Climate Change Impacts on Women's Health in Kenya: Issues and Challenges

Aditi Nidhi*
Dr Mwirigi Charles**

* Assistant Professor at School of Law, CHRIST (Deemed to be University)
** Post-Doctoral Fellow at School of Law, CHRIST (Deemed to be University)

Abstract

There are several serious global factors that seem to be constantly challenging man's efforts to creating a path- way to a Healthier, cleaner and sustainable future. However, most of these factors ironically are as a result of man's activities on the very small planet that has to sustain his existent. These factors may include but not limited to change in climate, high rate of population growth, scare resources and the ever-growing global inequalities. Over the past few decades, there has been mounting pressure to live sustainably while man's ability to maintain human health is severely challenged especially that of women, children, aged, and people with disabilities.

Climate change has become one of the greatest global environmental challenges that world government has ever faced. Its impacts are both locally and globally experienced with the poor countries, small Island States and less developed countries facing the gravest ills and evils of it. However, even though the impacts of climate change are globally experienced, they are also felt unevenly from one region to another and this has led to what can be referred to as climate injustice. For example, climate change impacts are more pronounced in the south than in the north due to various factors that will be discussed later in this paper. In addition, even though men and women are subjected to these impacts, it has been noted by the UNFCCC that women are faced with higher risks and experiences greater burdens than men. This paper seeks to focus on climate change impacts on women health and issues and challenges attributed to the risks they face especially in developing countries.

Keywords

Climate Change, Health, Impacts of Climate Change, Inequalities, Risks.

I. Introduction

Climate change is a worldwide ecological challenge that happens internationally, however its ruinous effects are more prominent on the nations and networks that have been least answerable for green house emission. This is to imply that the effects are more articulated on the nations and networks that generally rely upon regular assets for their vocations and furthermore those nations that have minimal ability to react to the effects of environmental change either through moderation or transformation. Instances of such incorporate yet not restricted to droughts, landslides, floods and hurricanes. This obviously infers those nations or networks that have less money related assets to adjust will be hardest hit and endure the effects of environmental change the most.

The Commission on the Status of Women (CSW) has recognized gender global effects of climate change as an issue that require more noteworthy consideration. Nonetheless, there are a few significant components that decide the level of weakness and versatile limit with respect to the wellbeing effects of climate change. These may incorporate gender norms, roles and relations. Likewise, it ought to be perceived that Women's and men's weakness to the ills and disasters of climate change is resolved by science as well as by contrasts in their social roles and duties. There is consistently a desire that ladies have an obligation to satisfy their jobs and duties as professions and suppliers of their families and this frequently puts additional weights on them particularly in the midst of extraordinary atmosphere occasions. As indicated by WHO, it has characterized sex and gender orientation in the accompanying terms, "Sex" alludes to the natural and physiological attributes of ladies and men, and "gender" alludes to the socially built standards, jobs and relations that a given society thinks about fitting for people. Gender figures out what is normal, allowed and esteemed in a lady or a man in a decided setting.

It is additionally certain that the ills and shades of malice of environmental change are experienced diversely by ladies relying upon their topographical area, their occupation, their monetary status and so on. The issue here is that ladies are more defenseless, vulnerable and face higher dangers and weights of environmental change because of different elements which could be extending from inconsistent admittance to resources, training, jobs and land rights, to social jobs, for example, giving water, food and ignitable materials to the family and social standards. Ladies really make up over 70% of water tasks and the executives worldwide and particularly in those areas where the effects are more articulated, 70% of all women work in the farming segments.

Climate change impact differs greatly from men to women and it is often more pronounced in the lives of women from developing countries, small island states and even worse from poor countries. This huge differentiation of impacts is commonly based on multidimensional social factors, existing inequalities that are largely due to gender discrimination, class ethnicity, age and disability. These differences in vulnerability and exposure are rarely due to a single cause. Women who are significantly marginalized socially, economically, politically, culturally, institutionally and this makes them to be more susceptible to climate change effects which in turn affect their health in a more severe and in larger degrees.

