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NON-FORMAL EDUCATION PROGRAMMES FOR MITIGATING ILLEGAL OIL REFINING ACTIVITIES IN KHANA LOCAL GOVERNMENT AREA OF RIVERS STATE

Stella George Feyii[1], Doreen Kobani, PhD[2]
Rivers State University, Nkpolu -Oroworukwo, P.M.B.5080
Faculty of Education,
Department of Adult Education and Community Development

ABSTRACT----------
This study examined Non-Formal Education Programmes for Mitigating Illegal Oil Refining activities in Khana Local Government Area of Rivers State. It adopted the descriptive survey research design. The population for the study was 453 respondents which comprised 300 members and 153 leaders of registered Community based organizations (CBOs) in Khana Local Government Area of Rivers State. The census approach was adopted to accommodate the entire population of the study as sample because it was a manageable size, representing 100% of the population. Five research questions were posed. The instrument used for data collection was a closed-ended structured questionnaire titled 'Non-Formal Education Programmes for Mitigating against Illegal Oil Refining activities Questionnaire (NFEPMAIORQ)'. The reliability of the instrument was determined through a pilot study, while Cronbach Alpha Statistic Method was used to establish the reliability coefficient (r) value of 0.68. Data collected were analyzed with mean and standard deviation statistics. The findings from the study revealed that to a high extent, environmental literacy, vocational skill development, health education, agricultural extension and entrepreneurship education programmes reduce illegal oil refining in Khana Local Government area of Rivers State. Based on the findings, the study recommended amongst others that: Ministry of environment should intensify efforts in funding environmental literacy programmes as strategy to raise the awareness of community inhabitants especially youthful members of oil producing communities on the impact of the illegal oil refining on the environment.

KEYWORDS: *Non-Formal Education, Non-Formal Education Programmes, Illegal Oil Refining.----------*

INTRODUCTION

The unfriendly activities of community inhabitants, particularly of youthful, ignorant members of communities constitute a very big threat to the sustainability of a healthy environment for the benefit of all and sundry in the community. In Khana Local Government Area of Rivers State, communities are confronted with challenges of climate change and depletion of natural resources including plants and animal species due to oil spillage, bush burning and soot emission in the air resulting from illegal crude oil refining activities. Naturally, community inhabitants obtain their livelihood from the natural resources that surround them since natural resources are prerequisite for a sustainable living.

Illegal crude oil refining is a small-scale or subsistent refining of crude oil over an exact range of boiling points, to produce useable products such as kerosene and diesel. Illegal crude refining which is also referred to as bush burning or kpor fire" as commonly called by the locals within the environment where it is been operated, has become a trend that the petroleum sector and the ministry of environment must address. Maclean and Wordu (2019) described illegal oil bunkery as a term used to illustrate the use of very old and unlawful process in which crude oil is boiled and the resultant fumes are collected, cooled and condensed in tanks to be used locally for lighting, energy or transport. This local refining skill is believed to have been drawn from the indigenous technology.

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However, Aminayanaba and Godwin (2013) noted that the illegal oil refinery system were developed to satisfy local demands for energy in the face of an unreliable national grade, high cost, sporadic scarcity of consumer fuel. It involves mostly traditional knowledge, skills and with little dependence on high end technology. These practices rely on stolen crude as the primary raw material. The unhealthy and unacceptable illegal ways of refining crude, has become common in the Niger Delta region of Nigeria, particularly within the host communities where the crude pipeline passes. This illegal activity is associated with severe environmental pollution. The local refining of crude oil has become a well-paid but 'troubling' business in communities across the oil producing states. In Khana Local Government Area of Rivers State, Camps are built inside the forests and used for the local refinement of crude oil.

The host communities are severely affected by the activities of the youths involved in artisanal crude oil refining as the sustainability of the environment is threatened hence, the aquatic lives have been destroyed and fishing settlements evacuated as a result of pollution of the water ways leading to the death of aquatic lives, crops and farm lands. Farm lands are being destroyed as the lands are being polluted by oil spillage. This dangerous crude way of refining oil has led to death of many people especially youths and has disfigured many who became victim of fire resulting from the unhealthy and unprofessional local ways of refining crude.

