

India on stand-by for a plague of locusts

INDIA is standing by for a locust invasion on its borders with Pakistan. Five wireless-linked locust control centres have been established in the border states, and chemicals, men and machines rushed in as locust activity increases. An agreement has been signed between the two countries for a joint strategy to combat the menace. Field officers on either side of the border are meeting regularly to exchange information on locust swarms, egg-laying and emergence of hoppers.

If the locust threat materialises, it will be the second invasion this year. It was in mid-June that the first swarmlets of locusts invaded India. A rare change in wind pattern over the Arabian Sea brought them to Banas-kantha and adjoining districts of Gujrat from their original breeding grounds in Africa. The Plant Protection Organisation of the Agriculture

Ministry swung into action and neighbouring states alerted. Benzene hexachloride dust, dusting machines and handpump sprayers were rushed in.

Swarmlets swept in across the India-Pakistan border, and spread to Rajasthan, Haryana and Punjab. They came in small and thin waves. A swarmlet was hardly larger than 3 sq km in area—though a swarm as large as 27 sq km was also spotted in Rajasthan.

India's last locust plague, 16 years ago, destroyed half a billion rupees of standing crop. Except for spoiling leaves and some standing cotton crop in Haryana, the recent invasion did almost no damage—thanks to timely action by the Agricultural Departments of Punjab and Haryana.

Control rooms were set up and anti-locust squads formed. Villagers were trained to report any sign of locust activity. Areas where the locust swarms

had laid eggs were ploughed or sprayed with chemicals. The conventional methods of flame-throwing and digging trenches were also used in some villages, and eventually, all the swarmlets were either killed or paralysed, except one which managed to fly back to Pakistan across the Sutlej river.

The current locust concentration is in the largely desert Saurashtra-Kutch region of Gujrat. At this time of the year, heavy rains turn it into a marshland and a breeding and egg-laying ground for the locusts. Locust swarms have also laid eggs in a large number of villages in Rajasthan.

A total of 100 vehicles, five planes, two helicopters, 100 power dusters and 5,000 hand dusters have already been rushed to these border areas. Border Security forces and the Air Force are also on hand if needed.

Dilip M. Salwi

Vietnam still looking for foreign aid

VIETNAM'S appeal for more development aid seems to be having a mixed reception. Many countries and international agencies have signed technical and scientific aid agreements with the Vietnamese, but some now have reservations about starting new programmes. The United States refuses to consider any commitment to Vietnam until diplomatic relations are restored.

International organisations provide a substantial proportion of Vietnam's current aid revenue, and a number have commitments within the country. The World Food Programme, for example, has provided US \$89 million since April 1975 for emergency assistance, irrigation work, resettlement programmes in the 'new economic zones' and afforestation programmes. The United Nations Children's Fund is giving \$73 million from 1976-1979 to provide basic health care and primary education and to improve drinking water supplies. In addition the U.N. Family Planning Association (UNFPA) is already operating family planning programmes and will manufacture contraceptives; and the World Health Organisation (WHO) is, to take one example of its activities, training health care personnel.

Financial institutions such as the World Bank and the Asian Development Bank are also to make funds available for projects to improve irrigation, rehabilitate light industry, explore oil resources, and develop telecommunications.

UNESCO and the International Atomic Energy Association (IAEA)

are two of the more scientifically-orientated agencies with an interest in Vietnam. UNESCO is helping to equip the Nha Trang Centre of Oceanography and to set up the Scientific Information and Documentation Centre. (Because of its concern in the field of the restoration of historical monuments, it is also being asked for assistance in restoring the former imperial capital of Hue.) The IAEA feels it could help with the application of isotope and radiation techniques to agriculture and ground water surveys—both given top priority in the country's development programme.

Vietnam is no longer at the top of the UN list of those in need of development assistance—that position is now taken by Angola and Mozambique. But interest in Vietnam has not waned. The report back in March of the Special Commission on Assistance to Vietnam was very well attended. The Soviet Union, China, and the nations of Eastern Europe have long supplied aid to Vietnam and more recently Sweden, Norway and Holland have also established commitments in the country. They are maintaining a keen interest in the redevelopment of the country and are involved in several specific projects.

Vietnam has given science and technology high priority, but most aid agreements favour technology. Those concerned more with science, and involving Western nations, are limited to India, France, West Germany, Canada, Switzerland and the Philippines. These agreements are mainly to provide

advanced training for Vietnamese students.

Lack of technical equipment presents great problems for scientists in Vietnam. This means that research targets are not always met and—for biologists in particular—research programmes are sometimes postponed. The United Nations mission to Vietnam highlighted the needs of Vietnam's scientists, and the UN officials involved with the mission do not hide their disappointment at the apparent disinterest shown by countries supplying scientific aid. They admit, however, that they are not privy to the terms of every bilateral aid agreement and that some countries may be assisting by supplying scientists with vital equipment.

Britain, however, has no immediate plans to supply scientific aid. It is concerned with human rights in Vietnam. The Ministry of Overseas Development (ODM) and the Foreign and Commonwealth Office say that aid already committed to Vietnam will not be affected, but that no new agreements will be made until the government is reassured that human rights are not being violated.

