Effective Methods of Communicating Climate Forecasts and Agrometeorological Advisories to Farmers and Other End-Users.

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Abstract

Agriculture is the driving engine of the African economy and is the biggest single employer. It provides food and income to the vast majority of our people. These people who live in the rural areas, are mainly farmers. They are the continent's economic engines of growth.

Basically farming on the continent is subsistence peasant agriculture using rudimentary tools of production as well as technologies that produce insufficient amounts of harvest per unit area. The result of this is that although there are hundreds of thousands of people engaged in agriculture their efforts are insufficient to provide enough food on the continent's dinner tables.

But it is not only the poor technologies that hamper production, most of the farming taking place in most countries in Africa depends on the mercy of God almighty. Most of the agricultural system is rain fed. Even countries that are straddled across the equator cannot guarantee sufficient rain all year round or that it will come at the critical time when it is most needed.

Introduction

Africa is faced with a growing population despite the lack of an increase in the capacity of the farming community to spur production. Europe on the other hand, although it has increased agricultural output in the last several decades, it has not increased in population.

At the beginning of the century, Europe's population was much greater than that of Africa, Europe's advanced technology allowing a greater population. But after World War II Africa's population began to catch up with Europe, to draw even with Europe in 1985, with an annual growth of 3.2 percent per year and the production of food per person falling 20 percent below what it had been in 1960 (Ref 2).

Between 1965 and 1980 the total domestic product per person grew by an average of 1.5 percent per year (Ref 3). But with some societies in Africa unable to buy or grow enough food to make up for its growing population, in some places starvation appeared. The terrible famine of 1984 that hit Ethiopia is still fresh in our minds. Persistent food shortages that have hit the Sahel belt, East and Southern Africa over the years can be reduced with better use of production tools such as advance knowledge of the likely climate performance of the coming season.

We cannot develop effective methods of communicating forecasts to farmers without having sufficient knowledge about the farmers and users in the agricultural industry. We shall deal with that later on in this presentation.

Before proceeding further we need to examine the shortcomings that are prevalent in our agricultural system. Science has continued to play a major role in feeding the number of

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the additional billions of people that have been added to the global population in the past 50 years.

In the thirty years between 1960-90, the Green Revolution in wheat and rice witnessed a doubling of global cereal production. Per capita food availability increased by 37%, per capita calories available per day increased by 35% and real food prices declined by 50%. But the growth has considerable regional differences.

In Sub Saharan Africa, in the same period, per capita food availability and consequently per capita calorie availability decreased due to sometimes negative growth rates in agricultural production and continuing high population growth rates. By the end of the 1960s the number of undernourished stood at 920 million and fell only by 80 million to hover at the 840 million mark by the end of the 1990s. Of the estimated 840 million people estimated to be food insecure worldwide, 779 million are in developing countries with a good number of these in Africa. (Ref 4)

Desertification, which is a growing menace in recent years, is most pronounced in Africa. The United Nations Convention to Combat Desertification (UNCCD) says that desertification affects more than 110 countries worldwide. It threatens the lives of over 1.2 billion people.

If left unchecked, desertification will eat up arable land making it shrink by an estimated 33% in Asia, 67% in Africa and 20% in South America. It is a grim picture for Africa. Such a development would build up pressure to increase food insecurity, economic loss and therefore poverty as well as a massive flight of people from the rural dry land areas to take refuge in the urban areas. Africa is also having a rapid population growth that needs increased productivity in agriculture to feed the growing population.

Relevance of Climate Forecasts and Agrometeorological Advisories

Since most of the farming in Africa depends on rain, knowing when the rain will come, how long it will last as well as knowing what amounts to expect is critical to realizing good harvests. Farmers need to exploit that crucial window of opportunity when to plant, which at times may last a few weeks.

There is concern that Africa continues to be unable to feed itself. With the development of agriculture many other areas will follow suit.

