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JPRS L/10321

12 February 1982

# Worldwide Report

ENVIRONMENTAL QUALITY

(FOUO 2/82)



FOREIGN BROADCAST INFORMATION SERVICE

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INTER-AFRICAN AFFAIRS

LACK OF RAIN HARMING SAHEL AGRICULTURE

Paris JEUNE AFRIQUE in French No 1093, 16 Dec 81 pp 82, 83

[Article by Mohamed Maiga: "Requiem for the Sahel"]

[Text] Once more, the shadow of death hangs over the Sahel. This year, the food situation for men and livestock is more precarious there than in the darkest days of the seventies. The 1981-82 farming season will obviously be a failure in practically all the states of that area forsaken by the gods. And this year, as in the previous year and as in the 1972-73 season, they all live with the haunting fear of a serious grain shortage.

"I have never seen anything as bad as this," we were recently told by "grandfather" Bonzei, a robust 84-year old man now retired from the Water and Forestry Services Department of Watagouma (Mali). Bonzei, with almost a century of experience in desertification, knows what he is talking about.

What happened in 1981? Mother Nature betrayed mankind as it did last year. The rainy season started auspiciously in May. The rains were coming down thick and fast. Good green grass and grain shoots carried the promise of good harvests for December and January. But, unfortunately, these hopes were soon shattered. Just like in 1980. The rain stopped as suddenly as it had started. That was in September and October, at the most critical moment, when the grains are at the stage of "advanced pregnancy," as they say in the Sahel, and badly needed the water. The millet--grown on "hilly areas" which means far from the rivers--soon turned yellow then crumbled away under the saddened and powerless eyes of the farmers who had spent their last ounces of energy weeding and doing other arduous tasks under a relentless sun.

The rice, which had been planted along the rivers, went the same way as the millet. Both in Mali and in Niger, the ricefields waited in vain for the floodwaters which should have made up for the lack of rain. The "freshet" came too late.

An additional scourge, insects and other "millet-eaters," jeopardized any efforts, however small, made to irrigate. Forming huge black clouds, for weeks the locusts and grasshoppers swept down on the young shoots which were still standing. Something unusual if not unprecedented happened: these small beasts,

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more voracious than usual, devoured even the grass reducing the livestock to dying. So for many stockbreeders, the laborious and slow "reconstitution of the livestock" is a phrase which does not make sense anymore. After becoming consolidated for a period, the nomadic cattlemen are dispersing again driven by the need to seek hypothetical waterholes and grazing lands.

As for the sedentary cattlemen, they are emigrating again to the very few areas which have fared better (and there are not many of those). This is why in the Watagouma District (saved from desertification by the determined fight against woodcutters carried out first by Bonzei and later by his son Bouba) which lies between Mali and Niger, there has been a concentration of populations of every ethnic origin. Some live off the wild fonio while others rely on good old African solidarity and wait for the relief of "international assistance."

However, most of these populations of northern Mali are migrating toward their traditional population development areas: Niger which is facing a difficult food situation; Ghana in the clutches of insurmountable economic problems; Nigeria which is determined to oppose the immigration of its African "brothers"; the Ivory Coast which is no longer the same Eldorado as during the last decade.

Since misfortune never comes in a single shape, the food shortage hit the local population just when the liberalization of grain trade practices in Mali has resulted in shattering increases of prices.... What little rice there is costs 500 Malian francs (250 CFA francs) a kilo in a country of large families and small incomes. High prices also make it difficult to purchase a bag of millet in Niger....

An even more serious development, which is the cause of the famine drama, is the desertification which becomes more visible with every passing year. In a location 100 kilometers west of Watagouma, a sexagenarian sadly looks at the sand-covered landscape and reminisces: "To think that 20 years ago I spent my days fighting the baboons." The presence of baboons indicate the presence of forests or, at least, of dense vegetation. This proves how rapidly the environment is deteriorating. The awakening threatens to be shattering for people further south who think that they are safe from the desert....

Naturally, the inhabitants of these accursed regions are waiting for the relief of foreign aid, the uncertain nature of which they clearly perceive. "Instead of the tons of flour which are sent to us every year, we would rather have a modest irrigation pump for each village," a leading Watagouma citizen told us. Would several thousand of those pumps cost the international community more than the hundreds of thousands of tons which every year make rich a handful of civil servants who have become experts in the art of misappropriating international donations?

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MADAGASCAR

BRIEFS

TROPICAL STORM DAMAGE--Benedict, the first tropical depression to hit Madagascar in 1981, on 20 December caused the following damage to Nossi-Be and the northeast shore; destroyed 80 percent of the materials used in daily production; disrupted communications; left 500 persons without shelter; destroyed 80 percent of the agricultural production; damaged hotels, some as much as 50 percent; damaged homes and public buildings, including the medium-wave relay station. No lives were lost and reconstruction has already begun. /Excerpts/ /Paris MARCHES TROPICAUX ET MEDITERRANEENS in French No 1886, 1 Jan 82 p 40/ /Copyright: Rene Moreux et Cie Paris 1982/

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FEDERAL REPUBLIC OF GERMANY

INCREASED POLLUTION OF BALTIC SEA PREDICTED

Hamburg STERN in German 17 Dec 81 pp 134, 136

[Article by Horst Guentheroth: "Mass Death on the Ocean Floor"]

[Text] Each year large sections of the Baltic Sea floor are becoming contaminated. Experts fear that if the level of water pollution continues to rise, that the Baltic Sea will soon be dead.

