Farmers' Perception of Climate Change Governance and Adaptation Constraints in Niger Delta Region of Nigeria

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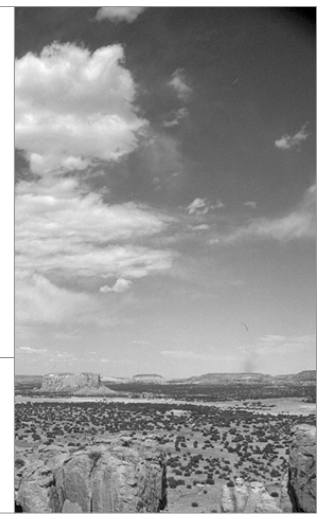

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Abstract

This study appraises the perception and understanding of Niger Delta farmers of role of national governments in climate change governance in Nigeria. It also examines grassroots communities' perception of constraints to adaptation to changing climate in the Niger Delta region of Nigeria. Multi-stage sampling technique was used to interview 400 of heads of farming households in Cross Rivers, Delta and Rivers States. Analysis of the data utilized simple descriptive statistics while the results were presented in tables, figures and charts. Two single sex focus group discussions (FGDs) were conducted in each of the survey states giving a total of six FGDs. Data from the FGDs complemented the survey results.

Findings of the study indicate that the major constraints to climate change adaptation by farmers in the Niger Delta are lack of information, low awareness level , irregularities of extension services, poor government attention to climate problems , inability to access available information, lack of access to improved crop varieties, ineffectiveness of indigenous methods, no subsidies on planting materials, limited knowledge on adaptation measures, low institutional capacity, and absence of government policy on climate change. The results further showed that farmers in the Niger Delta generally have a low level of awareness of government policies/programmes on climate change. Furthermore, the study indicates that farmers of the region also have a poor perception of effectiveness of the policies/programmes and low awareness of the existence and impact of Committees on Climate Change in the National Assembly. The study concludes that farmers of the Niger Delta had low awareness of the existence and contributions of Committees of the National Assembly to climate change governance. The study recommends that the Nigerian legislature should make deliberate efforts at sensitizing the Nigerian public of activities of its Committees on Climate Change as this will improve perception and understanding of their activities and impacts and will in turn lead to a more positive attitude and consequently impact on farmers' adaptation to climate change in Niger Delta Region.

List of Acronyms & Abbreviations

ADP	Agricultural Development Programme
AfDB	African Development Bank
ATPS	African Technology Policy Studies Network
CEEPA	Centre for Environmental Economics and Policy in Africa
FMENV	Federal Ministry of Environment
FGD	Focus Group Discussion
GHG	Greenhouse Gas
IPCC	Intergovernmental Panel on Climate Change
MDGs	Millennium Development Goals
NGOs	Non-governmental Organizations
NPC	National Population Commission
RRA	Rapid Rural Appraisal
UNFCCC	United Nations Framework Convention on Climate Change
UNN	University of Nigeria, Nsukka

1. Introduction

1.1. Problem Statement

Farmers are key stakeholders in the climate change debate. However, knowledge of rural farmers of the Niger Delta region of Nigeria about climate change has been noted to be abysmally low. In making informed decisions about climate change, Olorunfemi (2009) is of the view that timely and useful information is necessary about the possible consequences of climate change, people's perceptions of those consequences, available adaptation options, and the benefits of slowing the rate of climate change. Awareness and perceptions of a problem such as climate change shapes action or inaction on the problem (Nzeadibe and Ajaero 2010). Consequently, understanding the perception of climate change governance by stakeholders, such as farmers, is important as perception can shape the preparedness of these actors to adapt and change their practices (Speranza 2010). Disconnects in awareness of farmers of the role of national governments, especially the legislative arm, in climate change governance in Africa is worth noting. The Commonwealth Parliamentary Association (2010) acknowledges this, noting that not much has been done in terms of relating climate change information currently available to parliaments in African countries. In Nigeria, legislative activities of national lawmakers concerning climate change and impact of such activities appear to remain inaccessible or unavailable to farmers who are important stakeholders in the climate change dialogue. Although some visible actions regarding climate change have recently been taken by the National Assembly, perceptions and understanding of farmers of the processes and impact of climate change governance by national legislative institutions have hitherto remained unclear.This research focuses on the National Assembly in view of recent developments in the institution regarding climate change and availability of data at that level. The study investigates farmers' perception of climate change governance by the Nigeria's national legislature. It also examines grassroots communities' perception of constraints to adaptation to changing climate in the Niger Delta region of Nigeria. It is expected that findings of this study will catalyse actions aimed at raising awareness of the activities of the National Assembly in climate change governance in Nigeria and building capacities of farming communities in the study area to adapt to climate change impacts.

