

Drought Manifested by Climate Change is Expanding Poverty in Southern Africa Region

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Abstract

Sustaining of life is mostly relying on availability of food (reserves) near living zones at globally. Recent consequences of local weather conditions are tumbling Production of agricultural crops or food reserves. This is because of uncertainty in temperature and environmental conditions. Global climate is changing excessively, influence the affect on agriculture and food supply chain in many other ways in many countries and lead to poverty and socioeconomic conditions. All climate reports predicting a rising trend of temperature will continue year by year and excess chemical intensity limits in grains, which further severely brunt the health conditions of children, women and old age groups. By 2100, a rise of 1.8 to 4°C is expected severe impact of droughts and floods occur and reverse the ecological system, effects on human health, economic growth and inequality of life systems. Past many years South Africa facing adverse impacts of climate change patterns on their agricultural lands and farmers as usual to block their ways of employment and wealth of their life. Crop failures, Productivity, Food insecurity, Famine, Loss of property and Life, Migration, and reversing economic growth with unethical climate change. This paper dignifies the climate change patterns and influences on the agriculture and poverty around South Africa for achieving their "Sustainable development Goals (SDGs).

Keywords: Weather Conditions, Agriculture, Food Reserves, Poverty, Migrations, SDG

Introduction

Cumulative discharging of greenhouse gasses are augmenting ecological and human resource derivations by mounting the climate Change impediments (Drought, Floods, Gales, Heat-waves, Dry-spells...) and became the curse to the "sustainability of largest income providing sector (Agriculture, Horticulture and Aqua culture)" in all the nations on the globe. These effects are fragile not only agro-ecosystems, but also severely altering the Agro-Forest and monsoon systems in all tropical and non-tropical zones. One such endure zone is "southern Africa or around South Africa" region. Southern Africa's present Climate Change has significantly marked as continuous losses to the agricultural sector, which is largely disturbed with altered monsoons and a vague in filling their countries water-pots (reservoirs / water bodies / ground water) by arranging water flows in major rivers like Orange, Limpopo etc...

Southern Africa is home to about 209 million people with 54% rural population, and its population has grown by about 2.4 percent a year since 2010 and contributing about 25.6 percent to the continent's gross domestic product (GDP) [1]. Now, the mysterious Climate Change

consequences causing the low growth, are the major headwinds of high inflation, rising government debt, and low commodity prices. With different characteristics in terms of population density, resource potential, political and cultural environment, maximum number of Southern Africa's countries are experiencing as middle income (Namibia, South Africa, Mauritius, Botswana and Eswatini) and fragile (Madagascar, Mozambique, and Zimbabwe) situations.

This cascading effects thrower of many challenges including water scarcity, fodder crisis, less crop-season, yield loss / production, high cost of cultivation, debts in farming community, less labour working days and spreader their crisis with high "food shortage and prices (inflation)" also uprooted the origins of agri-business (Fertiliser, Equipment, Fish & Cattle feeding, breakeven to retailers etc..) And service sector networks in rural areas with low consuming as whole are given below

Agriculture, Alienated Industries and Rural Development

On average, agriculture contributes 15% of total GDP, however it ranges from below 3% in Botswana and South Africa to more than 50% in Chad, implying a diverse range of economic structures [2]. Agriculture employs more than half of the total labour force (IMF, 2012) and within the rural population, provides a livelihood for

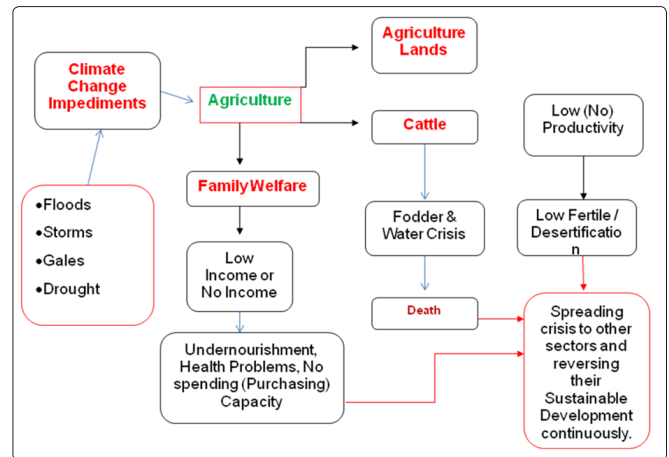
multitudes of small-scale producers. Smallholder farms constitute approximately 80% of all farms in SSA and employ about 175 million people directly (Alliance for a Green Revolution in Africa, 2014). In many of the countries, women comprise at least half of the labour force (FAO, 2015). Many international studies on southern Africa strongly judge that “women are a vital cog in their Agriculture, Cattle and Children” protection. Climate Change consequences are slashing their “right to live” by crafting time waste at “water and food cropping (fodder) collecting zones”. This is not only stressing her health, but also widening the same on their children (next generations), like undernourishment, stunting, growth, fertility, education etc... It means, expecting a strong success in “Gender equality, women empowerment, fertility, mortality etc...” will be imprudent under United Nations Organization (UNOs) proposed Sustainable Development Goals (SDGs) in the period of 2016-2030.

