DOI: https://doi.org/10.68064/jshe.2020.ddht1k9v

JOURNAL OF THE SOCIETY FOR HUMAN ECOLOGISTS (JSHE)

Influence of Climate Change on the Entrepreneurial Skills Development of Rural Women in Abia State

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Abstract

Climate change is a global challenge that burdens all humanity, more worrisome are the differences between men and women in terms of impacts, vulnerabilities, responses and capacity to adapt to climate change. Increases in temperature, variable rainfall, rise in sea level and flooding, drought and desertification, land degradation, more frequent extreme weather events, and loss of biodiversity, climate change has increased the durations and intensities of rainfall, producing large runoffs are evidence in many places in Nigeria. Climate change poses serious threats to lives and livelihoods of small-scale producers and women in particular. Generally, the work burden of fetching water and collecting firewood usually falls on women and girls, who have to fulfill the needs of their families, thus losing valuable time for businesses and other paying ventures. Meanwhile, the distinct impacts of climate change on women are exacerbated in settings that are affected by economic strife, by which the rural women entrepreneurs are the main target. This paper presents entrepreneurship as a tool for facilitating rural economic development, which is becoming increasingly needed to respond to the growing impact of climate change on rural women. The paper examined the impact of climate change on the entrepreneurial skills development of rural women in Abia state. Using survey description, the study adopted multistage sampling technique. The study used a 16-item questionnaire to gather information from 135 respondents drawn from three autonomous communities in the three senatorial zones of the state. Findings indicated that that there is an interrelationship between climate change and women entrepreneurial activities as extreme weather factors adversely affects farming, and other forms of livelihoods (3.36). Also, rural women in Abia state possess entrepreneurial skills like decision making (2.7), time management (3.4), strategic thinking (3.3), communication (3.3), these skills enable women to persevere in the face of climate change and to come up with creative ideas that enables them increase household income, remain efficient and manage time effectively (3.0). In conclusion, climate is an evolving trend that is both natural and man-made generated, therefore families especially women entrepreneurs must evolve ways of coping. The paper therefore recommended among others, the need for government and relevant stakeholders to pursue climate change management in a manner that recognizes women as vital agents of change, so that their needs and their contributions will be a part of the mitigation and adaptation strategies as they are the ones mostly affected by climate change.

Keywords: Climate change, poverty rate, productivity, Adaptive capacity, Entrepreneurship.

Introduction

Climate change is increasing temperatures and affecting weather patterns, resulting in environmental degradation and heightened competition for natural resources (Martin, 2016). Accordingly, impediments to agricultural production caused by environmental hazards such as flooding, droughts, and landslides in turn heighten

community vulnerability, decrease food security, force students to drop out of school, and increase poverty rates, while climate change impacts everyone, girls and women bear the greatest burden, (Lake, 2016.), and are disproportionately affected by climate change compared to men for a variety of reasons (New Course, 2010).

Women are responsible for 60 to 80% of food production in the global south, and thus are more impacted by any strains on agriculturalproduction (wecaninternational, 2016). Secondly, during periods of drought and erratic rainfall, women often work harder to secure food and water for their families (Action Aid, 2011). This put added pressure on the girls within households, who may be forced to drop out of school to help manage the heavier burden (Action Aid, 2011). In some parts of Africa, girls and women spend up to eight hours per day collecting water (wecaninternational, 2016). This undermines productivity and fuels a cycle of poverty that limits the economic and social capital that could be generated through entrepreneurship, (Mayesha, Bhatia, and Mawby, 2016). Of the 60 million people displaced around the world, it is estimated that 26 million of those people are climate displaced (UNHCR, 2015; Yonetani, 2015). Wedeman & Petruney (2016), note that each year, weather related disasters due to climate change are estimated to displace one million people. FAO (2018) reports that women suffer more than men from the psychosocial impact of migration because they have to take care of family members while disregarding their self - growth and development. Most often, they are victims of gender-based violence. Climate disasters have also been shown to increase gender-based violence (GBV), including sexual harassment and violence, domestic violence, sexual exploitation of children, and human trafficking (Nellemann, Verma and Hislop, 2016). Also, the displacement and migration following a disaster can further result in overcrowding and unsafe living conditions in evacuation centers, temporary housing, and other shelters (Wedeman and, Petruney, 2016). In addition, as a result of climate change, women become more vulnerable to harassment and violence, and increased poverty and loss of community increase the propensity for violence. In turn, the heightened risk of violence makes women fearful of venturing out. The office of the United Nations High Commissioner for Human Rights (UNHCR) in 2016 reported that in Papua New Guinea, the desire to avoid violence and harassment resulted in women and infants dying in childbirth because they were unable to safely access medical care for fear of being attacked (UNHCR, 2016).