1.2. Objectives

The objectives of this Research Paper are to:

> Ascertain farmers' perception of climate change governance in the Niger Delta and;
> Examine the constraints to adapting to climate change in the Niger Delta region of Nigeria.

2. Literature Review

It has been argued that the world's climate is changing and will continue to change at rates unprecedented in human history, and that all societies need to enhance their adaptive capacity to face both present and future challenges of climate change (Adger et al. 2003). Climate change has thus become the most important topical development policy and global governance issue in the 21st century (African Development Bank 2010). Recent research on Climate change has noted the impacts of climate change on agriculture and natural resources management in countries of Africa, Asia and Latin America (Speranza, 2010). A consensus has thus emerged that developing countries are more vulnerable to climate change than developed countries, because of the predominance of rain-fed agriculture in their economies, the scarcity of capital for adaptation measures, their warmer baseline climates and their heightened exposure to extreme events (Fischer et al. 2005; Nnamchi and Ozor, 2009).

Climate change, being a key governance issue in recent years, appears to have predominantly focused on the development of global climate change regime agreements, the UNFCCC and the Kyoto Protocol, and their implementation (Haas, 2008; Barrett, 2009; Okereke et al. 2009; Vandenbergh and Cohen 2009). As a result, much of the discussion and action on climate change governance has been at the international level while there has been a tendency to overlook national-level governance of climate change.

Few studies have examined the role national governments can play in putting in place institutions, policies, plans and measures to promote mitigation of, and adaptation to climate change and these have mostly addressed environmental governance of climate change in developed countries (Meadowcroft 2009). This author further argues that climate change governance requires governments to take an active role in bringing about shifts in interest and perceptions so that stable societal majorities in favor of deploying an active mitigation and adaptation policy regime can be maintained (Meadowcroft 2009).

In Nigeria, the role of the Federal Ministry of Environment as the focal point of climate change policy-making is fairly well known (FMENV 2010). For example, it is understood that FMENV set up a “Special Unit” on Climate Change. This Unit was established in recognition of the “importance attached to the issue of climate change and global warming, and in view of the enormity of activities required for the implementation of the Climate Change Convention and the Kyoto Protocol”

(FMENV 2010). It is this Unit that has been the pivot and driver of the Ministry's Policy and Programmes on Climate Change. For example, it was recently reported that the Ministry has commenced “massive” awareness programme on climate change in the nine erosion-prone states in the Niger Delta region and northern parts of Nigeria (The Punch Newspaper 2010). However, programmes, policies and activities of the Ministry on climate change do not seem to have specifically targeted and involved farmers, for example, the awareness campaign mentioned above (FMENV 2010). Consequently, farmers in the Niger Delta as key stakeholders appear to have inadvertently been left out in the climate change debate and policy making.

On the other hand, although the ability of the National Assembly to engage in climate change legislation is not in doubt as exemplified with the passage of the National Climate Change Commission Bill (House of Representatives Federal Republic of Nigeria 2010, Senate of the Federal Republic of Nigeria 2010, The Commonwealth Parliamentary Association 2010), the role of national legislative bodies (i.e. The Senate and House of Representatives) in climate change awareness, mitigation and adaptation is minimally known and therefore inadequately understood by farmers. In Nigeria, studies on the role of national governments in putting in place institutions, policies, plans and measures to promote mitigation of, and adaptation to climate change are lacking while the role of the parliament in climate change governance has also not been addressed in previous studies (Meadowcroft 2009; The Commonwealth Parliamentary Association 2010).
In addition, developments around other parliamentary contributions to the climate change governance dialogue such as public hearings, legislative inquiries and advocacy, budgetary appropriation and legislative oversight functions, among other things, are not widely known. This situation creates a knowledge gap of the contribution of parliaments to climate change governance at the national level while the institution appears to be perceived negatively by farmers in the Niger Delta. Perception is arguably related to awareness level and availability of information on a phenomenon. The spatial behavior and behavioural responses of individuals and communities are often framed around their perceptions of problems (Getis et al. 2000; Nzeadibe and Ajaero 2010).

