REQUISITE SKILLS NEEDED BY YOUTHS TO PARTNER WITH GOVERNMENT IN LAND RECLAMATION FOR EMPOWERMENT IN AGRICULTURE AND SUSTAINABLE ENVIRONMENT IN BENUE STATE.

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Abstract

The study identified requisite skills needed by youths to partner with government in landreclamation for empowerment in agriculture and sustainable environment in Benue State. The study was guided by two research questions and two research hypotheses. Questionnaire survey design was adopted for the study. The population for the study was 275 and a sample of 163 respondents was drawn from the population using Yaro Yamene formular. The instrument for the study was titled "Requisite Skills for Land Reclamation Questionnaire-RSLRQ" was validated by three experts for face and content validity. Cronbach Alpha reliability method was used to determine the internal consistency of the instrument. A reliability coefficient of 0.86 was obtained. Two research assistants assisted in the administration of the questionnaire on the respondents. The 163 copies of the questionnaire were administered on the respondents and data collected were analyzed using means to answer research questions and t-test statistics to test the null hypotheses. The study identified 26 requisite skills for land reclamation for example identification of biodegradable waste, digging up of back-fill, compacting of back-fill. The study also identified 10 practices that can promote sustainable environment to include prevention of indiscriminate dumping of solid waste among others. T-test statistics was used to test the null hypotheses at 0.05 level of significance at degree of freedom of 161. The study recommended among others adoption of environmental friendly practices that promote environmental sustainability.

Keywords: Skills, partnership, empowerment, agriculture, youth, land reclamation, sustainable environment.

Introduction

The competing demand on land for various uses including urbanization, industrialization, road constructions, make land inadequate for people including youths to engage in agricultural production. The problem of land inadequacy for agriculture is often compounded by erosion, cut surfaces (disturbed soils), poorly formed soils with hard pan, and abandoned lands. The need for increase food production makes it imperative for the adoption of strategies that could restore or enhance land usehence the need for land reclamation. Land reclamation refers to the various programmes or activities aim at restoring the ground (soils) that has been disturbed or cut(Raven, Berg & Johnson, 1998). The authors noted that land reclamation involve backfilling with back-fill and reseeding of the restored land. Backfilling is the action of filling excavated trench or hole or erosion devastated sites with natural and artificial materials. Back-fill on the other hand is natural and artificial mixture of materials consisting of hard, durable particles of sand, stone, silt or compost. Equipments such as bulldozers, scrappers, graders, seeders are used to reclaim mined sites, coastal areas on a large scale. The major advantage of land restoration according to Geoland Supply (2010) is to make much land available for agriculture and other purposes. In the context of this paper, land reclamation is targeted at the youths and emphasis is place on the use of simple tools/equipments and the use of biodegradable household waste for reclamation activities. Such simple tools

include wheelbarrow, spade/shovel, hoe, rammer and pick-axe. Land reclamation will potentially make land available for agriculture thereby giving the jobless youths a source of livelihood.

Youths are a group of people characterized by freshness, and vitality (Enwere and Obida in Agbulu, Asogwa and Ekele, 2013). The United Nations (2015) sees youth as a transitional period from dependence of childhood to adulthood independence. The youths fall within the active age bracket of 15-24 years. The youths are a group of young people who are dependent on their parents because they have no means of livelihood (unemployment or joblessness).The joblessness often push them to engage in social vices such as prostitution, arm robbery, thuggery and kidnapping to earn a living. The freshness and vitality of the youths given requisite skills needed for land reclamation will turn around their socioeconomic status. The requisite skills are important because land reclamation involves series of activities that are obviously lacking in our youths.

Requisite skills are learned abilities necessary, mandatory, compulsory, essential or indispensable to carry out a particular task with determined results often within a given amount of time, energy or both (Hornby,2010). For success in land reclamation requisite skills in the areas of identification of sites for reclamation, backfilling and re-vegetation are needed. To encourage land reclamation in youths, government is expected to partner with relevant agencies in this direction. Partnership here means individual contributions in complementing government commitments towards land reclamation and a sustainable environment. The extension agents are the major partners with government in this direction. An agricultural extension agent is a trained person or a professional who collects innovative farming ideas and techniques from research institutes and disseminates to farmers (Are, Igbokwe, Asadu, & Bawa, 2010). That is he or she is an intermediary between research institutes and farmers. Notable among his duties include conducting and organizing training for farmers, teaching of improved farming practices and demonstrating of innovations to farmers. In this partnership, extension agents are expected to train the youths/farmers on skills for erosion control, waste management, and land reclamation (Fetters, 2015). Training in the areas mentioned above will facilitate the adoption of practices that can promote sustainable environment.