A good example is the ugly incident of fire outbreak resulting from the illegal process of refining crude on a Friday at about 8 p.m. in April, 2022, when no fewer than 100 people were killed after an illegal refinery went up in flames at Abaezi community in the Ohaji-Egbema Local Government Area of Imo State. Also, six vehicles were razed during the incident which threw the community into mourning. Nevertheless, Boris cited in Tombari, Batombari and Ketonye (2020) acknowledged that the lack of attention and virtual denial of petrodollar compensation aggravated the curiosity of most of the youthful inhabitants to set up illegal refineries for the refining of crude oil in some of the communities. This is same in communities in Khana Local Government Area of Rivers State. These individuals or groups of persons engage in siphoning crude oil from the oil pipes, refine it into other petroleum products such as diesel and kerosene for local markets to earn their living which according to Obenade and Amangabara (2014) is at variance to the position of hydrocarbon Oil Refineries Act 1965 that "no Refinery shall be operated or constructed in Nigeria without a license granted by the Minister."

Consequently, many researches have been conducted on illegal crude oil refining and its factors accountable for such unhealthy activities but none has focused on the more holistic remedy or strategies for discouraging the members of communities to shun such activities that constitute both health and environmental problems, and this has left an empirical gap that this study was designed to cover. On the other hand, any strategy adopted that is not targeted at educating and equipping youths with meaningful skills, knowledge required to make money or earn a better living, will proof abortive.

Educability which is one of the basic tenets when designing any genuine community development programme is according to Kobani (2021) the extent to which an individual is able to benefit from learning experiences, exposures and opportunities available to the individual since not everybody is able to integrate learning experiences in the same degree which would translate into positive transformation, attitudes and action patterns. Provision of long term and short-term means of remediation of learning opportunities missed at any point in life, for the benefit of everyone.
To Amirize and Kobani (2020) Adult education - formal, non-formal, informal, adult and lifelong variations, function around objectives, goals and values such as provision of means of self-discovery, self-advancement and self-actualization. According to Kalio and Kobani (2024) similarly, in other communities in Rivers State, especially, Kiriiyo, Isaka and other communities in Okrika Local Government Area, crude oil exploration activities have had some negative impacts on the people and communities at large. These communities are located where oil pipelines well heads are buried underground and some on the surface of lands and this makes them directly impacted by waste effluents from crude oil activities. Large scale gasflaring and indiscriminate discharge of oil spills as a result of illegal refining of oil, bunkering and thick oil clumps are seen floating all over the surface of the Creek especially around the mangrove and other prop rooted plants. It is unfortunate that this all important natural endowment which should have been a blessing to the people has in fact, become a curse to human life and the environment.

The people of the Niger Delta region who produce the bulk of the nation's wealth have continuously faced gross under development by Governments at all levels. Worst still, is the devastating impact of crude oil activities on the

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environment, economic and social lives of the people in the area. In recent years, there has been increasing rate of crude oil theft and refining by residents in host communities in Rivers State and Niger Delta region as a whole. One of such areas is Okrika Local Government Area of Rivers State. The prevalence of artisanal or illegal refining of crude oil has affected the area in no small measure (Kalio and Kobani, 2024). Mbagwu and Nwakire in Kobani and Alozie (2016) define non-formal education as any organized educational activity or training activity for school dropouts, for illiterate rural and urban adults, for youths, women, or individual workers aimed at improving their employment and income earning potentials, or giving them general education, which, in same cases, as desired may help them re-enter the formal system. According to Kobani (2018) the adult wants practical, functional literacy skills to solve economic, social, and political problems. He has a clear idea about what he wants to achieve from attending adult education classes. For this reason, the attendance at the literacy classes or adult education forum is voluntary and this facilitates motivation to persist, particularly where such an educational course is dictated by felt needs.

Abiodun and Allwalu (2015) noted that engaging youthful members of communities into diverse educational and youth skill development programmes to empower the youth with the knowledge and skills required to be economically relevant, can also be used as instrument for discouraging youths from illegal means of livelihood. Therefore, there is need to shift emphasis from conventional security approach to embrace relevant, functional, non-formal education programmes to reach out to community inhabitants, mostly the youths and adults in communities who may have gone to school already but have no meaningful job or never had an opportunity to attend school earlier but rely on illegal oil refining for survival in the communities. Reaching out to these sets of community inhabitants to equip them with the knowledge and skills required to make money outside the illegitimate local crude oil refining is very germane and should be put into consideration to curb illegal oil bunkering in communities. Non-formal education programmes in this regard, has to do with planned diverse educational activities that are geared towards educating and empowering youthful members of communities with functional skills, and knowledge required to earn a better living, and to integrate youths and communities into non-violent approach to life. It is aimed at empowering and encouraging peaceful coexistence of people and their interactions with their environment to promote environmental sustainability.

