

CONSERVATION

Fire and Famine Foment Unrest

Lack of food sets off riots in South Africa. Improved production per acre, decentralized industries and village improvement would help to remedy the problem.

By MARJORIE VAN DE WATER

► DARKEST Africa is lighted by the flames of burning land and is parched with thirst. There is not enough to eat.

This is what has touched off the race and class riots that are tearing sections of the continent apart. Hunger is fomenting unrest among teeming millions of the African people.

The native population of Africa is doubling in some colonial areas, but agriculture is not keeping up with enough food for the additional hungry mouths. Result: Food shortages and increased food prices with attendant unrest, agitation, and class conflict.

Some of the reasons for the agricultural shortages are described by Dr. Walter C. Lowdermilk, land use expert, who has just returned from a survey of the British colonies in Africa.

Flying from London he visited colonial areas in West Africa; thence to Johannesburg, and visits to Bamolani, Swaziland, Southern Rhodesia, Nyasaland, Northern Rhodesia. On his way back, Dr. Lowdermilk stopped to visit South Africa's new ground nut scheme.

80% Land Burning Annually

A tragic problem for agriculture is the deliberate burning over of 80% of the land every year, setting the whole continent aflame. Various reasons are given for this burning, such as to capture wild animals or for protection against them, but the truth of the matter seems to be that the people are in the grip of a compulsion to burn, born of superstition and ignorance.

The land must be burned, they feel. It always has been burned over. It must continue to be. The British government has failed to wipe out this compulsion. Colonial administrators now are trying to get the people to do their burning early in the dry season when it will do the least damage.

Even more serious than the food shortage is the water famine. This is due partly to climatic conditions and partly to the geology. Rain falls only during four or five months of the year. More than half the year is dry season.

Normal geologic erosion over countless centuries has worn the land and rock down until the land of West Africa is a vast plain. The soil generally is derived from solid, crystalline rock which holds little ground water. Springs are rare; much of the earth dry and barren except where

irrigated.

Occasionally the flat landscape is relieved by the stumps or cores of mountains left by the process of erosion. These are known as "inselbergs."

Central West Africa is more fortunate, but there the native people are ignorantly destroying their natural wealth despite the advice of agricultural officers.

Valuable Forests Burned

A rain forest belt with mahogany and other valuable trees extends along the coast south of the Bulge. But to the people who find themselves living there and in need of food for empty stomachs, the trees seem only an obstacle to gardening. So the forest giants are cut down and burned.

The ashes which contain the minerals the trees have taken from the soil enrich the garden land and result in good crops, but only for a single year or two—rarely three years. Then the farmer moves on to another locality, and cuts more trees to repeat the process, called shifting cultivation.

In this way 100,000 acres of beautiful rain forests are being destroyed each year on the Gold Coast.

The rain forest belt of West Africa is bordered by 500 miles of savanna land covered only with low trees and spiny shrubs. Beyond the savanna is a thorn-bush savanna and after that the Sahara itself.

Power Possibilities Great

Rivers in this rainy part of Africa offer great agricultural and power possibilities if modern methods of water use and conservation were applied. The Niger River, until about 40 years ago, was a river of mystery.

No one knew that the river which rises near the west coast of Africa at Sierra Leone and flows northeast far into the interior past Timbuktu is the same river which flows southeast through Nigeria and empties into the Atlantic.

With modern agricultural methods rice could be grown in abundance. Especially in Sierra Leone, Dr. Lowdermilk believes, enough rice could be grown to fill local needs and to supply England with all she could possibly consume.

In and near Kano in northern Nigeria, peanuts are grown in greater quantities than present facilities make it possible to ship out by a narrow gage railroad. The people had to build some 200 great pyra-

mids of peanuts 20 to 30 feet high and containing as much as 250,000 tons.

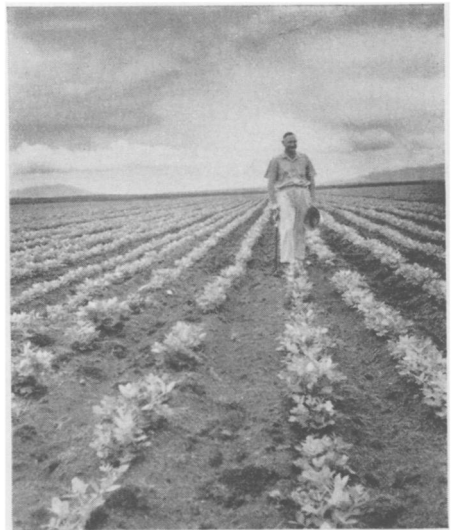
Another exceptional locality from the point of view of climate is the Jos plateau in east central Nigeria. On this flat tableland, 5,000 feet high and rich in tin, Dr. Lowdermilk found an ideal summer resort climate. There, too, he discovered that a prehistoric people—about whom there remains not even a legend—had built an elaborate system of terraces for farming on slopes.