According to the IPCC fifth assessment report, the following are most reasons for the increase of women vulnerability to climate change impacts:

a) reduced resilience and adaptive capacity as a result of existence of discriminatory laws and norms, customs and institutions that excluded participation of women in decision-making and community processes
b) Existence of limited awareness of legal rights and human rights
c) Limited or no access to or control over resources and assets
d) Care responsibilities coupled with unequal and unpaid domestic burden
e) Limited access to necessary sexual and reproductive health care
f) High rate of exposure to gender-based harassment and violence and impoverishment due to

several factors

However, the reports produced by WHO and ACOG in 2016, the report reveals that women are at greater risk to the effects of climate change due to biological, political, and cultural factors. Also, in 2014, the WHO as well as the ACOG policy statement, the major cause of women's health vulnerabilities is poverty and it is unfortunate that the same is at its pinnacle in Africa. Kenya is not that culturally and geographically diverse country. However, it has been experiencing some notable and rapid signs of industrialization and urbanization with a sharp rise in population. Despite of some gains that has accrued from technology and economic progress to some extent, wide gaps in gender-based health disparities still remains a major concern for women in the country. While climate change has been a major factor in threatening to widen or widening gender- based disparities, governments and policy-makers are in desperate need of going beyond conventional health separations, sexual orientation and ecosystem, and the rapid implementation of innovative women's health strategies based on gender, as well as the mobilization and exploitation of their social capacity to mitigate, adapt and respond to climate threats.

II. Exposure pathways and Health impacts

Climate change affects health of women in three basic pathways. This includes but not limited to the following:

- Direct impacts, which relate primarily to changes in the frequency of extreme weather including heat, drought, and heavy rain, poor air quality
- Effects mediated through natural systems, for example, disease vectors, water-borne diseases, and air pollution
- Effects heavily mediated by human systems, for example, occupational impacts, under nutrition, and mental stress, food security, water quality and quantity

Globally and specifically in especially in poor and developing countries, where the impacts of climate change have become more pronounced, women suffer from higher rates of anemia and malnutrition which is largely due to food insecurity that is a climate driven menace. Due to the increase of nutritional needs and especially during child- birth and menstruation, a woman becomes more affected. In addition, most of the small farm holders in Kenya are women and this put their livelihood at stake due to constant crop failure that is brought about by unpredictable climate change. This in turns leads to increased poverty and increased poverty leads to poor health and the first recipient of such vices are women, children, aged and the disabled but the greater risk rest upon women because they are always at the forefront of ensuring that provisions for the family are available even if it means depriving themselves for the sake of the other family members.

Air pollution is also closely attributed to negative birth outcomes which actually affects maternal/child health which in most cases, it is associated with stillbirth, fetal growth restriction, and congenital anomalies. Countries like Kenya, where most women spend greater amounts of time at home exposing themselves to particulate matter disproportionately from the use of traditional indoor stoves for cooking

and heating, face a lot of challenges that closely related to poor air quality. This gets to be aggravated during climate-related disasters, where women suffer disproportionate mortality and incase of survivors, their life expectancy is reduced. Consequently, it has been observed that in the wake of a disaster, Women and girls are exposed to higher risk of physical, sexual, and domestic violence as well as suffer from mood disorders and poor economic recovery. The women who have a lower socio-economic status are highly affected by these impacts, and that can only be seen in countries with developing economies.

III. Temperature Effects

The daytime regular temperatures in Kenya have been between 28 C / 68 F and 28 C/ 82 F. However, this is no longer the case due to sharp variations in climate change that have become more pronounced for over the last one decade. There are now frequent unpredictable climate change impacts characterized by both extremes of dry and rainy seasons. Heat-waves, droughts, famine, floods, landslides/mudslides are the most observed outcomes of Kenya's climate change. According to downscaled result that has been done using the climate change explorer tool from 8 climate models, the average temperatures in Kenya are projected to increase by 1-3C by the end of 2050. This is also with commensurate increase in the intensity of heat-waves, droughts, famines and food shortage. It is evident from the fact that the atmosphere's high temperatures directly and indirectly affect the human being's health which results in death. It is already clear that the health implications are evident directly and indirectly with the increase in the number of deaths associated with high temperatures. These impacts are more pronounced upon women in areas like the north eastern Kenya where droughts and high temperatures are experienced frequently and where there is lack of climate change awareness. Several studies have shown that middle aged women and expectant mothers suffer more heat-related ills and evils.

