SKILLS IN AGRICULTURE: A PANACEA TO FOOD PRODUCTION AND SUSTAINABILITY IN NIGERIAN CORRECTIONAL FARM CENTRES

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Abstract

The purpose of this study was to assess the skills in agricultural education as a panacea for food production and sustainability in Nigerian Correctional Centres. The study was conducted in four correctional farm centres under two Zones of the Correctional Service namely Zone G and Zone E which are located at Benin City, Edo State and Irete, Imo State respectively, all in Nigeria. The study adopted descriptive survey research design with a sample of 120 staff. The copies of the questionnaire were administered to the respondents. Data collected were analyzed using percentage, mean, and standard deviation. The Correctional farm centres in Ibite-olo, Orreh, Ozzalla and Elele were visited for this work., It was observed that majority of the staff in these farm centres are within the active age of 25-50 years, which made it possible for these staff to fit in properly in the activities going on in the farm centres. The findings of the study revealed among others that the skills in agriculture are needed in the correctional farm centre since most of the staff who are supposed to impart these skills are found wanting in the skills needed in farming activities. Based on the findings of the study, it was recommended among others, that Nigerian correctional service, should recruit applicants with skills in Agriculture in their farm centres for proficiency and productivity of inmates.

Keywords: Food, Sustainability, Agriculture Education, Correctional Farm, Correctional Staff

Introduction

The global population has been expanding rapidly for many years, standing at 8.2 billion in 2022. This rise has great effect in food production and sustainability. Therefore, the need for more food and supply of food has become a major concern across all countries (Ruben & Delmy, 2018). There are decrease in food production in developing countries and increase in the price of food due to insecurity (Ojo, 2016). The amount of food an individual can consume is largely determined by that individual's standard of living. Of course, this concept also applies to developing nations as a whole, which Nigeria is inclusive. In order to provide adequate food supplies for future generations, skills are needed in area of food production.

Skills can be seen as special abilities in a given occupation acquired through learning and practice (Samuel, 2017). In the view of Ogbuanya and Bakari (2014), skill refers to individual's capacity to control element of behavior, thinking and feeling within specified contexts and within a particular task domain. Skills refer to unique abilities gained through committed learning and practice which enable an individual to be proficient in his work role in a chosen vocation. Skills in Agriculture are paramount for the youths not only for them to create jobs for themselves, but also to become employers of labour. Youths who acquire skills in fish farming, poultry, snail rearing, animal feed production, crop production, among others, can create job opportunities for themselves and others thereby contributing to poverty reduction, economic development of the nation, food production and food sustainability.

Sustainable is a popular and much used word these days not only being used in relation to food production, but also for sustainable energy sources, sustainable fuel systems, or environmentally sustainable, etc. Regardless of definitions and beliefs, food sustainability is about producing food at a level that is enough to maintain the human population. Sustainable food production is fundamentally dependent on the availability of fertile land, water, nutrients, and an adequate climate. Agricultural activities depend heavily on the available favourable natural resources for crop cultivation and animal rearing with aim of food production. .Agricultural skills acquisition is one of the major objectives of reformation, rehabilitation and reintegration of convicted inmates in Nigerian Correctional Service. These objectives are psychological, social, technical, vocational and economic in nature

Nigerian Correctional Service, has realized that to put people behind walls and bars and do little or nothing to change them is to win a battle but lose a war (Shajobi-Ibikunle, 2014). The author asserted that it was not only wrong but also expensive and stupid to neglect this fact. Therefore, a penal system that incarcerates offenders without reforming them is self-defeatist. Correctional Custodial Centres are omni- disciplinary in nature in that they purport to transform the individual criminal into a normal law abiding citizen by altering the individuals attitude towards work, physical training, and behavior (Dambazu, 2007). The Nigerian Correction Service with the major objective of reformation and rehabilitation of convicted inmates, is for these inmates to render services to the society they belong to, while serving the nation. The Nigerian Correctional Service sets out some coordinated programs that will improve the skills acquisition of the convicted inmates; which improve the psychology, social, technical/vocational and economics values of the inmates (Abba, 2016). Agricultural activities fall within technical/vocational and economics programs outline to assists prisons inmates in Nigeria.