Alienated industries, like Horticulture, Aqua, Poultry and meat production and consumption has compressing volume of export and 40% expanding the imports. The preference for “dark” meat, which is less popular in many surplus production regions, has allowed imports to land at very competitive prices and volumes increased by an annual average of 13% over the past decade [3]. Consumption growth in the largest importing countries such as South Africa and Angola is projected to slow; hence the rate of import growth reduces to 5% p.a. to 2025. If these situations continue like this, the stress on chicken (Flesh) and egg industry going to shock the nutritional levels of civilians of that region, especially, on farming (Agriculture) communities.

Agriculture is the largest household (couples + Children + parents) income providing sector on Globe. Agriculture is generating million jobs in fertilizer, seed, chemical, grain mills; food processing industries, dairy, poultry, Flesh etc... Governments are pouring lots of money in the form of subsidies through schemes and nationalized organizations. Today, Climate Change (Global Warming) manifested disasters (Floods, Drought, Gales, Heat waves etc..) are slaughtering the interest of farmers (especially small & Marginal) on agriculture with low crop size, high investment cost, water scarcity, high surface temperatures (rain-fed or Arid & Semi-arid), new pests and low yielding levels. Farmer unable to produce within the “Marginal Price” to keep low inflation, because of the above said reasons. If this situation continues like this Food Prices (Food Inflation) will drag growth of other sectors with high cost of living or production cost and reverse the growth rate of state or country’s economy

The frequency of drought occurrence is already higher in SSA relative to most other regions in the world and agricultural production remains largely rain-fed under small and medium. Rise in surface temperatures mounting risks with high cost of production and low yielding levels. If the famines continue like this, the other Sustainable Development Goals will face worst figures in forthcoming years with high food prices (Inflation).

Distress on Socioeconomic Conditions



As shown in the above figure, the rural people (communities) strongly connected with agriculture land for getting income for livelihood sustain and cattle for nutritious food. Climate Change impediments are devastating their agriculture production patterns, which is slaughtering cattle count with fodder and water scarcity around their regions. These situations are not only axing their authority on their land, cattle and their belongings, but also escalating them as slaves before their resources. Under these circumstances family head(s) are distress to provide minimum facilities (nutritious food, clothes, education, house etc...) to their family members (especially for children and old age people). Communities, who identified this earlier, are aggressively developing urban crisis by migrating and sustaining with squat earnings. This is origin for mounting unemployment, undernourishment, fertility problems, life expectancy etc... To overcome the crisis, citizens adopting odd activities like larceny (theft), prostitution, child employment, bribe etc... Women headed families are struggling more for sustaining than male (Table 1).

Table 1: Statistical Parameters

Country Name	Population (In 000's)	Population density (people per km ²)	Unemployment rate (%)	Population (Rate)			Prevalence of undernourished (% of population)	Life expectancy at birth, 2018 (years)		Prevalence of HIV, ages 15-49 (%)	Mortality rate (per 1000 live births)	
				Growth	Urban (% of Total)	Fertility (Birth per women)	2016	Male	Female	2017	Infant (2017)	Under-five (2016)
Angola	30,774	25	8.5	3.3	65.5	5.6	23.9	59.2	64.9	23.9	59.2	64.9
Lesotho	2,333	4	28.5	1.3	28.2	3.0	12.8	52.6	57.0	12.8	52.6	57.0
Botswana	2,263	75	17.6	1.8	69.4	2.6	28.5	65.7	70.8	28.5	65.7	70.8
Madagascar	26,263	45	1.8	2.7	37.2	4.1	43.1	65.1	68.3	43.1	65.1	68.3
Malawi	19,165	162	5.9	2.7	16.9	4.4	26.3	61.4	66.6	26.3	61.4	66.6
Mauritius	1,268	622	7.1	0.3	40.8	1.4	5.8	71.6	78.6	5.8	71.6	78.6
Mozambique	30,529	38	24.9	2.9	36.0	5.1	30.5	57.2	61.5	30.5	57.2	61.5
Namibia	2,588	3	23.3	2.1	50.0	3.3	25.4	62.2	68.1	25.4	62.2	68.1
Sao Tome and Principe	209	218	13.5	2.2	72.8	4.3	10.2	64.7	69.1	10.2	64.7	69.1
South Africa	57,398	47	27.4	1.2	66.4	2.4	6.1	60.4	67.4	6.1	60.4	67.4
eSwatini	1,391	80	26.5	1.8	23.8	3.0	20.7	55.4	61.7	20.7	55.4	61.7
Zambia	17,609	23	7.8	3.0	43.5	4.9	44.5	59.8	65.4	44.5	59.8	65.4
Zimbabwe	16,913	43	5.0	2.3	32.2	3.6	46.6	60.1	63.9	46.6	60.1	63.9