Amirize in Deekor (2018) acknowledged that the most important aim of non-formal education is to prepare and equip people for wages employment or for self-employment, improve the knowledge and skills of those already in employments, improvement of peoples political, cultural, social and spiritual awareness through conscientization; and stimulate industrial output, provide citizenship and leadership training opportunities for people, He furthered that non-formal education promotes health and responsible uses of leisure through joyful activities, fosters entrepreneurship and generates employment opportunities for youthful members of communities.

Through non-formal education programmes, youths acquire the right knowledge and skills that lead to more meaningful life. Some of these relevant non-formal education programmes include; environmental literacy programme, vocational skill development programme, health education programme, agricultural extension programme, and entrepreneurship education programme. It is believed that if these specific non-formal education programmes are properly adopted and implemented by Government, development agencies, adult educators, Non-governmental organizations, and other organizations interested in peaceful and sustainable environment, illegal oil refining activities will be eradicated or reduced to a barest minimum. It is against this background that this study was designed to examine non-formal education programmes for mitigating illegal oil refining in Khana Local Government Area of Rivers State.

Statement of the Problem

The rate at which fishes and other wetland species are being forced into extinction due to the destruction of the natural habitats and aquatic lives as a result of unhealthy illegal local ways of crude refining activities by youthful members of communities in Khana Local Government Area of Rivers State is alarming. However, due to the unhealthy activities of crude refining, the lives of these aquatic animals are endangered; farmers also suffer very great loss due to pollution emanating from oil spillage. Many people within the polluted environment are faced with different health challenges as a result of breathing poisonous air with the pollutant called soot in it. In spite of the use of security agencies to curb this form of illegal oil refining in the oil producing communities in Khana Local Government Area of Rivers State, yet these unhealthy activities are still common in communities, and require an alternative approach to effectively put the menace to an end. Non-formal education programmes which has been identified by Otamiri (2021) as a tool

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to enable youthful members of communities to earn a better living outside illegal violence includes some of these relevant programmes; environmental literacy programme, vocational skill development programme, health education programme, agricultural extension programme, and entrepreneurship education programme. Therefore, the need to bring these programmes to the fore and to show how they help to mitigate illegal oil refining in Khana Local Government Area of Rivers State is the problem of the study.

RESEARCH QUESTIONS

The following research questions guided the study.

1. To what extent does environmental literacy programme mitigate illegal oil refining in Khana Local Government area of Rivers State?
2. To what extent does vocational skill development programme mitigate illegal oil refining in Khana Local Government area of Rivers State?
3. To what extent does health education programmes mitigate illegal oil refining in Khana Local Government area of Rivers State?
4. To what extent does agricultural extension programme mitigate illegal oil refining in Khana Local Government area of Rivers State?
5. To what extent does entrepreneurship education programme mitigate illegal oil refining in Khana Local Government area of Rivers State?

Methodology

The study adopted descriptive survey research design .The population of the study was 453 which comprised 300 members and 153 leaders of registered Community based organizations (CBOs) in Khana Local Government Area of Rivers State. The census approach was adopted to accommodate the entire population of the study as sample because it was a manageable size, representing 100% of the population. The instrument for data collection was a closed-ended structured questionnaire titled "Non-Formal Education Programmes for Mitigating against Illegal Oil Refining Questionnaire." (NFEPMAIORQ). The questionnaire was structured in a four (4)-point scale rated on Very High Extent- VHE (4) High Extent–HE (3), Low Extent –LE (2) Very Low Extent- VLE (1). The reliability of the instrument for each cluster of items was determined through a pilot study of Twenty (20) respondents outside the study population. After which, the instrument was retrieved and analyzed with Cronbach Alpha statistic method to establish the total reliability index of 0.68, which indicated that the instrument was reliable. The data collected were summarized in tables to reflect the views of the respondents, further analyzed with mean ($\bar{x}$) statistic and standard deviation. Since the items are rated on a modified four (4) point scale, the average mean for answering the research questions was arrived at finding the average of the 4 points scale hence: 4 + 3 + 2 + 1 = 10/4 = 2.5. Therefore, items whose mean ($\bar{x}$) scores were less than 2.5, were seen as low extent, while those that have mean ($\bar{x}$) scores of 2.5 and above, were seen as high extent. Thus, the decision on each of the items were guided by the following rules; 1.00-1.49 =very low extent (VLE), 1.50-2.49= low extent (LE), 2.50- 3.49 =high extent (HE), 3.50-4.00= very high extent (VHE).