Only slowly does the Baltic Sea recover from the consequences of the warm weather of summer. Severe autumn storms agitate its waters and once again "puff" oxygen into the "dead zones" of the ailing Baltic Sea.

"Yet this is a long way from bringing the Baltic Sea back to health," observed Dr Claus Valentin of Kiel University's Zoological Institute to STERN. "The next regression is already preprogrammed. The mass death on the sea floor will start again as soon as the water gets warmer and -- as was the case this year -- remains calm for a longer period."

While beautiful late summer weather lured hundreds of thousands of vacationers to the seashore, every life form beneath the seas's surface was dying over broad areas. The process of decay had consumed vitally important oxygen to a degree never before observed and had led to the generation of toxic sulfur dioxide with the stench of rotten eggs.

At the beginning of October the Institute for Oceanography at the University of Kiel had reported, "below 20 meters the Kiel Bay is dead." In regions north of Fehmarn, which had traditionally been regarded as good fishing grounds and where no lack of oxygen had been observed earlier, the water at the sea bed had turned bad. Carl Valentin could only note that the lack of oxygen between mid-May and late October had brought about the extinction of every life form in large stretches of the Flensburg fjord.

The gravediggers of the Baltic Sea are recruited from nature as well as mankind. Bacteria undertake the grisly job. They feed themselves primarily from tiny algae and microscopic life forms which live in enormous quantities in the water, die and then sink to the bottom. In the process of decay which follows the bacteria at first consume all of the available oxygen. Then sulfur dioxide is generated in increasing measure, annihilating everything that cannot escape.

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An important condition for the creation of such dead zones is the lack of exchange between the oxygen-rich surface waters and those at the bottom. Several factors in the Baltic Sea inhibit this life sustaining process:

- there are no high or low tides or oceanic currents in this nearly inland sea.
- its straits allow scarcely any inflow of fresh salt water from the North Sea.
- this heavier salt water collects at the bottom and is soon exhausted. The lighter, relatively less salty Baltic Sea water collects in a layer on top and inhibits the oxygen exchange.
- higher summer temperatures and relatively calm seas tend to stabilize this deadly layering.

Given this situation, additional intrusions by humans can have devastating consequences. The seven countries which border on the Baltic Sea discharge their sewage into its waters. This discharge contains enormous quantities of chemicals which pass through sewage treatment plants almost unimpeded:

Now flowing annually into the Baltic are 34,000 tons of phosphates. They originate in the garbage of the 140 million population of its coasts and in industrial wastes.

Residues of 130,000 tons of nitrates from agricultural fertilizer reach the Baltic every year.

Phosphates and nitrates are nutrients for the algae, which react to such high quantities at warm temperatures with a luxuriant growth. The bacterial destruction of these additional algae alone consumes some 3.6 million tons of oxygen per year.

Marine biologist Valentin was able to observe directly the effects of this massive influx of nutrients in the Flensburg fjord, "at the same point, where the inner fjord showed ocean floor fauna in 1978 at a depth of 15 meters, life has now been annihilated at a depth of 9 meters." As a youth Valentin was so fascinated by the marine life of the Flensburg fjord that he decided to become a marine scientist.

Yet man has not just stolen the last reserves of oxygen from the Baltic Sea. He has also provided it with a system of lethal injections of sewage:

- heavy metals by the ton, primarily from industrial wastes, are being dumped into the sea. They assimilate themselves within the marine nutrient chain and lead to diseases and deformations, especially among animals.
- herbicides, insecticides and the chemical PCB encumber the sea. PCB discharges into the Baltic Sea have led to the fact that 80 percent of its seals are now infertile.
- radioactive substances from a still undetermined source are reaching the sea.
- some 100,000 tons of oil every year flow as a result of accidents or negligence into the Baltic Sea. In late November a tanker went aground at the harbor entrance of the Lithuanian city of Klaipeda (Memel) during a storm; 10,000 tons of oil were released.

In the Kiel bay the firms of Texaco and Wintershall have proposed drilling for oil starting in 1983. An annual production of 400,000 tons is projected. A drilling mishap could have devastating consequences, especially in the ailing Baltic Sea, since oil slicks would reach the nearby coasts very quickly.



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The responsible politicians like to take cover behind the argument that the oxygen-free zones in the Baltic will disappear in the fall like a bad dream. Yet the "Baltic Sea Commission", a group of marine scientists from all the Baltic Sea countries founded in 1974, reported in a recently published study that the average oxygen content of the Baltic Sea basin has been steadily declining for some 80 years. Remarks marine biologist Valentin, "Ways and means have got to be found quickly to filter these substances out of sewage discharge. Even better would be not to let them be discharged at all."

A first step would be the reduction in use of fertilizers in agriculture and the construction of more efficient sewage treatment plants. But the scientists and politicians are still at odds on such points. Hopefully the Baltic Sea will survive their conflict.

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