Recognizing the burdens environmental challenges impose, women have a key role to play when it comes to climate change mitigation and adaptation. Unfortunately, women experience barriers ranging from social, political, and economic that restrict their ability to take an active seat at the table in climate change negotiations, further limiting their coping capabilities when it comes to mitigating, adapting, and coping with the effects of climate change (UNFCCC, 2016). Adaptive capacity means the ability of a community to adjust its characteristics or behavior, in order to expand its coping strategies under existing climate variability, or future climate conditions. It helps to reduce the magnitude of harmful outcomes resulting from climate-related hazards (Brooks and Adger, 2004). Adaptation strategies and actions can range from short-term coping to longer-term, deeper transformations, aimed to meet more than climate change goals alone, and may or may not succeed in moderating harm or exploiting beneficial opportunities (Moser and Ekstrom, 2010). The primary focus of this study is investigated ways in which rural women in Abia State are adapting to climate change through entrepreneurial skill development.

Entrepreneurship is a critical tool for socio-economic development (UNCTAD 2005); it plays a vital role in the promotion of rural development and women's economicempowerment. Entrepreneurship can be defined as the process of using private initiative to transform a business concept into a new venture or to grow and

diversify an existing venture or enterprise with high growth potential (Aderoba and Babajide, 2015). Entrepreneurs usually identify innovative approach to seize an opportunity, mobilize money and management skills, and take calculated risks to open markets for new products, processes and services (UNDP, 1999).

According to Global Entrepreneurship Monitor (2007), women are key to the development of entrepreneurship in any given society. They also help to manage some societal problems like climate change through entrepreneurial activities in sectors such as agriculture, energy, fisheries, health, economy, among others; for example, adapting agricultural practices such as switching to crops and varieties that are flood or drought resistant, changing cultivation to more easily marketable crop varieties or to other animals (WEDO, 2008). Empowering women to become entrepreneurs gained prominence in the 1980s when it was recognized that women empowerment is one of the ways to achieve poverty reduction, as well as economic growth and development (Ascher, 2012; Boateng, 2014). Thus, most women have since become entrepreneurs; however, majority are constrained by socio- cultural factors which limit their growth entrepreneurially. In the same vein, climate change as a factor, produces new and different extreme weather patterns, and research findings from a study on 'Gender and Natural Disasters' (Enarson, 2000) indicate that women's economic insecurity increases more than men's in the aftermath of natural disasters. Women also recover more slowly than men from economic losses due to damage to property and the loss of livelihood (Athen, 2009). Therefore, a better understanding of rural women's perceptions, attitudes, awareness and behavior with respect to starting and managing climate-related enterprise initiatives and businesses could potentially help to guide future capacity strengthening efforts, expanding the base of women (entrepreneurs) and hastening the pace at which new ventures are created and climate change opportunities captured.