Based on purchasing power parity valuation.

Source: African Development Bank statistics and estimates, UNDESA 2017, and various domestic authorities.

Food Inflation Dragging Growth

As we aware that farming community, which is holding 80% of rural (Country's) population is squeezing their earning capacities under climate change impediments and not contributed to their communal dependant selling agencies (Industries), Financial services and Markets. This was mounted traders snags to reach their break evens with load of troubles by "Food Inflation" lead to shut down their operations. In this way, the rural growth reached cross-roads and the same transported to urban areas. Today many countries, exports and growth (GDP) in southern region is fallen nearer to "Zero or below" (Table 2) [4]. Finally the reversing growth on this region will conclude with Albert Einstein. "Everybody is a genius. But if you judge a fish by its ability to climb a tree, it will live its whole life believing that it is a stupid – by Albert Einstein". Now this is a

practice all over the world by all departments in the issue of "Climate Change". Actually Climate Change expands with high pollution levels (Air Pollution). This air pollution leads to major changes in hydrological cycle. The change in hydrological cycle leads to floods and water scarcity (drought), and hits water supplies and sewage system (village and Urban). Also directs to food (fodder or prey) shortage, under nourishment (humans, flora and fauna), severe health problems and high food inflation (prices). High Food inflation causes low-savings (buying potential). Low buying potential leads to high bankrupts (Financial Crisis), Unemployment rate, which deepen financial crisis or Recession. Recession force all global citizens not to abide laws. It is "need-of-hour" to us to keep young farmers in agriculture for "producing food to all citizens", else we can't achieve "Sustainable Development Goals (SDGs) in coming days.

Table 2: Economic Parameters

Country Name	Inflation			Real GDP growth		
	2017	2019	2020	2011	2014	2017
Angola	31.7	16.8	12.6	3.5	4.8	-0.2
Lesotho	5.3	4.9	5.1	6.0	4.1	2.4
Botswana	3.3	3.9	3.8	6.9	3.1	-2.3
Madagascar	8.3	7.1	6.3	1.8	3.3	4.2
Malawi	11.5	7.7	7.0	3.5	6.2	5.1
Mauritius	3.7	4.5	4.0	3.9	3.7	3.8
Mozambique	15.1	5.0	5.1	7.1	7.4	3.7
Namibia	6.2	5.2	5.3	5.1	6.4	-0.9
Sao Tome and Principe	5.7	5.5	4.5	4.4	6.5	3.9
South Africa	5.3	5.3	5.5	3.3	1.8	1.3

Eswatini	6.2	5.4	5.5	1.3	3.6	1.9
Zambia	6.6	7.9	7.6	5.6	4.7	4.1
Zimbabwe	0.9	3.5	3.5	14.2	2.4	4.7

Conclusion

Most of Global studies are expelling that, Southern African region agriculture and rural development is in deep crisis with altered climate. If the situation continues like this, frequent Climate Change impediments (Floods & Droughts) mounts the migrations from farming (Rural) community going to increase cumulatively and carnage the cattle "s count with fodder and water scarcity. This will clutch the "Malabo Declaration – eradicate hunger before 2025". Also, the projections are predicting that the agriculture production should be doubled by 2050 to meet the sustainability in all areas in their economies. Else, the community's population levels will clutch with poor earning (income or food or fodder or prey) lead them to deep „financial“ crisis or recession and force the communities to abide laws, which will make the economies bereavement instead of sustainability.

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