In comparison to higher temperatures women physiologically vary from men, make them to be more biological vulnerable in that they dispel less heat through sweating, have thicker subcutaneous fat which decreases radiate cooling. Furthermore, prolonged exposure to high temperatures, especially for pregnant women, often contributes to their vulnerability and the most likely outcome may be still births, congenital abnormalities and early delivery of adolescent mothers of higher risk of serious consequences. Warm temperatures are linked to difficulties of pregnancy along with hypertension, diabetes mellitus and poor neonatal outcomes. It is also responsible for increased manufacturing of vasoactive substances, thus increasing the viscosity of the blood and this may lead to alteration of placental blood flow that raises the chances or risks of hypertensive crises and still births.

3.1 Air Quality

Due to high consumption of fossil fuels, there has been an Increase in emission of greenhouse gases especially CO2. These gases are considered to be responsible for the global warming because of their long-term tendency to stay in the atmosphere creating a blanket kind of a layer that does not allows the heat to escape through it. This leads to low quality of the outdoor environment, which in turn has an adverse effect on human cardiac and respiratory health especially to women who are largely exposed to

fire wood related chores and biofuels for domestic household cooking that substantially leads to human exposure to pollutants that exposes women to nearly three times of particulate inhalation. Several research studies tend to show deposition of ingested particles in the lungs differs between genders, with females having relatively high financial burdens.

Furthermore, women are more hematologically resistant to environmental pollution toxicology effects than men, since they have higher anaemia rates. According to the World Bank Energy database report 2018, over a quarter of the world's 1.6 billion folks living without electricity live in Africa and India. This means that many individuals' turns to inefficient energy sources like biomass which is extensively used in rural areas and while in cities waste plastics are used to pollute that may lead to issues in lungs.

3.2 Disaster-Related Impacts

In Kenya, there has been unprecedented increase of unpredictable weather-related disasters like flooding which are the main weather related in African and other disasters like drought, famine and mudslides. Thus, several inhabited areas are still at high risk for both rainy season flooding and dry season drought. Flooding has been shown to pose health hazards due to injuries, flooding and exposure to toxins and toxic compounds found in polluted rain water.

Among the city and town dwellers in Kenya and in many slums located in the outskirts of many towns, they are characterized by poor infrastructure and drainage systems. In floods women are more likely to die. In most of weather-related disasters, may it be in Bangladesh in 1991, or in Myanmar in 2008, 90% and 61% of the victims were women respectively according to World Health Organization report 0f 2014. Biologically, women of any age are more nutrient-deficient than male, resulting in poor personal condition and vulnerability to scarcity of resources associated with disasters.

According to the International Federation of Red Cross and Red Crescent - 2007 and the United Nations for the Advancement of women report 2001, girls and women, and mainly elderly people and those residing in lower socio-economic situations, are found to be at elevated risk of severe, behavioral and sexual assault following weather-related disasters.

3.3 Nutrition Uncertainty and Famine

Kenya is witnessing both rising temperatures, and erratic and unseasonal rainfall, which can be increased or decreased, under the rapidly changing climatic conditions. These unseasonal and unpredictable weather patterns therefore have significant consequences for crops, livestock and fisheries resources, resulting in food insecurity and economic uncertainty in turn. There are several parts of interior Kenya that are already water strained and the available of ground water is negligible. The northern parts and the major cities in Kenya like Nairobi, Nakuru, Kakamega, Mombasa, Kericho, Migori, Bungoma, Muranga nd Eldoret are facing serious water scarcity.

Many several rivers where a most of the residents used to turn to for their water consumption have dried and this makes it more difficult for women to be able to play their role effectively as care takers and providers without adverse effects on their health. The main course of water stress or shortage in the

country and especially in the most vulnerable parts of the country like arid and semi-arid areas and in the remote places, villages and even in towns are destruction of water catchment areas, persistent droughts and floods that have become more sort of regular and pronounced. In the last 100 years Kenya has recorded 28 major droughts and these have been adversely affecting agricultural production in the country especially the drought prone areas which are inhabited mostly by the pastoralists and small-scale agriculturalists of arid and semi- arid areas.