Results

The results from the study were presented as follows:

Research Question 1: To what extent does environmental literacy programme mitigate illegal oil refining in Khana Local Government area of Rivers State?

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Table 1: Mean Responses of Leaders and Members of Community Based Organisations on the Extent that Environmental Literacy Programme Mitigate Illegal Oil Refining in Khana Local Government area of Rivers State.

S/N	Statement Items	Leaders n=(153) Mean	Std.	Decision	Members n=(285) Mean	Std.	Decision
1	Participation in environmental literacy programme has exposed me to the knowledge that local oil refining affects healthy environment	2.53	0.87	High Extent	2.81	0.84	High Extent
2	Environmental literacy has raised my awareness on the effect of oil spillage resulting from local oil refining process to farmlands	2.75	0.85	High Extent	2.83	0.85	High Extent
3	Increased my knowledge and awareness on the need to stand against the unhealthy illegal oil refining in my community	2.57	0.87	High Extent	2.56	1.11	High Extent
4	Raise my awareness on the need to promote environmental friendly activities in my community	2.71	0.80	High Extent	2.80	0.85	High Extent
5	Environmental literacy has exposed me to how illegal oil refining affects the ecosystem	2.80	0.76	High Extent	2.39	1.04	High Extent
	Grand total	**2.65**	**0.83**	High Extent	**2.68**	**0.94**	High Extent

Table 1 shows the mean response of leaders and members of community based-organizations on the extent that environmental literacy programme mitigate illegal oil refining in Khana Local Government area of Rivers State. Item 1 has mean scores of 2.53 and 2.81, standard deviation of 0.87 and 0.84. Item 2 has mean scores of 2.75 and 2.83, standard deviation of 0.85 and 0.85. Item 3 has mean scores of 2.57 and 2.56, standard deviation of 0.87 and 1.11. Item 4 has mean scores of 2.71 and 2.80, standard deviation of 0.80 and 0.85. Item 5 has mean scores of 2.80 and 2.39, standard deviation of 0.76 and 1.04. The grand mean is 2.65 and 2.68, which indicates that both the leaders and members shared strong opinion that to a high extent, environmental literacy programme mitigate illegal oil refining in Khana Local Government area of Rivers State.

Research Question 2: To what extent does vocational skill development programme mitigate illegal oil refining in Khana Local Government area of Rivers State.

Table 2: Mean Responses of Leaders and Members of Community Based Organisations on the extent that Vocational Skill Development Programme Mitigate Illegal Oil Refining in Khana Local Government area of Rivers State

S/N	Statement Items	Leaders n=(153) Mean	Std.	Decision	Members n=(285) Mean	Std.	Decision
6	participation in vocational skills training will divert attention of community members from illegal oil refining activities to make use of business opportunities for self-employment in the community	2.57	0.89	High Extent	2.83	0.83	High Extent
7	Acquisition of employable skills will enable youths to take advantage of life opportunities to reduce poverty in the community	2.73	0.93	High Extent	2.78	0.89	High Extent
8	Youth participation in tailoring and carpentry skills will enable them to shun illegal oil refining to become self-reliant to contribute to community projects	2.84	0.67	High Extent	2.75	1.00	High Extent

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9	Training youths in skills in electrical and construction works, will enable them to become economically independent and to stay away from 'kpofire' business	2.82	0.86	High Extent	2.64	1.01	High Extent
10	Participation of youths in skills acquisition programme will promote positive attitude that reduces their likelihood of involving in illegal crude refining business that affect the environment and human health	2.60	0.83	High Extent	2.68	0.96	High Extent
	Grand total	**2.71**	**0.84**	High Extent	**2.74**	**0.94**	High Extent

Table 2 above for research question two shows the mean response of leaders and members of community based-organizations on the extent that vocational skill development programme mitigate illegal oil refining in Khana Local Government area of Rivers State. Item 6 has mean scores of 2.57 and 2.83, standard deviation of 0.89 and 0.83. Item 7 has mean scores of 2.73 and 2.78, standard deviation of 0.93 and 0.89. Item 8 has mean scores of 2.84 and 2.75, standard deviation of 0.67 and 1.00. Item 9 has mean scores of 2.82 and 2.64, standard deviation of 0.86 and 1.01. Item 10 has mean scores of 2.60 and 2.68, standard deviation of 0.83 and 0.96. The grand mean is 2.71 and 2.74 recorded, indicates that both the leaders and members agreed that to a high extent, vocational skill development programme mitigate illegal oil refining in Khana Local Government area of Rivers State.