According to the Nigeria Prison Service Manual (2016), agricultural section of the Correctional Service is saddled with the responsibility of training prisoners in agricultural activities in large scale mechanized farming to actualize sustainability in food production. Agricultural section of the Nigerian Correctional Service was established in 1976 with the primary objective of training prisoners in modern farming techniques and livestock productions in order to prepare them for easy rehabilitation on discharge from the custodial centres to contribute towards the nation's effort of attaining self-sufficiency in production and in generating revenue for the government. Agriculture and its activities in Nigerian Correctional Farm Centres have the potential to be the industrial and economic springboard from which inmates take off when their jail term is completed because of the multifunctional nature of agriculture. Agriculture is a key sector that has a positive impact on the majority of Nigerians (Okolo, 2004).

The Nigerian Correctional Department established 12 mechanized farm centres, each with land area of 60 – 2300 hectares in different parts of the country. Nine out of the 12 have livestock projects, raising different species of animals, like cattle, sheep, goat, poultry and pig farming in order to achieve the above-mentioned objective of the Correctional Service. Despite having all these projects on ground, the Correctional Farm Centre has not produced food that will be sufficient for inmates in Custodial Centre across the country and still lacks sustainability in food production. Moreover, inmates who finished serving their jail terms in farm centre still commit another crime that will bring them back to Correctional Custodial Centre or they are killed by the security agents. This is because the skills needed in agricultural activities elude them due to lack of skilled personnel to administer technical know-how on them. Similarly, there is no synergy between Nigerian Correctional Farm Centre and the universities in Nigeria that offers Vocational Agricultural Education (Nigeria prison manual, 2012). Deployment of staff to farm centre is not based on the educational qualification that is relevant in farm centre (Benjamine, 2019). In view of these problems, this study focuses on the skills in agriculture: a panacea for food production and sustainability in Nigerian Correctional Farm Centres.

Purpose of the Study

The purpose of this study was to determine the skills in agriculture as a panacea to food production and sustainability in Nigerian Correctional Farm Centres. Specifically, the study sought to determine:

1. Social –demographic characteristic of Correctional Staff working in Correctional centres
2. Agricultural activities available in the Nigerian Correctional Farm Centres under study
3. Skills Possess by Staff in Agriculture in line with their farming activities in the farm centres
4. Staff expertise in imparting modern skills in agriculture to inmates

Methodology

The study adopted descriptive survey research design. Descriptive Survey research design is often employed to describe and explore human behavior in social and psychological research (Singleton & Straits, 2009).Survey research involved the collection of information from a sample of individuals through their responses to questionnaire (Check & Schut 2021). The researcher structured questionnaire titled Skills in Agricultural Education a Panacea to Food Production and Sustainability in Nigerian Correctional Centres was used to elicit response from staff within the period of 4 months (December 2020 – March 2021) in which this study was carried out. The area of study covers the Correctional farm centres in Zone G and Zone E. The headquarters of both zones are located at Benin city,

Edo State and Irette, Imo State respectively. Zone G covers these states like Enugu, Anambra, Delta, Ebonyi and Edo, with two farm centres at Ozalla and Ibite-Olo while Zone E covers these State like Abia, Cross River, Akwa Ibom, Bayalesa, Rivers and Imo with three farm centres at Adim, Orrehre and Elele. The climatic factors and soil fertility of these areas support wide range of different crop production. The target population for the study was 560 comprising all the staff from the four correctional farm centre, that is, Ibite-olo, Orreh, Ozalla and Elele. Proportionate sampling techniques was used to select a target population of 120 staff, comprising 30 from each of the four farm centres; Ozalla farm centre, Ibite-Olo Farm Centre, Orreh Farm Centre, and Elele Farm Centres. Frequency, percentage, mean statistic and standard deviation were used in the analysis of the data collected. The decision is that any item whose mean is less than 2.50 indicates rejection, showing lack of skill while any item whose mean is greater than or equal to 2.50 indicates acceptances, showing presence of skills.

Result

Table 1.Social Demographics Characteristic of Correctional staff working in the Farm Centre

S/N	Social- Demographic Characteristics	Percentage (%)
1.	Male staff working in the farm centres	100
2.	Female staff working in the farm centres	0.00
3.	Staff age between 20 ---30 years	38.5
4.	Staff age between 31 ---40years	35.5
5.	Staff age between 41 ---50 years	20.8
6.	Staff age between 51 –60 years	05.0
7.	Staff with 1 –10 years length of services	29.0
8.	Staff with 11 –20 years length of service	41.0
9.	Staff with 21—30 years length of service	25.0
10.	Staff with 31 – 35 years length of service	5.00
11.	Staff with WASCE/NECO qualification	24.0
12.	Staff with A level, NCE,ND qualification	30.0
13.	Staff with Masters degree qualification	8.0
14.	Staff with doctorate degree qualification	1.0
15.	Staff with DVM qualification	2.00
16.	Staff who study agricultural related courses	25.0
17.	Staff whom their qualification is not related to agriculture	75.0