A consensus exists among African Governments that Sustainable Development -a new approach to economic development with emphasis on food security, social development and environmental security-is the key to poverty reduction in the region. Attainment of Sustainable Development, however, calls for an urgent reversal of the current trends requiring:

- Sustainable increases in agricultural productivity;
- Harmonizing population growth with the level of food production;
- Better stewardship of the environment;
- Better and equitable use of water; and
- Utilization of Science and Technology in the promotion of Food Security and Sustainable Development.' (Ref 1)

Science and Technology for Development: help African countries take necessary steps for an effective contribution of science and technology to the goals of food security and sustainable development.

For that matter disseminators of climate information must realize that we are dealing with a highly perishable product. A delay of a few days may mean disaster as farmers fail to plant their crops in time. We therefore need to devise means of getting the products to the consumer-farmers and other end-users as fast as possible.

The Problem

Our forefathers in Africa used local indicators like movement of birds and animals as well as the change in vegetation to tell the likely performance of the climate in the future. This information was a common resource that was shared by all in the community.

Today things are different. The communities cannot easily assess information about the climate forecasts that is produced by the Meteorological Services. Many times the climate information is sent to the farmers through the district commissioners who often take their time in passing it on to the villages.

The language that these forecasts are written in is mostly the official language used in the individual countries. It is English, French or Arabic. Yet very few of our people know these languages.

Effective Methods

In order for our communication to be effective, it should be able to influence decision-making by the farmers:

- Scientists need to stop writing for themselves and go the extra mile to write products that can be consumed by the ordinary people like our grandparents or young children;
- Forecast and advisories be translated into local languages to allow participation from the bottom, upwards;
- Forecast and advisories must be localized to make them relevant to the cropping calendar of the community;
- Forecasts and advisories need to have an economic value attached. What are the economic benefits that will accrue in planting, weeding, harvesting, storage or moving livestock at a particular time?

Achieving the Communication Goal

- Understanding the forecasts by all the people in the communication chain. Need to demystify how this information is arrived at. Let us have more programs that encourage the integration of modern and local knowledge about forecasting;
- Understanding the advisories. Agrometeorological advisories need to be understood by the farmers and should as much as possible be downscaled instead of being a general advisory for the whole nation or sub-region;
- Understanding the rural livelihoods. Do we know how much they know about the subject we are seeking to address them about? They may be illiterate but intelligent. Poverty stricken but happy;
- Understanding their priorities. Do we understand what crops they plant first and why they do so? Do they stagger their planting or not? Why do they do things in the way they do them? Remember farmers are conservative to the marrow;
- Understanding the traditional forecast systems;
- Understanding the local languages that are used to convey the information;
- Do the disseminators have a sufficient level of understanding to interpret the product to the consumers or are they just doing a job. Notice how broadcasters are in a hurry to have the forecast announced and done with.

Future Action

- Develop an African training program of communicators to get the best products to the end users. The target communicators include journalists, meteorologists, agriculturists, extension agents and NGOs;
- Massive awareness campaign targeted at the public, policy makers, politicians and above all, the front line agricultural worker-the peasant farmer;
- Develop a strategy targeting students from an early age. Primary schools are an ideal entry point. The pupils are the farmers of tomorrow but they also speak daily with their farming parents;
- Monitor the impact of previous forecasts and advisories to enable the improvement of future products;
- Identify and form a network of stakeholders in the agricultural production chain as a way of adding value to the advisories. Crop, animal, fisheries, construction, health, water, transport, marketing and other sectors that identify with the products need to be linked.

Conclusions

Our meeting here should not end with scientific presentations for the archives or forming the nucleus for theoretical studies. The way forward in my submission is for scientists and disseminators to the end users to come together and make a practical implementation of the proposals that have been presented in this paper and elsewhere. Action speaks louder than words. Our deliberation at this conference will only bear fruit when the talking, discussions and submissions are translated into action The sooner the better.

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