This in turn affects food security due to crop failure that is caused either by prolonged drought or floods. Due to role of women as major caregivers and suppliers of sustenance and energy in most of the communities, and especially the poor and those who are employed or working in sectors like fishing, agriculture, livestock, etc. U.S. Department of Agriculture has revealed that households food insecurity rates for households with children headed by a single mother and for women living alone. According to several literatures, women stand high risk of obesity due to food insecurity. In most of the African countries, where women are basically confined with the role of a care giver, when there is hunger, women and mothers will often sacrifice their own quality of nutrition in order to protect their children from hunger and this puts their health at risk. Maternal depression is another serious risk that faces women in Kenya which mostly may increase the incidence or be a consequence of food insecurity. Food insecurity during pregnancy could lead to many health issues to women and these could be linked with gestational diabetes, iron deficiency and low birth weight.

Droughts compromises hygiene for girls and women especially in Africa where there is little clean water available for drinking and cooking and this affects them negatively due to lack of proper sanitation and woman hygiene. For both cities and suburbs, in the home, workplace and society, women have numerous responsibilities that leave them with fewer times to be conscious or even take care of their health. So, women are very delicate and sensitive to the ills and evils of food insecurity and the corresponding nutritional deficiencies which is increases their health risks because of the growing menstrual, pregnant and parenting needs. There are communities or cultural practices where food provision is prioritized to children and men and this leads to poor nutritional value to women and it may lead to anemia, pregnancy complications, and perinatal mortality during pregnancy.

3.4 Water-Borne Disease and water scarcity

Water is a very essential resource for the existence of fauna and flora. For humankind to live a life of dignity, water and clean water is a basic necessity. Across many countries, the distribution of fresh water is uneven, making it rarer in areas that are most populated. There are many factors that have led to clean water shortage, including changing ocean currents, higher evaporation levels due to increased temperatures, destruction of water catchment areas, deforestation and population growth and other climate change related factors. It is predicted that these factors will lead to added 1–4 billion people will soon be vulnerable to drought. Especially in times of extreme droughts and floods, the current burden of water scarcity and waterborne diseases in Kenya is massive.

Scarcity of water and more so, the scarcity of clean water has become the driving force behind people drinking from biologically and toxicologically contaminated sources. Due to the traditional household roles of women in providing water to the family, there are always subjected and have high risk of contracting water borne-diseases.

Therefore, in times of water scarcity in Kenya, due to long and unsafe trekking terrain in search of water, women end up spending more time in harvesting or fetching water than in any other activities of livelihood. This form of manual labour by women and girls in water-stressed regions puts them at greater risk of potential damage to the spin, back, and shoulders that result in permanent muscular pain due to weight on their bodies. Long distances covered in search of water especially during drought seasons expose them to heat stress and heat strokes as well as threat to their safety because of high risk of violent crimes against them.

IV. Legal Regimes Addressing Climate Variability and change in Kenya

Climate being a major driving force for economy in most of the main sectors of economy in Kenya, it is therefore prudence and appropriate to integrate climate information in the government policies. However, climate information in Kenya has not been easily understood or even adequately tailored neither in country's economic sectors nor into the government development policies and plans. For this cause, in 2010, National Climate Change Response Strategy (NCCRS) was established in order to come up with robust measures needed to address ills and evils of climate change and variability. This document has succeeded in putting the following concerns together so as to aid the policy makers and other stake holders in paving the way toward climate resilient future and provision of a document that will guide future climate change programme and projects. NCCRS is now the key government climate change agenda guide that spells out the following parameters.

a) The history of climate change
b) Challenges and the international efforts to fight climate change
c) Evidence and influences of climate change
d) Adaptation plus mitigation interventions
e) The linkage between NCCRS and Vision 2030
f) Communication, education and awareness programmes, vulnerability assessment and research
g) Technology development and transfer
h) Policy, legislation and institutional framework
i) Action plan and implementation framework

V. International Legal Response to Climate Change

The legal regimes on climate change are an international challenge that demands a global solution. The global response to the evils and ills of climate change is therefore built on the United Nations Framework Convention on Climate Change (UNFCCC), which entered into force in 1994 and was signed by Kenya in 1992, and ratified in 1994. She has been an active member that has taken a lead in exhibiting universal

determinations towards climate change global governance through participation in the conference of the parties to the UNFCC as well as articulating Kenya's national interest and her position in the international negotiations.