Table 1 reveals that all respondents were male. This reflects a male-dominated workforce in the Nigerian Correctional Centre Farms. A sizeable proportion (38.5%) and (35.5%) of the respondents was within the age of 21- 30 and 31- 40 years respectively. The majority (89.5%) of the respondents were married. This implied that the selected farm centres are populated with married employees which could help

them focus better to achieve the correctional objectives. The table further reveals that (23.0%) of the respondents had Secondary School Certificate, (30.0%) had national diploma (ND) and National Certificate in Education (NCE), while 31.6% had Higher National Diploma (HND),8% had Bachelor of Science (B.Sc.), 2% DVM and1% had Ph.D.

Table 2: Agricultural Activities Carried-Out in the Farm Centres

S/N	Agricultural Activities Available	$\overline{X}$	SD	Decision
1.	Cassava farming	3.57	0.62	SA
2.	Maize farming	3.68	0.48	SA
3.	Rice farming	3.98	0.93	SA
4.	Oil palm production	3.01	0.42	SA
5.	Pineapple farming	3.61	0.47	A
6.	Plantain farming	3.27	0.64	A
7.	Pepper farming	3.56	0.62	A
8.	Cowpea farming	3.14	0.56	A
9.	Vegetable farming	3.15	0.56	SA
10.	Yam farming	3.68	0.48	SA
11.	Groundnut farming	3.14	0.56	A
12.	Piggery	3.16	0.55	SA
13.	Sheep rearing	3.15	0.56	SA
14.	Goat rearing	3.16	0.55	SA

***Key** X: Mean; SD= Standard Deviation; SA= Strongly Agree; A= Agree; N=120*

Table 2 shows that mean value of 14 items ranged from 3.14 to 3.98 on 4-point rating scale. This indicated that, these Agricultural activities were carried-out in the four Correctional Farm Centres. These activities include: cassava farming, maize farming, palm oil production, cowpea farming, vegetable farming, plantain farming, pineapple farming, pepper, yam farming, rice farming, piggery, goat rearing and sheep rearing.

Table 3: Skills Possess By Staff in Agriculture in Line with their Farming Activities in the Farm Centres

S/N	Farming Activities	$\overline{X}$	SD	Remarks
1.	Cassava farming	4.16	0.69	Agreed
2.	Maize farming	4.68	0.48	Agreed
3.	Rice farming	3.98	0.93	Agreed
4.	Oil palm production	4.01	0.98	Agreed
5.	Pineapple farming	2.21	1.18	Disagreed
6.	Plantain farming	1.21	0.68	Disagreed
7.	Pepper farming	1.13	0.60	Disagreed
8.	Cowpea farming	2.19	1.18	Disagreed
9.	Vegetable farming	4.15	0.82	Agreed
10.	Yam farming	4.68	0.48	Agreed
11.	Groundnut farming	1.21	0.63	Disagreed
12.	Piggery	4.16	0.69	Agreed

13. Sheep rearing	4.15	0.82	Agreed
14. Goat rearing	4.16	0.68	Agreed

Key X= *Mean; SD= Standard Deviation ;SA= Strongly Agree; A= Agree; N=120*

Table 3 above shows the mean value and standard deviation of skills possessed by staff working in the farm centres, The result shows that the mean of all the items are greater than the criterion mean value of 2.50. Standard deviation values showed homogeneity in their responses.

Table 4: Staff Expertise in Imparting Modern Skills in Agriculture to the Inmates

S/N	Modern Agricultural Techniques	$\bar{x}$	SD	Remark
1.	Crop production	3.31	0.72	S
2.	Application of pesticides, herbicides,	3.16	0.76	S
3.	Application of fertilizer	3.44	0.71	S
4.	Irrigation application	1.94	0.92	NS
5.	Crop Storage	3.12	0.77	S
6.	Crop processing	3.44	0.71	S
7.	Farm hygiene	1.84	0,80	NS
8.	Crop processing	2.12	0.89	NS
9.	monoculture	2.30	0.97	NS
10.	Marketing	1.83	0.80	NS
11.	Animal nutrition	1.91	0.83	NS
12.	Poly house / poly tunnel	1.94	0.92	NS
13.	Hybrid seed	1.17	1.41	NS
14.	Drone usage	1.84	0.80	NS
15.	Tissue culture	1.91	0.83	NS
16.	Aquaponic	2.00	0.99	NS
17.	Genetic engineering	1.83	0.80	NS

*Key : **x -** Mean; SD= Standard Deviation ;S= Skillful; NS= Not Skillful; N=120*

The data presented in Table 4 reveals that the mean ratings of the respondents on items 1, 2, 3. 5 and 6 in the Table were 3.31, 3.16, 3.44, 3.12 and 3.44. This indicated that the respondents agreed that items 1, 2, 3, 5 and 6, staff are skillful and professional in imparting modern agricultural techniques. While items 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16 and 17 reveals that correctional staff lacks the expertise in imparting modern agricultural techniques.