Research Question 3: To what extent does health education programmes mitigate against illegal oil refining in Khana Local Government area of Rivers State?

Table 3: Mean Responses of Leaders and Members of Community Based Organisations on the Extent that Health Education Programmes Mitigate Illegal oil Refining in Khana Local Government Area of Rivers State

S/N	Statement Items	Leaders n=(153) Mean	Std.	Decision	Members n=(285) Mean	Std.	Decision
11	Environmental health programme has raised my awareness that breathing the polluted air affects our health condition	2.56	0.72	High Extent	2.67	0.97	High Extent
12	Fire outbreak or gas explosion kills individuals involved in the unhealthy process of crude oil refining	2.93	0.75	High Extent	2.78	0.89	High Extent
13	Environmental health programme has raised my awareness that soot resulting from unhealthy crude oil refining activities can heighten the risk of death from stroke, heart disease, and lung cancer	2.84	0.77	High Extent	2.83	0.82	High Extent
14	Iam now aware that refining of crude oil locally causes soot that affects respiratory organs	2.73	0.63	High Extent	2.76	0.89	High Extent
15	Contaminates and makes our water dangerous for human consumption	2.80	0.87	High Extent	2.81	0.87	High Extent
	Grand Total	**2.75**	**0.59**	High Extent	**2.77**	**0.89**	High Extent

Table 3 above for research question three shows the mean response of leaders and members of community based-organizations on the extent that health education programmes mitigate illegal oil refining in Khana Local Government area of Rivers State. Item 11 has mean scores of 2.46 and 2.67, standard deviation of 0.72 and 0.97. Item 12 has mean scores of 2.93 and 2.78, standard deviation of 0.75 and 0.89. Item 13 has mean scores of 2.84 and 2.83, standard deviation of 0.77 and 0.82. Item 14 has mean scores of 2.73 and 2.76, standard deviation of 0.63 and 0.89. Item 15 has mean scores of 2.80 and 2.81, standard deviation of 0.87 and 0.87. The grand mean is 2.75 and 2.77. This indicates

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that both the leaders and members are of the opinions that to a high extent, health education programmes mitigate illegal oil refining in Khana Local Government area of Rivers State.

Research question 4: To what extent does agricultural extension programme mitigate illegal oil refining in Khana Local Government area of Rivers State?

Table 4: Mean Responses of Leaders and Members of Community Based Organisations on the Extent that Agricultural Extension Programme Mitigate illegal oil refining in Khana Local Government area of Rivers State

S/N	Statement	CBO Leaders n=(153)		Decision	CBO Members n=(285)		Decision
		Mean	St. dev.		Mean	St. dev.	
16	Knowledge of conservation agricultural programme has raised my awareness that the discharge of light oil in the rivers from illegal oil refining activities affects different species of fishes, and plants	2.65	0.51	High Extent	3.28	0.83	High Extent
17	conservation agricultural programme has also made me aware of the need to stop illegal crude refining that affects our farm lands	2.55	0.52	High Extent	3.36	0.73	High Extent
18	The knowledge of gained from agricultura extension programme has improved my awareness on how to make money through agro-businesses than joining illegal oil refining business in my community	1.69	0.87	Low Extent	1.52	0.70	Low Extent
19	Knowledge of agricultural programme enables community members to have knowledge of new farming methods for improved agriculture as revenue earners instead of illegal oil bus	3.20	0.56	High Extent	3.21	0.91	High Extent
20	agricultural education programme has raised community members consciousness on the knowledge and skills of food preservation for marketing their products as money making alternative to illegal oil bunker	2.76	0.60	High Extent	3.19	0.75	High Extent
	Grand Mean	**2.57**	**0.61**	High Extent	**2.91**	**0.78**	High Extent