Furthermore, studies have shown that skill acquisition is the most critical factor in the utilization of entrepreneurship opportunity for self-employment (Ekpe, Razak, Ismail, Abdullah, 2015; cited in Ariwodor & Agwu, 2016). Amaechi (2016) equally observes that lack of entrepreneurial experience, inadequate professional and business skills, as well as a low level of education have been identified as challenges to rural women entrepreneurs (Broto, 2014); consequently, Peshev (2017), identifies skills such as creativity, time management, strategic thinking, efficiency, resilience, communication, networking, finance management, as critical to entrepreneurial development. Others include risk taking, decision making, self-confidence, perseverance, among many others. This study however focused on ascertaining the impact of climate change on the development of the decision-making skill, time management skill, communication, and strategic thinking skills of rural women in Abia state. Accordingly, Ogbuabor & Egwuchukwu (2017) explain that higher temperatures, lower rainfall, drought and desertification reduces farmlands, lowers agricultural productivity and affects crop yields, particularly crops cultivated under rain-fed conditions; this can have an effect on an entrepreneur's ability to make critical decisions. Ebele & Emodi, (2016), found that sand dunes and desert encroachment has covered from approximately 25,000 to more than 30,000 hectares, undermining food and livestock production. Such prolonged dry spells, from climate change, affects livestock production, making it difficult for livestock farmers to find water and green pastures due to reductions in surface water resources and available pastureland. Such situation has been known to cause a strain on an entrepreneur's management skill, resilience and perseverance. The loss of weight for animals can reduce meat and dairy production (Ogbuabor and Egwuchukwu, 2017), in the same way warming trends also make the storage of root crops and vegetables challenging for farmers who do not have

access to refrigerators (Ebele and Emodi, 2016). Such predicament can spur an entrepreneur to come up with creative ideas on how to remain relevant and efficient.

Objectives of the study

The objectives of this study are:

1. To examine the influence of women entrepreneurship development and climate change.
2. To identify the entrepreneurial skills possessed by rural women in Abia state.
3. To ascertain the impact of climate change on the entrepreneurial skills development of rural women in Abia state.

Methodology

Research Design

This study adopted survey research design, while the study area is Abia state. Abia state consists of 17 Local Government Areas and three senatorial districts, and they are; Abia South, Abia North and Abia Central.

Population

The population of this study comprised of rural women drawn from selected Local Governments in the three Senatorial zones: Abia South, Abia North and Abia Central. According to the (National Population Commission, 2006), Abia state has a population of 2,833,999 persons. Also, the selected Local Governments which include Isuikwuato in Abia North Senatorial zone has a population of 115,794, Ikwuano in Abia Central has 137,897 and Aba North in Abia South has 106, 844. According to the National Population Commission, (2006), Abia has a total of 1,415,082 females.

Sample and Sampling Technique

The sampling technique adopted is the multistage sampling technique. In the first stage, from the three senatorial zones in the state: Abia North, Abia Central and Abia South, one local government area was randomly selected from each zone. They are Isuikwuato (Abia North), Ikwuano (Abia Central) and Aba North (Abia South). Furthermore, three autonomous communities were selected from the Local governments, thus: Isu-amaewu, Igbere and Uratta. A total of 150 women entrepreneurs were selected from the autonomous communities to form the sample size. Of the 150 women selected however, 135 responses were gathered

Method of data Collection

Questionnaires were used to collect data for the study. The questionnaires which were used to measure the variables contained only closed-ended questions which were mainly likert type of questions. The questionnaires consisted of two parts: Section A carried questions on respondents' bio data, while Section B consisted of questions on the impact of climate change on the entrepreneurial skills development of rural women in Abia state.

Data Analysis Techniques

The data gathered were analyzed quantitatively using frequency counts, means and percentages. The benchmark for weighted mean is 3.00. However, each research question has a grand mean of responses from the respondents which determines acceptance or rejection.

Results and Discussion

Results from respondents' bio data shows that 77.7% of the respondents were within the age bracket of 25-34, 14.07 % were within the age limit of 35 - 44; however, respondents within the age bracket of 45 and above constituted 8.1%. Also, majority of the respondents constituting 60.7% were married, 24.4% of the respondents were single while 14.8% were neither married nor single. Furthermore, 2.2% of the respondents had Ordinary Level certificates, 40% had between Ordinary National Diplomas and National Certificate of Education; 6.7% did not have formal education, while the majority (51.1%) of the respondents had degrees.