Generally, studies on farmers' perception of and adaptation to climate change have elicited significant research interest in Africa. In one such study, Maddison (2006) notes that perception of climate change appears to hinge on farmer experience and the availability of free extension advice specifically related to climate change. In another study, Gbetibouo (2009) argues that farmers with access to extension services are likely to perceive changes in the climate because extension services provide information about climate and weather. Consequently, awareness and perceptions of a problem shapes action or inaction on the problem of climate change (Speranza 2010).Other studies on farmers' perceptions of climate change and agricultural adaptation strategies have also been undertaken in rural Senegal (Mertz et al. 2009).

Using focus group interviews and a household survey, this study analyzed the perceptions of climate change and the strategies for coping and adaptation by sedentary farmers in the savanna zone of central Senegal. The study concluded that the communities studied have a high awareness of climate issues, but climatic narratives are likely to influence responses when questions mention climate. Change in land use and livelihood strategies, the authors argued, is driven by adaptation to a range of factors of which climate appears not to be the most important

The literature contains few studies on people's perception about climate change and strategies employed for adaptation in Nigeria. For example, Ishaya and Abaje (2008) examined the way indigenous people in Jema'a Local Government Area of Kaduna State perceive climate change and their adaptation strategies to climate change. Their findings indicate that the threat of climate change is perceived to be more on health, food supply, biodiversity loss and fuelwood availability than on businesses and instigating of disaster. Adaptation to climate entailed cultivation of different/varieties of crops which are tolerant to climate change and shortening of the growing season. Constraining factors to the adoption of modern techniques of combating climate changes in the area were observed to include lack of improved seeds, lack of access to water for irrigation, lack of current knowledge of modern adaptation strategies, lack of capital, lack of awareness and knowledge of climate change (Ishaya and Abaje 2008) .

Similarly, Apata et al. (2009) found that there is a need for agricultural economists and other stakeholders in environmental management and agricultural sustainability in developing countries to come to terms with negative impacts of climate change and likely positive and beneficial response strategies to global warming. The need for capacity building for climate change adaptation in Nigeria has also been recognized in recent literature. This recognition has only been about building institutional and professional capacity of urban and regional planners in the face of the climate challenge (Olujimi 2007) and curriculum reforms, development and capacity building initiatives on climate change teaching, learning and research (Ozor, 2009).

In the light of the above review, the present study addresses the issue of climate change governance in Niger Delta, cognizant of the fact that the visible involvement of state legislative institutions is imperative. The need for parliaments and governments to take on more active roles in climate change governance cannot be overemphasized (Meadowcroft 2009). Such leadership could engender shifts in interest and perceptions and ultimately aid climate change adaptation. Building coalitions for change, buying off opponents, establishing new centres of economic power, creating new institutional actors, adjusting legal rights and responsibilities, and changing ideas and accepted norms and expectations have been enumerated as measures for effecting such changes (Meadowcroft 2009).

A corollary of this would tend to be increased awareness and better perception by stakeholders, especially farmers, of climate change governance. This research, therefore, appraises the perception and understanding of Niger Delta farmers of activities of national-level legislative institutions in climate change governance in Nigeria. By so doing, what could turn out to be a major constraint to farmers' adaptation to climate change in Niger Delta Region would emerge as a success factor in addressing the problem of climate change in Nigeria.

3. Methodology

3.1. The Study Area

The study area is the Niger Delta region of Nigeria. The Niger Delta covers an area of 70,000 Km2 of marshland, creeks, tributaries and lagoons that drain the Niger River into the Atlantic at the Bight of Biafra. About one-third of this area is fragile mangrove forest, the second largest mangrove forest in the world. The biodiversity of the Niger Delta is very high with the area containing diverse plant and animal species, including many endangered, exotic and endemic animals and plants (World Bank 1995).