UNFCCC's main goal is to maintain greenhouse gas concentration in the atmosphere at such a degree that the harmful man-made interference with atmosphere is avoided as stated under article 2 of the convention. That has been and continues to be the ultimate goal of every party to the convention and especially the developed nations that have historical responsibility of reducing greenhouse emissions into the atmosphere. In order for ecosystems to respond rapidly to climate change and to establish long - term food production and sustainable economic growth, this level should be accomplished within a given timeline and this is precisely why the international community has been establishing international agreements, protocols and conventions to ensure timely action.

5.1 The Kyoto Protocol

This protocol was adopted in 1997 and later it came into force in 2005. As a connection to UNFCCC this protocol aims to reduce the greenhouse gases in the atmosphere. It is an international treaty that aims to commit economically transforming countries and countries to reduce their total greenhouse emissions. Under the Protocol, three flexible mechanisms were developed and one of them is Clean Development Mechanism (CDM). This initiative facilitated projects that minimized pollution, and the developed countries also made a significant contribution to sustainable development in the developing countries. The nations that did so receive quotas which would further be traded to other nations and companies dedicated to reduction of emissions. However, the first phase of commitment period of Kyoto Protocol ended in 2012 which was four years from 2008. On 25th February 2005 Kenya ratified the Kyoto Protocol.

5.2 The Paris Agreement

Kenya ratified the Paris Agreement pursuant to section 9(1) of the TMRA Act (Treaty Making and Ratification) on 26 December 2016, and came into force on 27 January 2017. The Paris Agreement's objective is to improve the global response to climate change's ills and evils by maintaining that rise in global temperature is below 2°C over pre-industrial levels. Nevertheless, it also aims to improve states' capacity to mitigate the consequences of climate change. This is not an easy ambition to attain to and in order to reach to these ambitious goals, the agreement sets to put in place several supportive mechanisms that will aid the developing countries. These relevant frameworks involve: economic activities, a new system for technology and an improved system for capacity building.

5.3 United Nations Convention on Biological diversity (UNCBD) and the United Nations Convention to Combat Desertification (UNCCD)

As a signatory to the United Nations Convention on Biological Diversity (1992) (CBD) and the United Nations Convention on Combating Desertification (1994) (UNCCD), Kenya submits issues relevant to the two Conventions to the organization, such as sustainable development , sustainable natural resources management and land use and land cover neutrality. On 24 October 1994, Kenya signed on to become a party to the CBD and on 25 June 1997 ratified the UNCCD.

5.4 Montreal Protocol on Substances that Deplete the Ozone Layer, 1989

That is a worldwide concept of which Kenya is a signatory. To protect the stratospheric ozone layer, it has universal approval by removing the production and use of ozone-exhausting substances. It was settled upon in 1987 and it came into force in 1989. Notwithstanding, Kenya confirmed it in 1988.

5.5 The Minamata Convention on Mercury, 2013

The object of this Convention is to protect and defend human well-being and nature from harmful emissions and mercury mixture arrivals. It puts a lot of duty on outflows from coal ignition and advances productive utilization of coal. It was adopted and opened in October 2013 for signature, and by June 2018, ninety-four countries had ratified the agreement.

5.6 The United Nations Convention on the Law of the Sea (UNCLOS), 1982

This convention expects to organize and set up a wide-running arrangement of rules administering the seas. Kenya sanctioned UNCLOS in 1989. The convergence point between climate change and this convention integrates shifts in the existing boundaries of marine zones in view of the rising ocean level and the need to control outflows from aircraft and container ships.

5.7 Sustainable Development Goals

Kenya is based on the 2030 Sustainable Development Agenda that was adopted at the UN Sustainable Development Summit in September 2015 by world leaders including the President of the Republic of Kenya. On first January 2016, the seventeen Sustainable improvement Goals (SDGs) formally was in force. In spite of the way that these manageable objectives are not lawfully authoritative, the onus is upon the administrations to set up public system instruments on how they will accomplish the objectives. The quest for 2030 plan in connected or entwined with a few maintainable improvement objectives. It has commitment for objectives like climate change (SDG 13) and objectives to ensure re-establish and promote sustainable use of terrestrial ecosystems (SDG 16). It ought to be perceived that the 2030 plan has overriding objective of "leave no one behind" and this implies it has a solid ramification for the determination of atmosphere activities.

