to all and sundry and other facilities that will improve the standard of living of agrarian community.

Result of Hypothesis for the study

Table 4a

Result of correlation analysis of factors influencing stakeholders' role performance towards cassava research output uptake

	RS		AEA		AIS		CSF		CPP		CPM	
Variables	Corr	p-value	Corr	p-value	Corr	p-value	Corr	p-value	Corr	p-value	Corr	p-value
Level of education	0.372*	0.016	0.476*	0.036								
Years of experience			0.210*	0.012								

Linkages	0.727**	0.000	0.813**	0.000	0.604**	0.001	0.787**	0.000	0.372*	0.018	0.291**	0.003
Perception	0.064	0.787	0.412**	0.000	0.659**	0.000	0.402**	0.000				
Motivation	0.304*	0.018	0.419*	0.011	0.500**	0.009						
Group membership					0.332*	0.019						
Age											0.185	0.002

Source: Computed from field survey, 2021

Table 4b
Result of regression analysis of factors influencing stakeholders' role performance towards cassava research output uptake

Variable	Regr	P-value	Regr	P-value	Regr	P-value	Regr	P-value	Regr	P-value	Regr	P-value
Level of education			0.301*	0.035								
Linkages	0.771*	0.014	0.605**	0.000	0.258*	0.029	0.744**	0.000	0.445	0.019	0.315	0.004
Perception			0.365*	0.014	0.752	0.022						
Motivation			0.291*	0.017								

Source: Computed from field survey, 2021

Correlation and regression analysis in Table 4a shows that there exists a positive and significant relationship between role performance of stakeholders and level of education (r=0.372), linkages used to disseminate information on new cassava technology and its uptake (r=0.727, b=0.771), years of experience (r=0.210), professional membership (r=0.332) and motivations (r=0.500). Meanwhile, there was negative and significant relationship between role performance of stakeholders with age of the stakeholders (r=-0.327). Result from regression analysis in Table 4b reveals that there exists a significant influence of some factors on role performance of

stakeholders towards uptake of research output on cassava. Such related factors are job experience, level of education, linkages and motivational/incentives factors.

Conclusion and recommendations

Based on the findings of the study, it can be concluded that, there is a positive and significant relationship between role performance of cassava stakeholders and investigated variables such as linkages used, availability of motivation and perception to cassava research output uptake in Oyo State.

The following recommendations were deduced;

1. Cassava agriculture should be both production-demand driven approach rather than focusing on production approach alone. Production, processing, storage and marketing process of cassava should be harnessed together to improve its agribusiness potential.
2. Cassava innovation-adoption platform should be established for implementation and operation, so as to promote interaction of stakeholders in all phases of cassava production.
3. A strong institutional and human capacity that is central to planning, managing and monitoring is essential to capture the needs of various stakeholders: policy makers, producers, input and output traders, processors, consumers and other stakeholders involved in transformation of agriculture.
4. Providing incentives to encourage local manufacturing of farm inputs through industrialization policy and encourage private sector participation in the distribution system with access to agricultural development fund

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