The Niger Delta has an estimated population of over 30 million people (National Population Commission 2009), the bulk of which live in rural fishing and farming communities .The region is also the headquarters of Nigeria's oil and gas industry and currently the only oil and gas producing region in Nigeria (Nzeadibe and Ajaero 2010). Regrettably, activities of multinational oil companies have recently been linked to degradation of the natural environment, pollution and low agricultural productivity (Abutudu et al. 2007; Ibeanu et al. 2007) as well as insecurity of lives and property, hence, a reduction in quality of life expectations in Niger Delta communities (Nzeadibe and Ajaero 2010).

The Niger Delta consists of the nine States of Abia, Akwa-Ibom, Bayelsa, Cross-River, Delta, Edo, Imo, Ondo and Rivers. Ethnically, the region consists of the Ijaw, Urhobo, Efik, Ibibio, Ogoni, Edo, Yoruba (mainly Itsekiri and Ilaje) and the Igbo (Ibeanu 2006). The Niger Delta region is therefore of immense geopolitical, ecologic and economic importance. It is also an important agro-climatic region in Nigeria. Fig.1 shows the states of the Niger Delta region.

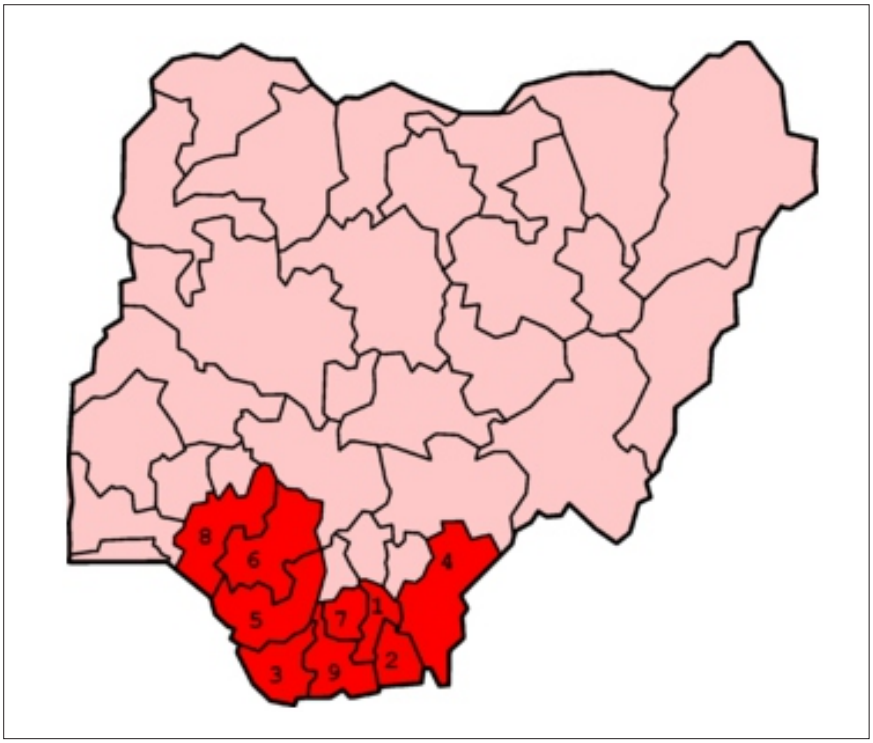

Fig. 1: Map of Nigeria showing the states in the Niger Delta Region
Key: (1) Abia, (2) Akwa Ibom, (3) Bayelsa, (4) Cross River, (5) Delta, (6) Edo, (7) Imo, (8) Ondo, (9) Rivers.Source: http://en.wikipedia.org/wiki/Niger_Delta (2010).