These terraces were laid out so well that Dr. Lowdermilk thinks that the builders must have had accurate instruments. They built stone drainage channels and there is even evidence that they had provided for irrigation.

Damage from Erosion

Other parts of Nigeria have been terribly damaged by erosion. In some places, great gullies have been torn in the earth's surface 200 to 250 feet deep. Although tremendous sums have been spent in an attempt to stop the deepening of these gullies, the effort has been unsuccessful.

Dr. Lowdermilk observed hopeful possibilities for tree farming in South Africa. In one area in Swaziland in the southern tip of Africa, trees grow with phenomenal rapidity. This is in a misty zone with heavy rains, and trees grow as much as ten feet a year. The wood production is about five times as fast as that grown in the



"GROUND NUT" SCHEME—Dr. T. P. Phillips inspects his crop of peanuts which is part of the much publicized plan to grow peanuts for oil for England. Director of agriculture of the "ground nut" scheme, Dr. Phillips is a noted South African agriculturist.



CROP FOR CASH—In one misty rain-forest area, the trees grow so very rapidly that they form a profitable crop for tree farmers who grow them to cut and sell.

United States. Many people there are engaged in tree farming because the return is so fast that it makes it very profitable.

In another misty belt in Southern Rhodesia, Dr. Lowdermilk saw in a remnant grove of about 200 acres, at Mt. Salinda, a giant mahogany tree nine feet in diameter and 170 feet tall. But these forests are constantly endangered by the practice of burning over the land. On fire-swept savanna, he saw what he calls "cripple trees," damaged and deformed by burning so that the wood is worth nothing except for fuel.

Pilot Projects as Models

To solve Africa's tremendous twin problems of over-population and agricultural underproduction, Dr. Lowdermilk urges the establishment of pilot projects designed to show African natives in a concrete, visible way what can be done to turn their land to greater production.

Such projects offer a pattern for point four assistance; they could serve to demonstrate measures of rural reconstruction, Dr. Lowdermilk points out.

These pilot projects of rural reconstruction should have three legs to stand on. The first leg, agriculture, would demonstrate improved production per acre, but more important, increased production per man, which will give farmers greater purchasing power.

They will show the people what a modern farm is like. They can go home, imitate, and turn their stone-age farms into modern food producers.

But more efficient agriculture would release man power. If there are not jobs to take up the manpower, the agricultural program would bog down. So the second leg would be decentralized rural industries to make articles that would improve

living for the people—tools, vehicles, home furnishings.

The third leg would be village improvement: roads, transportation, sanitation, communication, water supply, clinics, schools.

These three aspects of the pilot project should move along together. They would also serve as training grounds for the people and for teachers of the people. The education in model schools should then be tied in to the community life, to the land and to reconstruction. The church should also be located there, forming a part of

the activity for the betterment of living conditions.

On his way home, Dr. Lowdermilk visited the "ground nut scheme" of Tanganyika. Dr. T. P. Phillips, well known agriculturist of South Africa, recently accepted directorship of the agricultural activities of the project. Under his leadership, this rash undertaking has a much better chance of growing peanuts for vegetable oils for England. In drier areas, Dr. Phillips is growing sunflowers for oil seed and in suitable soils, peanuts.

Science News Letter, September 9, 1950

GEOLOGY

Wegener Theory Disputed

► EUROPE and America never lay cheek by cheek in a past geological era only to drift apart and form what is now the Atlantic Ocean.

The famous Wegener theory of continental drift advanced over two decades ago was disputed in Birmingham before the British Association for the Advancement of Science by a Dutch geologist, Prof. J. H. F. Umbgrove of Delft.

Even if there was a mysterious mechanism that allowed continents to drift over the face of the earth, data presented by Prof. Umbgrove contradict the supposed consequences of the drift.

Prof. R. D'O. Good, botanist of University College in Hull, agreed that the idea of vast continental movements does not fit the facts. The distribution of flowering plants in the world is usually explained by assuming that the isolation of the chief land masses was once less than it is today, but Prof. Good finds that this is not necessarily so.

The discontinuous distribution of animals in the world favors the Wegener

theory, however, Dr. H. E. Hinton, zoologist of Bristol University, said.

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WILDLIFE

African Rats Reach National Zoo

► LOOKING somewhat like undernourished porcupines, two strange, shy African rats have come to the National Zoological Park in Washington. Their technical name is *Lophiomys*—meaning giant crested spiny-haired rat; their home, the British protectorate of Uganda in East Africa. Strictly vegetarians, and believed by Dr. William Mann, director of the national zoo, to be in a rodent family all to themselves, the animal newcomers may be the first of their breed ever to have reached the United States.

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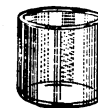
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