Environment (physical) is our surrounding which include the land, water and atmosphere (Raven, Berg and Johnson, 1998).When a resource is used in such a way that it is not depleted or damaged permanently, the resource is said to be sustainable. It embraces using something through time, keep it going or extending the duration of use of a particular thing. Sustainable environment can be deduced from the above to mean capabilities that the natural environment has to maintain the living conditions for people and other species (clean water and air, a sustainable climate). Philip (2004) asserted that, the need for a sustainable environment is to prevent threats and damage or destruction of the environment because damage to one part of the environment whether living or non-living is capable of affecting other parts in subtle or unknown ways, thus the need for a sustainable environment or conservation.

Challenges that obviously confront sustainable environment include oil spills, toxic waste dumping, contamination of soil, air and water, poor land use, erosion, solid waste dumping (Ngozi-Oleni, Atama, & Okenyi, 2011). Upa (2011) opined that, because of the importance or usefulness of the physical environment to our wellbeing, both conservative and restorative actions be put in place to sustain our environment. Philip (2004) and Upa (2011) suggested means of sustaining the environment to include; planting of grasses, cover cropping, zero tillage, planned grazing system, application of natural inputs, tree planting,

avoiding tearing up of the soil, proper farming techniques among others. They have maintained that the above mentioned measures can tremendously enhance nutrient cycle, water cycle, natural water purification, soil protection and aesthetic quality of the environment. The sustained environment has the capacity of empowering the youths in agriculture for economic gains. This will help in curbing the over dependence on their parents and social vices the youths often indulge in.

Empowerment means multi-dimensional social processes that help people gain control over their lives (Page and Czuba 2015). It fosters power (capacity to implement) in people for use in their lives, communities and societies. Empowerment is to provide with a means or opportunity or training that enable people to earn a living. Agriculture deals with the cultivation of crops and tending of livestock for the purpose of food and fiber production for man (David, Mentel, Michael and Marco, 2014). Empowerment in agriculture refers to occupations or job opportunities in vocational agriculture that helps people to earn a sustainable living in agriculture. The opportunities are in the occupational areas of crops and animals production. Osinen in Agbulu, Asogwa, and Ekele (2013) identified various agricultural occupations to include horticulture, landscaping, natural resource management, and animal and crop production. This study is necessitated by the need to availing the youths with requisite skills they need to partner with government in the area of land reclamation for empowerment in agriculture and sustainable environment in Benue State.

Statement of the Problem

Youths in the state and elsewhere in the country fall within the active age of 15-24 years. A stage in life confronted with numerous challenges like thuggery, arm robbery, prostitution, kidnapping among others in order to earn a living. This negative trend in behavior is always blamed on unemployment or absence of sustainable means of livelihood.

Observation by the researchers revealed that some of the youths are either secondary school graduates/drop-outs, or graduates of tertiary institutions. This suggests that some of the youths are aware of job opportunities in agriculture or must have read agriculture related courses expected to equip them with the basic skills in vocational agriculture-in areas of crop and animal productions. In spite of job opportunities and skills learnt in agriculture, youth's level of involvement in agriculture is not satisfactory. Issues and questions that readily come to mind are if the youths are aware of agricultural opportunities, what is hindering them from taking advantage of the several opportunities in agriculture? Do they not have land that is required for production? Do they lack skills that can convert abandoned or disturbed spaces (land) into productive use? These questions are numerous and must be answered as a way forward for the youths.

The researchers interacted with some youths and discovered that their major problem is the inadequate land (space) to put into practice knowledge gained in agriculture. To bridge the gap between knowledge, practice and the problem of land unavailability, it is expedient to restore disturbed or abandoned lands into productive use. But can this be without identifying the skills for land reclamation? In view of this, the study identified skills needed by youths for land reclamation for empowerment in agriculture and sustainable environment.