3.2. Population and sample

The population for this study included all the farmers in the study area. Multistage (random) sampling technique was used to recruit the sampled respondents. In the first stage; three states namely: Cross Rivers, Delta and Rivers states were randomly selected from the nine states that make up the Niger Delta region. In the second stage, using the delineation by the different states Agricultural Development Programmes (ADPs); two agricultural zones were randomly selected from each state giving a total of 6 agricultural zones. From each of the selected zones, two blocks were randomly selected for study. This gave a total of 12 blocks. The sample for this study was selected through a combination of strategies that recognized the social component of indigenous knowledge and practices. In each of the selected blocks, the following procedure was adopted in selecting the sample respondents. First, residents in the selected blocks were invited to a community forum at which a preliminary identification of different categories of households was carried out. At the community forum, 15 rural households members made up of males, female and youths who constituted the focus group was purposively selected from the list of those identified and discussions were held with them. At the community forum also, and with the assistance of community leaders, 5 respondents other than those included in the focus group was purposively selected for interview as key informants. Criteria used for selection included age (for historical insight on indigenous knowledge), experience and interest. During the community forum, focus

group discussion, and key informant interviews and with the help of community leaders, a sampling frame of all farmers was built up in each community. From this list, random samples of 35 respondents were selected and interviewed using semi-structured interview schedule. In all, a total of 420 respondents were interviewed. However, 400 completely filled interview schedules were used for analysis.

3.3. Data Collection

Rapid Rural Appraisal (RRA) (transect walks, identification and inspection of farm lands) was used first to encourage the villagers to describe their relationship with their natural resources, particularly the indigenous adaptation measures. Again, this helped in identifying variables of importance to the rural dwellers and in the formulation of questions that were included in the more formal semi-structured interview schedule in locally meaningful terms. Two single sex Focus Group Discussions (FGDs), one for men and another for women were held with farmers in each state with number of participants ranging from 10-21. This gave a total of six FGDs. The FGDs/Community fora were helpful in eliciting clearer information on respondents' relationships to the natural resource base. Key informants helped in the selection of different sites for in-depth study, while the semi-structured interview schedule was used to collect quantitative information from the randomly selected respondents.

3.4. Measurement of variables

The interview schedule was divided into eight sections (A-H). However, only responses to questions in Sections G and H were analyzed for this Research Paper. Section G sought to elicit information on problems encountered by rural communities in adapting to the effects of climate change. Respondents indicated the extent to which variables like lack of information, low awareness level, low institutional capacity, among others, acted as constraints to climate change adaptation. A five point Likert –type scale with response options of; to a very great extent, to a great extent, to some extent, to a little extent, and not at all, scaled 5 to 1, was used. Section H contained questions on government policy/programmes on climate change and awareness and perception of contributions of the National Assembly of climate change governance in Niger Delta.

3.5. Data Analysis

In order to realize the objectives of ascertaining farmers' perception of climate change governance in the Niger Delta and examining the constraints to adapting to climate change in the Niger Delta region of Nigeria, means, percentages, standard deviation and frequencies were used. Both mean scores and exploratory factor analysis procedure were further used to analyze objective 2. First of all, to determine the possible constraints as perceived by the respondents, the values on the Likert-type scale were summed to get 15, and then divided by 5, to get a mean score of 3. Then respondents' mean scores was obtained for each response item such that any one higher or equal to 3 was regarded as a “possible constraint”. Exploratory factor analysis procedure using the principal factor model with iteration and varimax rotation was further employed in grouping the constraint variables into major constraint factors. In factor analysis, the factor loading under each constraint (beta weight) represent a correlation of the variables (constraint areas) to the identified constraint factor and has the same interpretation as any correlation coefficient. However, only variables with loadings of 0.40 and above {(10% overlapping variance, Comrey, (1962)} were used in naming the factors. Results of these analyses are presented as figures and tables.

4. Results & Findings

4.1. Constraints to Climate Change Adaptation

Analysis of respondent's data shows that the major constraints to adapting to climate change by farmers in the Niger Delta included lack of information ($\bar{X}$=4.18), low awareness level (=3.91), irregularities of extension services (=3.88), poor government attention to climate problems (=3.88), inability to access available information (=3.78), lack of access to improved crop varieties (=3.70). Other constraining factors were ineffectiveness of indigenous methods (=3.49), no subsidies on planting materials (=3.84), limited knowledge on adaptation measures (=3.52), low institutional capacity (=3.26) and absence of government policy on climate change (=3.51). Table 1 presents the mean distribution of constraints to climate change adaptation in the Niger Delta region.

From Table 1, it could be seen that the constraints cut across low level of information and awareness, institutional problems, government failures and conservatism on the part of the farmers towards adoption of more modern techniques.