Tables 4. above for research question four show the mean responses of leaders and members of community based organizations in the study area on the extent that agricultural extension programme mitigate illegal oil refining in Khana Local Government area of Rivers State. Item 1 has mean scores of 2.65 and 3.28, standard deviation of 0.52 and 0.83. Item 2 has mean scores of 2.55 and 3.36, standard deviation of 0.52 and 0.73. Item 3 has mean scores of 1.69 and 1.52, standard deviation of 0.86 and 0.70. Item 4 has mean scores of 3.20 and 3.21, standard deviation of 0.56 and 0.91. Item 5 has mean scores of 2.76 and 3.19, standard deviation of 0.60 and 0.75. With a grand mean of 2.57 and 2.91, standard deviation of 0.61 and 0.78 respectively, the results indicates that the respondents believed that to a high extent, agricultural extension programme mitigate illegal oil refining in Khana Local Government area of Rivers State.

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Research question 5:. To what extent does entrepreneurship education programme mitigate illegal oil refining in Khana Local Government area of Rivers State?

Table 5: Mean Responses of Leaders and Members of Community Based Organisations on the Extent that Entrepreneurship Education Programme Mitigate Illegal Oil Refining in Khana Local Government area of Rivers State

	Statement	CBOs Leaders n= (153)		Decision	CBOs Members n=(285)		Decision
		Mean	St. dev.		Mean	St. dev.	
21	Entrepreneurship education programmes enable participants to acquire knowledge and skills require to own a business money making venture than being involved in illegal crude refining	3.24	0.53	High Extent	3.35	0.48	High Extent
22	The knowledge of entrepreneurship makes participants become creative and innovative in business to generate income instead vandalizing pipeline for oil bunkering	3.17	0.56	High Extent	3.31	1.05	High Extent
23	Knowledge gained from small scale business entrepreneurship programme would enabled youths to utilize available resources to open any good business to make money	3.21	0.53	High Extent	3.43	0.66	High Extent
24	exposes unemployed community members to attitude and skills that are necessary for conserving business enterprise as a money making alternative to illegal oil refining business	1.98	1.18	Low Extent	1.56	0.90	Low Extent
25	the knowledge of entrepreneurship makes community members become creative and innovative in business to generate income than being involved in illegal oil refining business	3.11	0.61	High Extent	3.09	1.02	High Extent
	Grand Mean	**2.94**	**0.68**	High Extent	**2.95**	**0.82**	High Extent

Table 5. above for research question five shows the mean response of leaders and members of community based organizations on the extent that entrepreneurship education programme mitigate illegal oil refining in Khana Local Government area of Rivers State. Item 6 has mean scores of 3.24 and 3.35, standard deviation of 0.53 and 0.48. Item 7 has mean scores of 3.17 and 3.31, standard deviation of 0.56 and 1.05. Item 8 have mean scores of 3.21 and 3.43, standard deviation of 0.53 and 0.66. Item 9 has mean scores of 1.98 and 1.56, standard deviation of 1.18 and 0.90. Item 10 has mean scores of 3.11 and 3.09, standard deviation of 0.61 and 1.02. With a grand mean of 2.94 and 2.95 respectively, the results indicates that the respondents believed that to a high extent, entrepreneurship education programme mitigate illegal oil refining in Khana Local Government area of Rivers State

Discussion of Findings

The findings in this research question 1 revealed that environmental literacy programme has exposed individuals to the knowledge that local oil refining affect healthy environment, raised awareness on the effects of oil spillage resulting from local oil refining process to farmlands, increased knowledge and awareness on the need to stand against the unhealthy illegal oil refining in the community, raise awareness on the need to promote environmental friendly activities in the community, exposed how illegal oil refining affect the ecosystem hence data analysis in Table 1 revealed that items, 1, 2, 3, 4,and 5 had a high grand mean of 2.65 and 2.68. This finding agrees with Oyinkepreye, Simon, Kayvan and Rose (2020) that local refining activities in oil host communities requires environmental literacy programme to discourage the community involvement in either the refining or the selling of the processed products, hence, this local refining of oil, have adverse effects on human existence. The finding is also in-line with Korinaki

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(2021) that environmental literacy programme help to educate community members on the impact of their unfriendly activities to the environment, human health, and aquatic resources. This means that environmental literacy programme plays major role in curbing community participation in the illegal oil refining in the communities to stop its adverse effect on the health of people and sustainability of a healthy environment.

