

Cancer

Poor countries hit, too

THE World Health Organization (WHO) today launches a campaign in New York to convince Western scientists that the developing countries have cancer too — and that it can be controlled with simple measures.

According to WHO statistics*, of 4.3 million yearly deaths from cancer, 2.3 million are in developing countries. After the most dangerous first five years of life in developing countries, cancer is now one of the three major causes of death (the others being accident and circulatory disease), says WHO. And as life expectancy rises — it is now 68 in Sri Lanka, 64 in Kerala state in India and 62 in China — so does cancer as a cause of death. And the trend is rising rapidly as other infectious and parasitic diseases are brought under control, and as Western habits such as smoking increase.

WHO's cancer director, who has begun this campaign, is Dr Jan Stjernswärd, a Swede who until 1980 was director of the thoroughly First-World Ludwig Cancer Institute at Berne in Switzerland. But time spent in Africa, partly among the Masai tribe administering BCG immunotherapy ("when I was a witch doctor" he says) seems to have convinced him that there is more to be done about cancer in the developing world, where, he claims, one-third of cancers are preventable and one-third curable, often by primary health care and screening.

Stjernswärd is distressed that governments in many developing countries are adopting expensive radiotherapy and chemotherapy technologies on the Western model precisely when the development of these techniques in the West has been "plateauing off". At WHO, he has instituted a cost-effectiveness study of different therapies for oral cancer (caused mostly by tobacco-chewing) in India and Sri Lanka, which found that giving a "Rolls Royce" Western hospital-type treatment to one individual would actually cost 19 lives that could have been saved from cancer by early diagnosis, he says. Cancer is recognized and treated very late in developing countries, Stjernswärd finds. Yet a trial in India to see if village "barefoot doctors" could learn to recognize the early stages of oral cancer showed that barefoot diagnosis was as good as a specialist's after only two days' training.

According to data that Stjernswärd has collected, the most rapidly rising form of cancer in developing countries is lung cancer — probably caused by smoking. Nearly a quarter of young Chinese males now smoke, he says, as a symbol of affluence, and smoking is rising by 2.2 per

cent per year in China compared with a fall of 1.1 per cent a year in the West.

By continent, Asia has the most cancer deaths, in the world, 1,858,000 a year, followed by Europe with 1,398,000. North America has 447,000 cancer deaths a year. On current trends, world cancer deaths will rise to 8 million yearly by the year 2000.

The world's most common cancer is stomach cancer, followed by lung cancer; however, as stomach cancer is declining and lung cancer rising, the two will shortly change places, the WHO figures show. Liver cancer, closely associated with

hepatitis B, shows up at only half the rate of lung cancer but may be under-diagnosed. Stjernswärd has great hopes of hepatitis B vaccine, although its present cost — as derived from blood — of \$80 for three shots is far too expensive for health agencies in developing countries, where the average health budget is \$1–2 per head per year.

But China, remarkably, with its own production, hopes to bring the cost of blood-derived vaccine down to 50 cents for three shots. There will not be enough of that to go round, however, and the development of a cheap genetically-engineered vaccine — which seems just around the corner — would be very welcome.

Robert Walgate

Soviet agriculture

Salt in the wounds

SOVIET agriculture could face serious problems due to the salination of over-irrigated soils, Academician Anatolii P. Aleksandrov, president of the Soviet Academy of Sciences, warned recently at a high-level economic conference convened to review the progress of the "food programme" launched in May 1982. The purpose of this programme, Soviet publicists insist, is not merely to ensure sufficient food for the 260 million citizens of the Soviet Union — which they claim has already been achieved — but rather a radical change in Soviet eating habits, bringing the consumption of animal products up to "world levels" and cutting down on carbohydrates.

To feed the cattle and poultry needed for this new high-meat, high-dairy diet, the programme calls for a major switch from

device developed under the space programme to determine the composition of the soil of Venus has been modified by academy scientists to check the wetness of irrigated soils. Petr Pleshakov, the Minister of the Radio Industry, Aleksandrov reported, had "sworn" to put his device into full-scale production. Nevertheless, so far, "nothing had been done in this respect for many years." As a result local agronomy experts have no reliable information on the effects of irrigation in their area.

Aleksandrov's argument seems a little specious — the Venus-soil analyser was not invented for terrestrial purposes, and its adaptation seems rather to reflect party directives that the space programme should be seen to serve the national economy and that science should serve the food programme. It is difficult, too, to credit the implication that without the radars, it is impossible to monitor salinity.

According to Aleksandrov, such deficiencies as can be admitted in the food programme are the result of industry letting down the scientist. And sometimes the onus is with the planners — for instance, after the Institute of Biochemistry and Physiology had spent time and effort in developing a biotechnological method for producing a fodder protein from "paraffinaceous oil", a ministerial decision was made to conserve oil and work had to start on using natural gas instead.

Aleksandrov's special pleading on behalf of the academy scientists did not, however, touch on the shortage of younger scientific personnel for the food programme. According to a local conference in Estonia last winter, it is virtually impossible to attract young scientists into agricultural work. The monthly grant for a postgraduate student in agriculture is only 100 rubles (the average workers' wage is about 175 rubles per month) and those who begin postgraduate work immediately after their first degree get a reduced grant of only 85 rubles a month.

Vera Rich



cereals to fodder grains in the warmer (but drier) areas of the south and east. At present the Soviet Union has 18.6 million hectares under irrigation out of a total arable area of 214.6 million hectares, although part of this irrigated area is used for non-edible cash crops, notably cotton.

Aleksandrov did not state categorically that salination has yet occurred, but the tone of his remarks suggested that, at the least, the possibility is causing considerable concern. Already, it appears, a somewhat unlikely contingency scapegoat has been selected. According to Aleksandrov, a twin-frequency sidewise looking radar

*See "Estimates of the worldwide frequency of twelve major cancers" in the forthcoming (May) issue of *Bulletin of the WHO*, Vol 62, p.163 (1984) by D. M. Parkin, J. Stjernswärd, and C. S. Muir.