4.2. Factor Analysis of Constraints to Climate Change Adaptation

Factor analysis of the data obtained on constraints in adaptation to climate change revealed three significant loadings. These are factor 1, 2 and 3 and were named institutional problems, government failures and resistance to change respectively. These factors represent the major constraints to climate change adaptation by farmers in the study area.

Factors which loaded under institutional problems were inability to access available information (0.72), limited knowledge on adaptation measures (0.67), low institutional capacity (0.75) and absence of government policy on climate change (0.79). Government failures comprised irregularities of extension services (0.71), no subsidies on planting materials (0.78), lack of access to improved crop varieties (0.62), and lack of information (0.61). The loading under resistance to change included taboos (0.82), cultural influence (0.80), inability to give up traditional values (0.80) and absence of fishery management practices. Table 2 presents results of the factor analysis of constraints to climate change adaptation in Niger Delta.

Table 1: Mean distribution of constraints to climate change adaptation

	Constraint variables	x	SD
1.	Lack of information	*4.18	1.17
2.	Ineffectiveness of indigenous strategies	*3.49	1.32
3.	Irregularity of extension services	*3.88	1.35
4.	No subsidies on planting materials	*3.84	1.37
5.	Lack of access to improved crop varieties	*3.70	1.36
6.	Absence of water management techniques	*3.11	1.53
7.	Absence of fishery management practice	2.82	1.63
8.	Poor government attention to climate problems	*3.88	1.41
9.	Low awareness level	*3.91	1.26
10.	Inability to access available information	*3.78	1.30
11.	Limited knowledge on adaptation measures	*3.52	1.38
12.	Cultural influence	2.88	1.47
13.	Taboos	2.39	1.45
14.	Inability to give up traditional values	2.74	1.52
15.	Low institutional capacity	*3.26	1.48
16.	Absence of government policy on climate change	*3.51	1.53

** Significant S.D.= Standard Deviation*

Table 2: Factor Analysis of constraints to climate change adaptation

	Constraints	Factor 1	Factor 2	Factor 3
1.	Lack of information	0.24	0.61	0.07
2.	Ineffectiveness of indigenous strategies	0.04	0.59	0.43
3.	Irregularity of extension services	0.27	0.71	0.05
4.	No subsidies on planting materials	0.16	0.78	0.11
5.	Lack of access to improved crop varieties	0.38	0.62	0.17
6.	Absence of water management techniques	0.06	0.41	0.60
7.	Absence of fishery management practice	0.14	0.37	0.56
8.	Poor government attention to climate problems	0.65	0.40	0.03
9.	Low awareness level	0.65	0.50	-0.30
10.	Inability to access available information	0.72	0.34	0.10
11.	Limited knowledge on adaptation measures	0.67	0.25	0.25
12.	Cultural influence	0.13	0.06	0.80
13.	Taboos	0.03	0.04	0.82
14.	Inability to give up traditional values	0.23	-0.02	0.80
15.	Low institutional capacity	0.75	0.05	0.22
16	Absence of government policy on climate change	0.79	0.08	0.09

Extraction method: Principal factor model Varimax rotation

4.3. Farmers' Perception of Climate change governance

4.3.1. Awareness of policies/programmes on climate change

This research sought to appraise farmers' perception of climate change governance in the Niger Delta Region of Nigeria. Farmers' knowledge of existing government policies was evaluated. Figure 2 reveals that majority (66.8%) of the respondents reported that they were aware of the ban on indiscriminate felling of trees; 64.2% were aware of ban on indiscriminate bush burning, while 58.2% knew of government's promotion of afforestation. About 39% of the respondents knew of the ban on gas flaring, and only 19.0% of the respondents were aware of a bill on climate change in the National Assembly. It can be inferred from these findings that the farmers are ignorant of available mitigation measures for climate change impacts. The danger posed by this ignorance will exacerbate the impacts of climate change already been experienced by farmers of the Niger Delta.