Research Question two, shows that to a high extent, vocational skill development programme mitigate against illegal oil refining in Khana Local Government area of Rivers State as evidenced in the high mean responses in items 6, 7, 8, 9, and 10, which showed that participation in vocational skills training enable community members to make use of business opportunities for self-employment in the community, enable youths to take advantage of life opportunities to reduce poverty in the community, enable community inhabitants to shun illegal oil refining to become self-reliant to contribute to community projects, enable community inhabitants to become economically independent and to stay away from kpofire business, promote positive attitude that reduces their likelihood of involving in illegal crude refining business that affect the environment and human health. This finding is in line with the discovery of Otamiri (2021) that engaging youthful members of communities into vocational skills development programme enables them to use the business skills exposed to as an alternative means of livelihood away from their usual violent activities that affects community cohesion and development.

Similarly, results in Table three exposed that environmental health programme raise awareness that breathing the polluted air affects health condition of people, Fire outbreak or gas explosion kills individuals involved in the unhealthy process of crude oil refining, raise awareness among the people that soot resulting from unhealthy crude oil refining activities can heighten the risk of death from stroke, heart disease, and lung cancer, raises awareness that refining of crude oil locally causes soot that affect respiratory organs, Contaminates and made water dangerous for human consumption. The finding in research question 3 is correlated to the discovery of Korinaki (2021) that unfriendly activities of community members such as illegal oil refining requires health sensitization on the effect of air pollution resulting from gas flaring and emission of carbon monoxide from crude refining process especially kpo-fire. Similarly, Oyinkepreye, Simon, Kayvan and Rose (2020) also noted that the creating awareness among rural dwellers that soot coming out from unhealthy crude oil refining activities increases the risk of death from stroke, heart related diseases, and affect respiratory organs, will help to discourage community involvement in such unhealthy practices.

The findings from the Table 4 research question 4 revealed that knowledge of agricultural extension programme raises awareness that the discharge of light oil in the rivers from illegal oil refining activities affect different species of fishes, make people aware of the need to stop illegal crude refining that affects our farm lands, make people aware that toxic chemicals from the illegal oil refining activities prevent photosynthesis from different species of plants, make people to understand that waste discharge from local refining of fuel affect sustainability of emergent plant species, and also raise people consciousness to speak against oil spillage resulting from illegal crude refining activities that affect agricultural activities. Finding in research question 4 is in agreement with the position of Wokoma, Tubookoseimie, Azibodi and Ndubuisi (2021), that conservation agricultural education programme helps to encourage community members to shun unhealthy practices that affect aquatic lives and agricultural sustainable environment.

The findings from Table 5 research question 5 revealed that entrepreneurship education programme mitigate illegal oil refining in Khana Local Government area of Rivers State to a high extent as evidenced in the grand mean of 2.94 and 2.95 recorded respectively, which indicated that entrepreneurship education programmes enable participants to acquire knowledge and skills require to own a business money making venture than being involved in illegal crude refining, makes participants become creative and innovative in business to generate income instead vandalizing pipeline for oil bunker, enabled youths to utilize available resources to open any good business to make money, exposes unemployed community members to attitude and skills that are necessary for conserving business enterprise as a money making alternative to illegal oil refining business and makes community members become creative and innovative in business to generate income than being involved in illegal oil refining business. This finding corroborate with the position of Yakubu (2017) that entrepreneurship education and training gives community members especially youths the opportunity to run any form of business successfully, as it develop the core skills and competences that entrepreneurs need to be successful and independently make quality decision that can affect productivity and competitiveness in innovation.

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Conclusion

Based on the findings of the study, it was concluded that non-formal education programmes such as environmental literacy programme, vocational skill development programme, Health education programme, Agricultural extension programme and entrepreneurship education programme curb illegal oil refining in Khana Local Government Area of Rivers State, and that continuous funding of relevant non-formal education programmes will promote the culture of environmental friendliness among community members.