But Britain is not alone. Sweden and Holland have expressed similar concern. They are worried about press reports of refugees leaving Vietnam; of the measures taken to restrict private enterprise in the south of the country; and of the means used to persuade people to move into the new economic zones. The British Government has also shown its concern about human rights in other countries and has

In Britain today only about 400,000 people work full time on the land. Of these 160,000 are hired workers, 200,000 are farmers (tenants, land-owners and managers) and the rest are members of the farmers' families. Thus Britain, with a total population of 56 millions, has a smaller proportion of its citizens engaged in agriculture than has any other country, be it industrialised or what is now called, optimistically or euphemistically, "developing".

Yet notwithstanding this tiny labour force, food production in Britain is greater than ever before. Were we content with the diet enjoyed by all but the greediest and most prosperous individuals a hundred years ago, we should already be more than self supporting in all foods except things like tea and coffee which do not flourish in our temperate climate. We could survive a seige better than in the last war, when we had a smaller population to feed and nearly three times as many people working on our farms.

Farmers are, however, worried, because the small number of workers means that the industry has little political power. There is probably no single parliamentary constituency in even the most rural part of Britain where the votes of farmers, farm workers and their families would substantially affect the chances of election or rejection of a Member of Parliament.

Thus my own constituency of Huntingdonshire is perhaps the one which is most dependent on agriculture. At the last election the sitting member, Sir David Renton (Conservative) had a majority of nearly ten thousand votes. In this area there are 1,391 farmers, smallholders and market gardeners, and about the same number of employed farm workers. A few of these are below voting age, quite a number are single, and the total strength of the voting force is probably under five thousand. We do not know exactly how these

Farming lobby



KENNETH MELLANBY

people voted in the past, or how they will vote in the future. Large scale farmers are mostly traditionally Conservative, the workers trade union is to the left of the Labour Party, many smallholders are Liberal in their sympathies, so the farming vote is likely to be split. But even if 100% turned out for one candidate, the total would be less than half the present member's majority.

It is partly because their political power is so reduced that British farmers are making greater efforts to develop public interest and sympathy towards their problems. Many thousands of the general public attended the recent Royal Agricultural Show, where various entertainments were provided as well as displays of traditional farming activities. Up and down the country smaller county and district shows set out to cater for the non-farming public, giving them an enjoyable day out and a painless education at the same time. The town dweller at least learns that milk does not originate in bottles and tins, and that their daily bread comes from an arable crop which has its own pest and disease problems.

A recent development has been the organisation of "farm trails". On a Sunday afternoon in late June I went

along to a large arable farm in the fens near to my home. A conducted tour started off every hour. I joined about 150 miscellaneous men, women and children, from town and country. We mounted trailers to be drawn by enormous tractors around the fifteen hundred acre farm. The arrangements went smoothly, though the farm roads were bumpy, and one tractor (alas, the only British made model) broke down and its load had to crowd onto the four other trailers. We covered several miles on this totally arable farm. We saw fields of wheat, sugar beet, potatoes and green beans. At strategic points we stopped to be addressed by our guide, who explained what each crop was, and the main problems it presented. We were told why they kept no farm animals. We saw immense modern machines, for instance one to harvest beans (for freezing) which cost over £50,000 and was only used for about ten days in each year.

The crops, though not yet ready for harvest, were superb. It was obvious that yields would be greatly above the national average. Those who criticise large farms for being unproductive, in yield per acre, should have been there. Hardly a weed remained in the crops, though odd corners of fields were left uncultivated or planted with native trees and shrubs to encourage wildlife. Even a few hedges remained. This may be the "agribusiness" which many of my conservationist friends so criticise, but we could see how good farmers maintain and improve the fertility of their soil, and even care for the countryside and for the conservation of wildlife. In the depression in the nineteen thirties this farm was derelict, no one was prepared to work it even at the lowest rent. It is now producing enough food to feed all the population of a small town, and its yields continue to grow year after year. The demonstration was evidently an excellent exercise in public relations.

curtailed aid programmes to Uganda and Bolivia.

On the grounds of development alone, Vietnam is regarded by the US as well as Britain as being entitled to substantial aid. But there is little chance of the US supplying official aid in the near future. 1978 is an election year, and officials say that aid for Vietnam is too controversial an issue at present.

Vietnam and the US have not established diplomatic relations; both governments insist on certain preconditions before normal relations can be

restored. Senate officials have been assured, however, that unofficial links between scientists and institutions will not be opposed. Some US scientists are not convinced of the interest of Vietnamese scientists in such exchanges; offers of funding for study in the US have not aroused much response, and several scientists who visited Vietnam in the hope of studying the effects of herbicide spraying found the Vietnamese unhelpful. Such an attitude, however, is not without its political overtones (see *Nature* 271, 597; 1978). For this reason, some

scientists consider that it would be rash to prejudge the Vietnamese on their sensitivity over this issue.

US and UK attitudes to aid to Vietnam are unlikely to have disastrous consequences for Vietnam's current development programme. There could be problems, however, if more countries adopt similar policies. In this case Vietnam's scientists, desperately struggling to overcome the ravages of war on their research programmes would be some of the first to suffer. It is political decisions which will determine the outcome. **Alastair Hay**