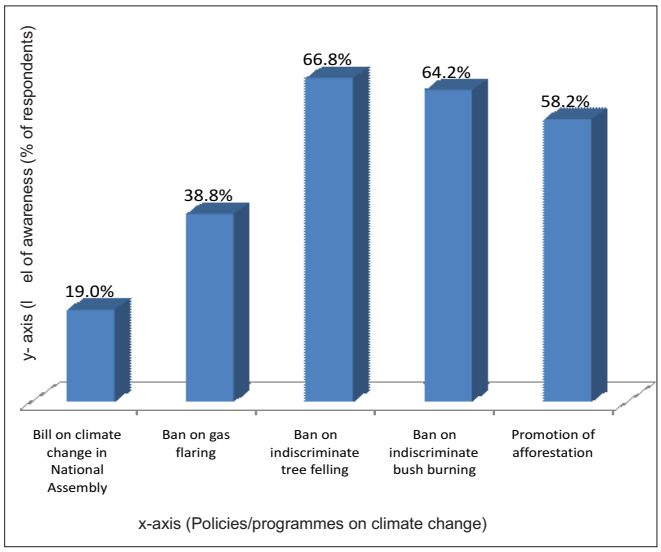

Fig. 2 : Awareness of Government policies/programmes on climate change

4.3.2. Perception of the effectiveness of government policies/programmes on climate change

This study further assessed farmers' perception of the effectiveness of government policies/programmes on climate change. Figure 3 shows that 41.8% of the respondents perceived the ban on indiscriminate tree felling to be effectively implemented; 40.5%% noted that the promotion on afforestation is on the right course. Similarly, 31.5% of the farmers were of the opinion that the ban on bush burning is also being well implemented while 17.0% were of the view that the ban on gas flaring is being well implemented. The remaining 6.8% think that the bill on climate change in the National Assembly is being implemented effectively. It is obvious from the findings, that poor awareness of government efforts to combat climate change effect is the likely result of the low rate on how effectively the government is implementing these policies/programmes.

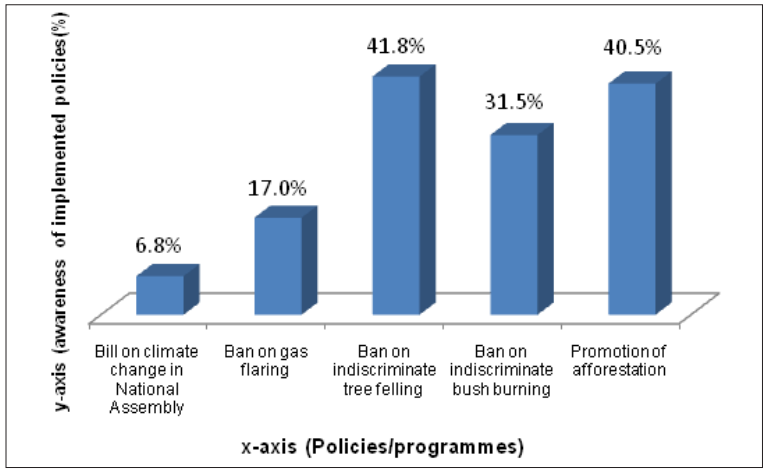

Fig. 3: Awareness of implemented Government policies/programmes on climate change

4.3.3. Awareness of Climate Change Committees in the National Assembly

Farmers' perceptions of contributions of the National Assembly Committees on climate change to climate change governance were assessed. Their understanding of the role of the National Assembly in climate change governance in the region is presented in Table 3 and figure 4. From the Table and figure, it is indicated that of the total respondents for this study, only about 24.2% were aware of the existence of Committees on Climate Change in the National Assembly. Of this number, 62.9% were aware of the nature of the work been done in the Committees. On assessment on the impact on their work, only 23.0% agreed that the Committees were having high impact in discharging their duties as evidenced by the passage of the National Climate Change Commission Bill. About 56% of the respondents noted that the impact of their work was low, while the remaining 21.3% seemed not to have noticed any impact of the Committees. Overall, it is evident that the farmers of the Niger Delta had low awareness of the existence and contributions of Committees of the National Assembly to climate change governance. This is possibly the reason for a low knowledge on the nature of the work of these committees. It can be deduced that, this low knowledge is the reflection of the low impact these Committees are having on climate change governance in the region.