Discussion

Table 1 shows a sizeable proportion (38.5%) and (35.5%) of the respondents were within the 21- 30 and 31- 40 age bracket respectively. This implies that the majority of the respondents were still within their middle, economically productive age and thus had the ability to synthesize and supply relevant information/instructions to inmates. The findings were in agreement with Prstawetz*, et al* (2008) who stated productive working age lies within 20 to 40 years of every human begin. About 41% of the respondents had worked between 11 and 20 years in the Correctional Farm Centre. This implies that respondents had worked long enough in the centres to have acquired enormous experiences in the activities of Correctional Farm Centre and they can provide the necessary information required for this study. This is in line with Francis (2004) who emphasized that the longer a staff works within a department, the more experience he will be in that area.

The table further reveals that (23.0%) of the respondents had Secondary School Certificate, (30.0%) had National Diploma (ND) and National Certificate in Education (NCE), while 31.6% had Higher National Diploma (HND), 8% had Bachelor of Science (B.Sc.), 2% DVM and1% had Ph.D. Furthermore, 25.0% of the respondents are agricultural science inclined whereas only 2% of working in the Correctional Farm Centres possess vocational agricultural education degree. The implication of this finding is that, generally speaking, the respondents had relevant educational qualification to work in the Custodial centres not in the farm centre. This is in agreement with Nweze (2012) who stated some correctional staff choses where to work and not where their proficiency is needed. This implies that the correctional farm centres were populated with 'workers' that are supposed to be in custodial centre, National and

State Headquarter whereas those that possess the skills in agricultural education are not found in the farm centre.

Table 2 shows Agricultural activities carried-out in the correctional farm centres ranging from cassava farming, maize farming, palm oil production, cowpea farming, vegetable farming, plantain farming, pineapple farming, pepper, yam farming, rice farming, piggery, goat rearing and sheep rearing. Presence of these activities is an indication that the management of the Correctional Farm Centres had put in place avenues to effective teaching of inmates on practical agriculture that is imparting skills in areas of crop production and animal husbandry for food production and sustainability The findings were in line with Nigerian Prisons Service, (2016*)* that reported crop production and animal rearing across the farm centres.

Table 4 revels that staff of Correctional Centres have a limited practical knowledge of some modern techniques in agriculture when it comes to application of pesticides, herbicides and fertilizer with the use of machine like knapsack sprayer, crop production, crop processing, farm hygiene, animal nutrition and marketing of agricultural products. But when it comes to modern techniques like poly house/ poly tunnel, monoculture, tissue culture, use of drone, hybrid seed, aquaponic and genetic engineering, staff's level of knowledge and skills is alarming. This is agreement with Nweze (2012) who stated that staffs who work in the farm centre are not regularly train for maximum impact. Table 4 reveals also Staff lacks the expertise in training the inmates on practical application of those knowledge which is one of the main aim of the Nigerian Correctional Service in establishing the farm centres. This is also in agreement with Nweze (2012) who stated that Nigerian Correctional Service has fallen short, when it comes to sending staff to advance courses needed in every aspect of the job, especially staff who works in the farm.

Conclusion

The findings of study have reveals that the Nigerian Correctional centres has provided adequate farm areas, machines for training inmates and enough staff, who are young and energetic to impart skills to inmates but these staff lacks the required skills and knowledge in modern agricultural techniques thereby limiting the primary objective of establishing Correctional Farm Centre to serve as a training ground for convicted inmates and increase food production and sustainability

Recommendations

The following recommendations were suggested based on the findings of the study

1. There should be synergy between the Nigerian Correctional Service and universities in Nigeria that offers agriculture, so that student will be sent to Correctional Farm Centre for industrial attachment.
2. Nigerian Correctional Service should recruit staff with degree in Agriculture in farm centres for proficiency and productivity.
3. Nigerian correctional service should send their staff to universities offering Vocational Agriculture for training and retraining in modern farming.

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