Purpose of the Study

The purpose of the study was to identify requisite skills needed by youths for land reclamation for empowerment in agriculture and sustainable environment in Benue State. Specifically, the study identified:

1. Skills needed by youth for land reclamation in Benue state.
2. Practices that promote sustainable environment in Benue state.

Research Questions

The study answered the under listed questions;

1. What are the skills needed by youths for land reclamation in Benue state?
2. Are there practices that can promote a sustainable environment in Benue state?

Research Hypotheses

The study tested the two null hypotheses below.

1. There is no significant difference in the mean responses of farmers and extension agents on skills needed by youths for land reclamation in Benue state.
2. There is no significant difference in the mean responses of farmers and extension agents on practices that can promote a sustainable environment in Benue state.

Methodology

The research adopted a survey design which used questionnaire as an instrument for data collection. The design availed the researchers and research-assistants opportunity to ensuring that the actual respondents were used, and aided in clarification of respondent's doubt. The study was guided by two research questions and two null hypotheses. The study was carried out in Katsina-Ala Local Government Area of Benue State; which comprised of 3 major divides – The Shitile, the Ikyurav-Tiev and the Tongov. The population for the study was 275 respondents made up of 215 crop farmers and 60 extension agents (Benue State Agricultural and Rural Development Authority, BENARDA, 2012). A sample of 163 was drawn from the population using a proportionate stratified random samplings technique; 127 farmers while 36 extension agents were sampled using Yaro Yamene formular. The adoption of this technique was due to the fact that different groups were used, and it gave room for greater and equal representation. The entire sample of 163 was used.

The instrument used wasself structured Questionnaire titled: Requisite Skills for Land Reclamation Questionnaire (RSLRQ). A 36-item questionnaire with 4 points response options of strongly agree (4), agree (3), disagree (2), and strongly disagree (1) was developed.The instrument was validated by 3 experts, one lecturer from the department of Agricultural Education, College of Education Katsina-Ala, one Extension agent for content validity and one from the Ministry of environment for face validity. Corrections and observations made by validates were used to produce the final questionnaire. Cronbach Alpha Reliability method was used to determine the internal consistency of the instrument. A reliability coefficient of 0.86 was obtained.

The researchers were assisted by 2 research assistants, who were instructed on what to do in the course of administration and retrieval of the questionnaire. A total of 163 copies of questionnaire were administered on the respondents and the copies all retrieved. The questionnaire items on skills for land reclamation and practices that promote sustainable environment were answered by both extension agents and farmers.

The data collected were analyzed using mean to answer research questions and a bench mark of 2.50 was used to determine the level of acceptance or otherwise rejection for each item. Any item with a mean score of 2.50 or above was accepted, while any item with mean score below the bench mark was rejected. T-test statistics was used to test the null hypotheses at 0.05 level of significance at the degree of freedom of 161.

Results

Research question 1: What are the skills needed by youths for land reclamation in Benue state?

Research Hypothesis 1: There is no significant difference in the mean responses of farmers and extension agents on skills needed by youths for land reclamation in Benue state.

Table 1: Mean rating and t-test analysis of responses of farmers and extension agents on skills needed by youths for land reclamation in Benue state.