Table 1 indicates that the Mean of 3.4

respondents agreed that farming activities as well as other forms of livelihoods have become more difficult due to the declining rainfall and rising temperatures. Again, the mean of 3.4 concurred that climate change has influenced the cost of goods and household income while 3.3 acknowledged that it has also aggravated the problem of food insecurity. The mean of 3.4 admitted that climate change has affected livestock production the same way the mean of 3.3 accepted that the quantity of crops produced as well as consumption rate have equally been influenced by climate change.

Table 1. Influence of women entrepreneurship development and climate change –n 135

S/N		4 SA	3 A	2 SD	1 D	Total	Mean
1	Declining rainfall and rising temperatures are making farming activities and other forms of livelihoods more difficult.	91 (67.4%)	19 (14.1%)	8 (5.9%)	17 (12.6%)	135	3.4
2	Climate change has aggravated food insecurity	84 (62.2%)	22 (16.3%)	22 (14.8%)	9 (6.7%)	135	3.3
3.	Climate change has affected livestock production.	83 (61.5%)	24 (17.8%)	8 (5.9%)	16 (11.9%)	135	3.4
4.	The shortage in rainfall has affected the quantity of crops produced and consumption.	98 (72.6%)	13 (9.6%)	16 (11.9%)	12 (8.8%)	135	3.3
5.	Climate change has affected cost of goods and household income.	72 (53.3%)	49 (36.3%)	9 (6.7%)	5 (3.7%)	135	3.4
	Grand mean						3.36

In table 2, findings show that the mean sum of 2.7 respondents agreed that they possess the ability to make good decisions. Again, the sum of 3.3 concurred that strategic is another critical skill which they have as entrepreneurs while 3.4 acknowledged that time management was an important skill the possessed. Lastly, 3.4 accepted that communication is among the vital skills they have acquired.

Table 2. Entrepreneurial skills possessed by rural women in Abia State – n 135

S/N		4 SA	3 A	2 SD	1 D	Total	Mean
1	Decision making	57 (42.2%)	13 (9.6%)	39 (28.9%)	26 (19.3%)	135	2.7
2.	Strategic thinking	84 (62.2%)	25 (18.5%)	12 (8.8%)	14 (10.4%)	135	3.3
3.	Time management	88 (65.2%)	24 (17.8%)	18 (13.3%)	5 (3.7%)	135	3.4
4.	Communication	79 (59%)	30 (22.2%)	9 (6.6%)	17 (12.6%)	135	3.3
	Grand mean						**3.2**

In table 3, results demonstrate that the sum of 3.3 respondents said that decision making and risk-taking enable women to diversify into non-agricultural livelihoods and enforce several adaptation strategies needed to effectively manage the impact of climate change. Similarly, the mean sum of 2.7 agreed that strategic thinking helps women to come up with creative ways to improve household income which has been seriously affected by climate change. More so, the sum of 3.4 respondents indicated that resilience as a skill enables women to persevere even when they are confronted by extreme weather conditions, and lastly, 2.7 respondents agreed that communication skills facilitates the organization of trainings on specific business skills to enable women do better in various businesses.

Table 3. Impact of climate change on the entrepreneurial skills development of rural women in Abia state – n 135

S/N		**4 SA**	**3 A**	**2 SD**	**1 D**	**Total**	**Mean**
1	Decision making and risk taking skills enable womendiversify into non -agricultural enterprises and enforce various adaptation strategies	84 (62.2%)	22 (16.3%)	20 (14.8%)	9 (6.7)	135	3.3
2.	Strategic thinking give women entrepreneurs the opportunity to boost household income	42 (31.1%)	37 (27.4%)	36 (26.7%)	20 (14.8%)	135	2.7
3.	Resilience enable rural women to persevere even in the face of difficult climate condition	98 (72.6%)	13 (9.6%)	8 (5.9%)	16 (11.9%)	135	3.4
4.	Communication facilitates the convergence of programs on specific business skills training to enable women to do better in various businesses	42 (31.1%)	37 (27.4%)	30 (22.2%)	26 (19.3%)	135	2.7
	Grand mean						**3.0**