VI. The National Legal and Policy Framework

Kenya has been in the cutting edge of having a dynamic and a hearty system of arrangements, public activity plans and foundations to address the ills and shades of malice of climate change both at the public level and region level. Article 10 of the constitution of Kenya (2010), which is the bedrock of institutional and legitimate system for environmental change activity, sets out qualities and standards of public administration which incorporates yet not restricted to maintainable turn of events, devolution of government, and open support. These public qualities and standards are obligatory to be summoned when making or actualizing any law or open approach choices not withstanding environmental change. It is given in Article 42 of the constitution the option to perfect and sound condition for all Kenyans. This privilege stretches out to one side to have natural insurance to serve present and people in the future through administrative and different measures.

6.1 The Climate Change Act (No. 11 of 2016)

It was legislated by the Kenyan government with the Ministry of Environment and Forestry taking the lead and being assisted by various stakeholders from civil society, private sector, as well as state and national governments. It destinations are to give an improved reaction to environmental change and measures and systems to accomplish low carbon atmosphere tough. The Acts gives a foundation of National Climate Change Council and environmental Change Fund.

The NCCC is led by President while the Climate Change Fund is a financing component that organizes environmental change activities and intercessions. This demonstration likewise gives motivating forces that there goals is to implant support developments that are fixated on environmental change.

6.2 Kenya Vision (2030)

This is the nation's long - term advancement outline which is driven by the normal and aggregate yearning for a superior society by 2030. The vision 2030 targets making an internationally serious and prosperous nation that is portrayed by a high caliber of life just as changing the nation into another – industrializing, center pay nation to every one of its residents in perfect and secure condition. It additionally perceives that environmental change has a hazard and a potential that could slow the nation's turn of events. In the Second Medium Plan (MTP) of 2013-107, a few climate change activities were distinguished trailed by acknowledgment of environmental change as a cross-slicing topical territory which prompted mainstreaming environmental change activities in segment plans in the Third Medium Plan (2018-1022)

6.3 National Climate Change Response Strategy, (2010)

The first national policy document on climate change in Kenya was the National Climate Change Response Strategy. The target and it point is to advance and advance the absorption and coordination into all administration arranging, planning and improvement goals the transformation and alleviation of environmental change. Notwithstanding the above activities and steps embraced by the legislature of Kenya in light of the difficulties presented by environmental change, there are as yet hardly any more authorizations, arrangements and techniques that are intended to relieve and uphold versatile cycle just as meeting worldwide commitments. These additional legal policies and legislations include:

a) National Climate Change Action Plan, 2013 (NCCAP)
b) Kenya Climate Smart Agriculture Strategy (2017-2026)
c) National Climate Change Framework Policy (2018)
d) National Climate Finance Policy (2018)
e) Environmental Management and coordination Act, 1999 (EMCA)
f) National Environmental Policy, 2008
g) Energy Act, 2006
h) Forest Act, 2005
i) National Policy for Sustainable development of ASALs, 2004

VII. Conclusion

Climate change effects and impacts are vividly being experienced in almost all parts of the globe with those that have less or no contribution to it suffering the most. The most disturbing issue under climate change discourse is the facts that these effects and impacts are being experienced and felt unequally around the globe and the countries/regions that are severely bearing the brunt of climate change are the poor, least developing countries, Small Island States and the irony of it all is that these are the countries which have contributed very little to the impacts of climate change. In addition, due to disproportionate impacts of climate change that are being experienced differently among men and women, there has been a rise in gender inequalities in terms of resource accessibility, for example, women access to affordable medical care, access to employment and clean environment, access to security domestically and in the public life. The impacts of climate change have added to the already existing challenges and pains of a woman especially in the developing world where the patriarchal societies have dominance.

The governments of the world should rise up to the task of ensuring that issues and challenges that are faced by women internationally due to the impacts of climate change like women safety, gender discrimination, economic disparities, poor health care, domestic violence, oppression, lack of formal education, poverty and lack of full or proper representation and participation in national development should be their primary focus in their policies and action plans. It should be the responsibility of the national governments to ensure that women in their societies are not discriminated upon either directly or indirectly this can be tackled through promotion and creation of awareness that their needs of women are unique. In a country like Kenya, women should be encouraged to take up roles/jobs that have been discriminated upon for a long time, Government should continue with promotion of education for all, creation of affordable, accessible medical care for women and encouragement for women participation in national building, policy making and institutional participation as well as making basic needs of life available and easily accessed like water, food and shelter especially in rural areas.

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