S/no	Item statement	X_1	SD_1	X_2	SD_2	X_G	t-cal	t-cri	Dec.
	Sites for reclamation								
1.	Identify excavated areas for construction.	2.84	.86	2.80	1.09	2.82	0.20	1.64	accepted
2.	Identify abandoned parks, factory sites and roads.	2.67	1.21	3.17	0.72	2.92	-3.11	1.64	accepted
3.	Identify partially eroded sites.	2.86	0.94	2.54	1.18	2.70	1.30	1.64	accepted
4.	Identify sites with hard pan.	3.17	0.78	3.11	0.97	3.14	0.30	1.64	accepted
	Backfilling								
5.	Identify biodegradable house waste or refuse for backfilling.	2.78	0.93	2.58	1.15	2.68	0.96	1.64	accepted
6.	Prepare compost manure for surface dressing.	2.85	1.08	2.83	1.13	2.84	0.09	1.64	accepted
7.	Identify stones/rocks for inner surface laying.	2.78	0.78	2.72	0.95	2.75	0.35	1.64	accepted
8	Identify sand/silt for backfilling.	2.85	0.66	2.70	0.98	2.78	0.86	1.64	accepted
9.	Map out the area to be reclaimed.	3.17	1.02	3.09	1.02	3.13	0.42	1.64	accepted
10.	Dig up back-fill into a heap using a hoe or pick-axe.	2.73	0.97	2.93	1.13	2.83	-0.97	1.64	accepted
11.	Loadback-fill into wheelbarrow using a spade/shovel.	3.15	0.86	2.95	0.87	3.05	1.22	1.64	accepted
12.	Convey the back-fill to site for reclamation.	2.91	1.21	2.71	0.99	2.81	1.02	1.64	accepted
13.	Lay the inner cut surface with stones or rocks for stability (eroded areas only).	2.84	1.14	2.87	0.95	2.86	-1.16	1.64	accepted
14.	Tip sand/silt (back-fill).	2.67	1.02	2.78	0.96	2.73	-0.60	1.64	accepted
15.	Spread back-fill evenly with a big hoe up to 20cm.	2.71	0.94	2.54	0.76	2.63	1.12	1.64	accepted
16.	Compact sand/silt with a rammer.	3.15	0.83	2.93	1.03	3.04	1.18	1.64	accepted
17.	Tip biodegradable house waste or refuse materials.	2.84	1.02	2.64	0.94	2.74	1,11	1.64	accepted
18.	Evenly spread it up to 15cm.	2.91	0.94	2.95	1.05	2.93	0.31	1.64	accepted
19.	Press firmly using a rammer.	3.15	0.83	2.76	0.94	2.96	1.10	1.64	accepted

20.	Spread compost over the backfilled up to 1cm.	2.84	0.86	2.71	0.91	2.78	0.77	1.64	accepted
	Re-vegetation								
21.	Importjuvenile grasses/legumes (4-6cm in height) from the wild.	2.91	1.00	2.67	0.82	2.79	0.53	1.64	accepted
22.	Transplant the grasses/ legumes at a spacing of 20x20cm.	2.84	1.00	3.17	1.02	3.01	-1.72	1.64	accepted
23.	Broadcast seeds of any desired specie.	2.76	1.14	2.84	1.06	2.80	-0.39	1.64	accepted
24.	Work sown seeds into the ground using a hoe.	2.71	0.99	2.58	1.34	2.65	0.54	1.64	accepted
25.	Allow the vegetation to establish well.	2.95	0.99	2.78	0.79	2.87	1.07	1.64	accepted
26.	Use the reclaimed land after one year.	2.87	0.95	2.93	0.84	2.90	-0.37	1.64	accepted

X_1, SD_1 and N_1=Mean, standard deviation and number of farmers, X_2, SD_2, N_2=Mean, standard deviation and number of extension agents, X_G=grand mean of farmers and extension agents.

Table 1 showed that the 26 items had their grand means between 2.63 and 3.14 which is above the bench mark of 2.50. This indicates that all the items are skills needed by the youths for land reclamation. The results also revealed that all the items had their t-calculated values between -0.37 and 1.30. This indicates that all the items had their t-calculated values less than the t-critical value of 1.64. Therefore the null hypothesis of no significant difference in the responses of farmers and extension agents on skills needed by youths for land reclamation was not rejected.

Research question 2: Are there practices that can promote a sustainable environment in Benue State?

Research Hypothesis 2: There is no significant difference in the mean responses of farmers and extension agents on practices that can promote a sustainable environment in Benue State.

Table 2: Mean rating and t-test analysis of responses of farmers and extension agents on practices that can promote a sustainable environment in Benue state.

S/no	Item statement	X_1	SD_1	X_2	SD_2	X_G	t-cal	t-cri	Dec.
1.	Control of soil erosion.	2.80	1.09	2.84					
2.	Prevention of soil/water pollution by avoiding toxic and contaminated waste dumping.	3.17	0.72	2.96	0.83	3.07	1.38	1.64	accepted
3.	Prevention of air pollution by avoiding open air burning.	2.54	1.18	3.15	0.98	2.85	-3.14	1.64	accepted