Discussion of the Major Findings

Results on table one is in agreement with the submission of Onwutuebe (2019), who posits that a large percentage of women are poor farmers who rely primarily on small-scale and rain-fed agriculture. Hence, disruptions in agricultural activities will undermine their livelihoods, which could increase the need for dependency on men working in less vulnerable occupation. In Anambra in Southeast Nigeria, for example, Nnadi et al., (2019), write that women farmers are more vulnerable to the changes in climate than men as they supply most of the labor required on farms, in addition to managing their own farms. Women also felt more impact of food and water shortage, resulting from changes in rainfall in the area. Other livelihoods engaged in by women are also vulnerable to climate change as the majority of women involved in fish processing in Nigeria, for example, use firewood or wood products in their activities. The majority of food sellers in Nigeria are also women and fuel wood is used extensively in food processing and in domestic activities that are dominated by women (NEST, 2011). Erosion and extreme weather events can undermine wood production and the ability to engage in such livelihoods. Women are also more dependent on natural resources for their household roles. They are primarily responsible for collecting the wood for cooking and heating, the household water supply, in addition to ensuring food security for the family (NEST, 2011). Increased rainfall and flooding can also have a greater negative effect on women, if it destroys roads and increases the time distances, they have to walk to get water and firewood. Decreased rainfall could also create more burdens for women in finding water (Nnadi et al., 2019; BNRCC, 2011; NEST, 2011).

On table two, the finding is in agreement with the position of Davis (2012) who opines that what women entrepreneurs need is some specific business skills training that would make a difference in the way they conduct their businesses, moving forward. However, due to the prevalent discrimination against women entrepreneurs, Mandipaka (2014) suggests that gender specific training is needed for women entrepreneurs as a way for them to grow in their current environment. For example, the fact that women have the need to balance domestic work, child tending, and entrepreneurship determines the type of training they need especially in the face of climate change (Davis, 2012).

Furthermore, this result on table three agrees with the positions of Anabaraony et al., (2019); Ogbuabor & Egwuchukwu (2017), Abdulkadir et al. (2017) who assert that unpredictable rainfall variation makes it difficult for farmers to plan their operations and therefore must make critical decisions which may involve risk. Abdulkadir et al., (2017); Osuafor & Nnorom, (2014) posit that higher temperatures, lower rainfall, droughts, and desertification reduces farmlands and affects crop yields, food production and result in food shortages. Climate change indirectly affects health which arises from malnutrition due to food shortages, the spread of infectious disease and increased air pollution. According to the Federal Government of Nigeria (2013), extreme weather events undermine economic growth and lead to extraordinary spending, and as such, rural women do not only strive to remain resilient against the impact of climate change, they also tap into their creative skills in order to come up with ideas that will enable them make more income in order to sustain their families. Also, the impact of climate change has necessitated the convergence of various skill acquisition programs where rural women are trained on specific business skills to enable them to do better in their businesses.

Conclusion and Recommendation

This study found that climate change influences the entrepreneurial activities of women because extreme weather factors like floods, drought, desertification, heat waves, among others adversely affects farming, and other forms of livelihoods. Thus, climate change makes agricultural activities as well as other informal businesses more difficult,

and increases the time spent on household chores, thereby leaving little or no time for paid jobs. With entrepreneurial skill development, rural women will be prepared for climate change effects and still maintain their businesses. This study recommends as follows:

1. There is need for government and relevant stakeholders to continue to pursue climate change management. Women especially those in rural areas must be recognized as vital agents of change so that their needs and their contributions will be a part of the mitigation and adaptation strategies.
2. Rural women entrepreneurs should be constantly encouraged and assisted to acquire and develop entrepreneurial skills through the provision of various training in order to enhance their ability to properly manage their businesses, promote socioeconomic development and reduce poverty.

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