Table 3: Awareness of Climate Change Committees in the National Assembly

Variables	Frequency	%
Awareness of climate change committees in National Assembly (n=400)	97	24.2
Awareness of the nature of their work (n=97)	61	62.9

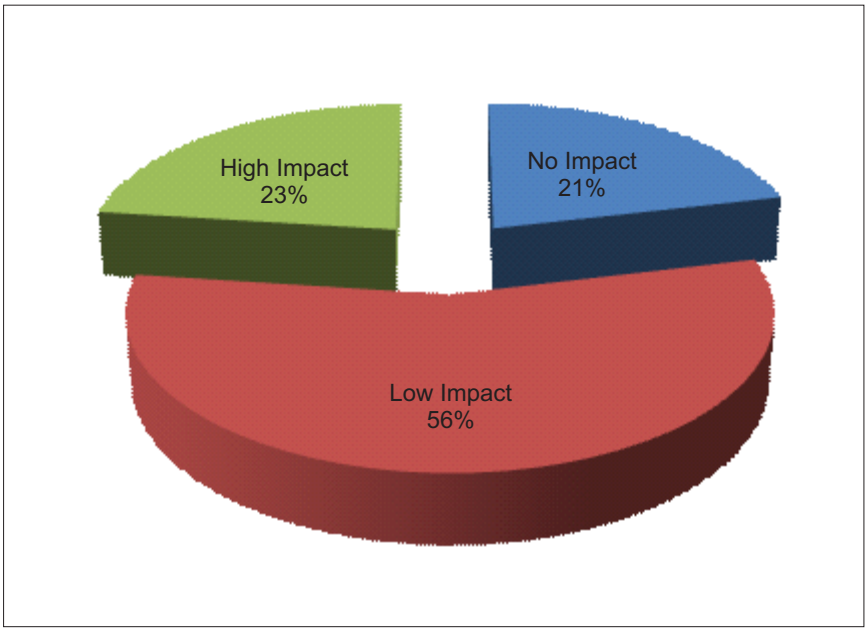

Fig. 4: Impacts of Committees in National Assembly

5. Summary

This study was carried out in the Niger Delta region of the country. Three states – Cross Rivers, Delta and Rivers were randomly selected for the study. A total of 400 respondents constituted the sample size for the study. Interview schedule was used in collecting data from the respondents. Percentages, mean score, standard deviation and factor analysis with varimax rotation were used in data analysis. The study aimed to ascertain farmers' perception of climate change governance in the Niger Delta and to examine the perceived constraints to adapting to climate change in the Niger Delta region of Nigeria.

The identified constraints/factors to adapting to climate change included institutional problems, government failures and resistance to change. This reveals the weak nature of existing climate change governance institutions in the country and level of government preparedness to handle challenges brought about by the changing climate.

Results of the study revealed that (81.0%) of the total number of respondents in the study did not know of the existence of a bill on climate change in the National Assembly. This is probably as a result of inadequate legislative advocacy and public sensitization on the bill. On the other hand, 68.2% did not know of the ban on gas flaring; only 6.8% agreed that the bill on climate change in the National Assembly is being well implemented. About 24% were aware of the committee on climate change in the National Assembly; while 55.7% of them rated the impact of their work in the National Assembly as low.

There is scope for more robust public engagement and contribution of the National Assembly to climate change governance. As of now, members of the Nigerian national legislature would seem to be “too far away” or even “aloof” from their constituencies. In this regard, closer interaction of the lawmakers with their constituents such as engaging in Town Hall Meetings and regular communication of activities of the Climate Change Committees in the Senate and House of Representatives in Nigerian languages will go a long way in improving public perception and awareness.

The Nigerian legislature should make deliberate efforts at sensitizing the Nigerian public of activities of its Committees on Climate Change. One effective way to do this is through engagement in phone in programmes on public/national radio and television stations. As has been shown in a related

study (Nzeadibe et al. 2011), the mass media (radio/TV and newspaper) plays a major role in climate change awareness among farmers in the Niger Delta. Consequently, the power of the mass media to bring about behavioural change cannot be underestimated. Communication will improve perception and understanding of activities and impacts of the Committees. Improvement in perceptions and understanding of activities of national-level legislative institutions in climate change governance by Niger Delta farmers will in turn lead to a more positive attitude and consequently impact on farmers' adaptation to climate change in Niger Delta Region.

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