4.	Prevention of indiscriminate dumping of solid waste.	3.11	0.97	2.84	1.07	2.98	1.36	1.64	accepted
5.	Maintenance of soil fertility by applying manures/fertilizers.	2.58	1.15	2.91	0.93	2.75	-1.78	1.64	accepted
6.	Maintenance of biodiversity by conserving the natural environment.	2.85	1.13	2.78	1.03	2.82	0.35	1.64	accepted
7.	Adoption of proper farming techniques.	2.78	0.95	2.58	0.86	2.68	1.20	1.64	accepted
8.	Adoption of rotational grazing.	3.09	1.02	2.96	0.95	3.03	0.71	1.64	accepted
9.	Planting of grasses/legumes.	2.70	0.98	2.80	0.77	2.75	-0.65	1.64	accepted
10.	Planting of tress (afforestation).	2.98	1.13	2.69	0.94	2.84	1.56	1.64	accepted

X_1, SD_1 and N_1=Mean, standard deviation and number of farmers, X_2, SD_2, N_2=Mean, standard deviation and number of extension agents, X_G=grand mean of farmers and extension agents.

Table 2 showed that the 10 items had their grand means between 2.68 and 3.07 which is above the bench mark of 2.50. This indicates that all the items are skills needed by the youths for land reclamation. The results also revealed that all the items had their t-calculated values between -0.23 and 1.56. This indicates that all the items had their t-calculated values less than the t-critical value of 1.64. Therefore the null hypothesis of no significant difference in the responses of farmers and extension agents on practices that can promote sustainable environment was not rejected.

Discussion of Results

The study revealed 26 skills that can lead to land reclamation in Benue state. The 26 skills included: identify excavated areas for construction, identify abandoned parks, factory sites and roads, identify partially eroded sites, Identify biodegradable house waste or refuse for backfilling, prepare compost manure for surface dressing, dig up back-fill into a heap using a hoe or pick-axe, load back-fill into wheelbarrow using a spade/shovel, lay the inner cut surface with stones or rocks for stability (eroded areas only), spread back-fill evenly with a big hoe up to 20cm, tip biodegradable house waste or refuse materials, press firmly using a rammer, transplant the grasses/ legumes at a spacing of 20x20cm, broadcast seeds of any desired specie, work sown seeds into the ground using a hoe, allow the vegetation to establish well among others. The result was consistent with Raven, Berg and Johnson (1998) and Geol and Supply (2010) who recommended the use of waste/back-fill, compacting of back-fill, transplanting and broadcasting of seeds for re-vegetation to make more land available for agricultural production.

From the study, it also revealed that 10 practices can promote sustainable environment in Benue state. These practices included: control of soil erosion, prevention of soil/water pollution by avoiding toxic and contaminated waste dumping, prevention of air pollution by avoiding open air burning, maintenance of soil fertility by applying manures/fertilizers, maintenance of biodiversity by conserving the natural environment, adoption of proper farming techniques, adoption of rotational grazing, planting of grasses/legumes. The result is in accordance with Philip (2004); Are, Igbokwe, Asadu, and Bawa (2010); Upa (2011) who recommended protection against erosion,

proper farming techniques, rotational grazing and cover cropping as measures for sustaining the environment.

Conclusion

Based on the findings of the study, it was concluded that the Youths be trained in the 26 skills with the aim of addressing the unavailability of land confronting them. The youths need support in the areas of provision of credit facilities and materials to reclaim land for productive purposes. This will go a long way in solving problems facing them such as thuggery, prostitution and arm robbery. The youths and farmers also require a good knowledge of the environment in order to protect it for continues agricultural production for income generation.

Recommendations

Based on the findings of the study, the following recommendations have been put forward.

1. The identified skills be packaged by extension agents and used in training youths and other interested individuals in land reclamation.
2. Youths should be encouraged to take advantage of cheap local tools such as wheelbarrow, spade, and hoe, to go into land reclamation.
3. The use of biodegradable back-fill should be encouraged for land reclamation in order to reduce the problem of waste accumulation in our cities.
4. The youths should be enjoined to adopt environmental friendly practices that promote sustainability (application of compost, no dumping of toxic/ contaminated and solid wastes,) that could extend the use of our physical environment.
5. Non-governmental organizations and philanthropic individuals should support youth's efforts in land reclamation by making available tools and sponsoring genuine efforts aimed at capacity building for the youths.
6. Law makers should come up with legislation that will give youths access to all disturbed (excavated or abandoned lands,) free of charge for reclamation as an incentive.

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