Recommendations

Based on the findings and conclusions of this study, the following recommendations are made:

1. Ministry of environment should intensify effort in funding environmental literacy programmes as strategy to raise the awareness of community inhabitants, especially youthful members of oil producing communities on the impact of the illegal oil refining on the environment.
2. That Government at all levels should partner with community based organizations and stakeholders to mobilize youthful members of communities to participate in vocational skill development programmes to acquire skills and knowledge to become self reliant and resourceful to the community instead of being involved in activities that affect them.
3. Government at all levels, and multinational organizations, should regularly engage communities with health sensitization programmes to continue to discourage communities to stop illegal crude refining activities that have caused health challenges for people**.**
4. Ministry of environment and Agriculture, should partner with community stakeholders to embark on conservation agricultural Programmes to enlighten community members on the need to preserve aquatic resources and agricultural environment, hence illegal oil refining activities destroys aquatic plants in the ecosystem and pollute land for agricultural activities
5. Entrepreneurship skill development programme should be seen as an alternative way for empowering community members with skills and knowledge to make money through other legitimate businesses by the government at all levels and multinational organizations to change the fortune of community members and discourage them from engaging in local crude refining that affects the environment.

REFERENCES

1. *Abiodun, D. Y. & Allwalu, H. (2015). Economic Implications of Incessant Crisis in Jos: Youth Empowerment as a Panacea. Journal of Nigerian National Council for Adult Education. 20(1), 31-36.*
2. *Amirize, B. & Kobani, D. (2020). The Adult Educator as a Disaster Manager. Owerri: Beauty Koncepts.*
3. *Deekor, H. L. (2018). Non-formal Education Needs and Participation in Community Development among Rural Farmers in Rivers and Bayelsa States. Unpublished Ph.D. Thesis, University of Port Harcourt.*
4. *Kalio, E.I & Kobani, D. (2024). Impact of Illegal crude oil refining on Socio-Economic Development in Okrika Local Government Area of Rivers State, International Journal of Research in Computer Science and Management Studies (IJARCSMS), 12(7):151-157.*
5. *Kobani, D. and Alozie, K. (2016). Adult Education: Principles and Practice. Owerri: Beauty Koncepts.*
6. *Kobani, D. (2018). Adult Education: Methods & Materials. Port Harcourt: University of Port Harcourt Press.*
7. *Kobani, D. and Alozie, K. (2019). Essentials of Community Development in Nigeria. Second Edition. Owerri: Beauty Koncepts.*
8. *Kobani, D. (2021). Women Education in Nigeria. Owerri: Beauty Koncepts.*
9. *Korinaki, T. A. (2021). Environmental Adult Education Programmes as Strategies for Curbing Depletion of Aquatic Resources in Bayelsa State. Unpublished Thesis of Ignatius Ajuru University, Port Harcourt, Rivers State.*
10. *Mohammed B.I (2015). Skill acquisition as a panacea for youth unemployment and restiveness. An inaugural lecture, Nigeria academic of education. Nigerian teachers institute. Katsina State.*
11. *Obenade, M. and Amangabara, G. (2014). Perspective: The Environmental Implications of OilTheft and Artisanal Refining in the Niger Delta Region. Asian Review of Environmental and Earth Sciences, 1(2), 25-29.*
12. *Ogundele, O.J.K., Akingbade, W.A. & Akinlabi, H.B. (2012).Entrepreneurship training and education as strategic tools for poverty alleviation in Nigeria. American International Journal of Contemporary Research, 2(1) 148-156.*
13. *Otamiri, E. K (2021). Non-formal Education Programmes for Curbing Youth Violence in Rivers State. Unpublished Thesis, Rivers State University, Port Harcourt.*

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14. *Oyinkepreye, L. B, Simon, K, Kayvan P, & Rose N. (2020). Sustained Impact of the Activities of Local Crude Oil Refiners on their Host Communities in Nigeria. Journal of Environmental and Earth Sciences, 1(2), 40-58*
15. *Tombari, Batombari, and Ketonye (2020). Illegal Oil Bunkering in the Niger Delta Region of Nigeria: A Challenge to Nigeria's Development. European Scientific Journal, 16(29), 1857-7881*
16. *Wokoma, O. A. F., Tubookoseimie, A., Azibodi, J.E. & Ndubuisi, U. (2021). Impact of Artisanal Refining of Crude Oil on the Acquatic Ecosystem of Sombreiro River, Niger Delta, Nigeria. Retrieved on 10th of April, 2023 from http://www.researchgate.net/publication/34840189.*
17. *Yakubu, A.M. (2017). Impact of entrepreneurship education and training on women entrepreneurs in Gombe State, Nigeria. Journal of General Studies, 1(1), 181-1]*