



The Broken Chair by Daniel Berset, Place des Nations, Geneva.

Progress made in reducing the number of landmines worldwide

The world is starting to embrace a new international norm where it is no longer acceptable to use landmines in armed conflicts, says the International Campaign to Ban Landmines.

The campaign's second annual report, *Landmine Monitor Report 2000: Towards a Mine-Free World*, which was released in September at the Second Meeting of States Parties to the 1997 Mine Ban Treaty in Geneva, Switzerland, says nearly three-quarters of the world's nations have signed and/or ratified the 1997 Mine Ban Treaty. The number of known producers of landmines has fallen, from 54 to 16, and trading of landmines appears to have been completely halted, with no known shipments of mines in 1999–2000. Furthermore, over 50 nations have destroyed more than 22 million stockpiled landmines, which includes 10 million since March 1999.

The International Campaign to Ban Landmines is widely credited with being the driving force which led up to the Mine Ban Treaty. In 1997, the campaign received the Nobel Peace Prize for its contribution. Since then, the campaign has set up the Landmine Monitor, which includes a global reporting network, a central database and an annual report.

For the latest report, the group collected information worldwide on landmine ban policies, use, production, transfer, stockpiling, mine clearance, mine awareness, and the assistance given to survivors. Eighty-eight nations were found to be affected to some degree by landmines and/or unexploded munitions, a higher number than previously thought.

From the time the Mine Ban Treaty came into force in March 1999, up until mid-2000, 11 governments began new use of landmines in 20 conflicts, and these weapons were also used by at least 30 rebel groups or "non-state actors". One of the most deplorable developments since *Landmine Monitor Report 1999*, says the latest report, is the extensive use of landmines in conflicts in Chechnya and Kosovo. Some African countries are also thought to have continued use of antipersonnel mines.

Despite significant progress, the International Campaign to Ban Landmines remains concerned that too few resources are devoted to mine action programmes, including mine clearance, mine awareness and projects to help victims. The report says: "At a time when there is a danger of the international community turning its attention elsewhere, to deal with the next hot issue, there is instead a need for a redoubling of efforts to get mines out of the ground more rapidly and to better address the needs of mine victims and mine-affected communities." ■

Sharon Kingman, *London*

Simple low-cost test for drug-resistant tuberculosis

Researchers at the London School of Hygiene and Tropical Medicine in London have developed a simple test kit that may be used to identify *Mycobacterium tuberculosis* isolates resistant to rifampicin. The kit is suitable for screening large numbers of tubercular strains and also has the potential for use in testing susceptibility to streptomycin. The end-point of the test is a simple colour change, and results are available within 48 hours.

The test uses mycobacteriophage D29, a type of virus which only infects and multiplies within live mycobacteria. Rifam-

picin stops infection of the mycobacteria by the bacteriophage in susceptible strains but not in drug-resistant bacteria. Thus, if the bacteriophage multiply when rifampicin is present, the bacteria under test are drug resistant.

This technology of rapid phage-based detection was first demonstrated two years ago and further cost-analysis work was presented at the World Congress on Lung Health held in Florence in September 2000. Dr Ruth McNerney, who was involved in developing the method, said: "... costs can be minimized by the use of a 96-well plate format. This enables efficient processing of a large number of samples and requires only reduced reagent volumes." Because the reagents needed are cheap (about US\$ 0.35 per assay), the major cost being the labour, the test may be suitable for developing countries.

Tests currently in use for screening for drug-resistant tuberculosis compare growth of the bacteria with and without the drug. However, since the bacteria grow slowly the tests take up to two weeks to complete. Other new rapid tests have been developed but they are too expensive for parts of the world where annual spending on health may be less than US\$ 10 per head.

The cost of the new test compares favourably with the expense of time-consuming methods of susceptibility testing currently in use in low-income countries. ■

Tudor Toma, *London*

Women show increased susceptibility to malaria infection before and after giving birth

Pregnant women may be more susceptible to malaria in the later stages of pregnancy and during the two months following birth, according to a new study published recently (*New England Journal of Medicine*, 2000, **343**: 598–603). Researchers have found that in areas with high rates of malaria, susceptibility increased during the second and third trimesters, reaching a maximum in the 60 days after delivery when women were four times more likely to have an episode of the disease than they were in the year before the pregnancy. The study also found that

the duration of fever was longer, and that the density of asymptomatic parasites was significantly higher during the pregnancy and in the following two months.

In areas where malaria is endemic, pregnant women are the main group of adults at risk. Infection by *Plasmodium falciparum*, one of four parasites that cause malaria in humans, increases the chances of maternal anaemia, abortion, stillbirth, prematurity, growth retardation in the womb, and low birth weight.

In sub-Saharan Africa, where 90% of deaths from malaria occur, it is infants who are most likely to die as a result of maternal infection. Malaria is one of the main reasons why 3.5 million low-birth-weight infants are born each year in the region.

Precisely why the risk of malaria increases in pregnancy is not clear, and several theories have been put forward, including changes to the cellular immune responses affecting protection.

In the new study, researchers analysed 71 pregnancies in 38 women in a village in Senegal. The women were monitored for two years, from the year before conception through to 12 months after the birth. In an accompanying editorial (*New England Journal of Medicine*, 343: 651–652), Dr Bernard Nahlen of the World Health Organization in Geneva, challenged one of the conclusions of the researchers, namely that the increased susceptibility found during the immediate post-birth period may have severe consequences. “[The authors] provide no clinical data to support this conclusion. Thus, it is difficult to accept their recommendations that weekly chemoprophylaxis against malaria should be continued for at least two months after delivery, and it unlikely that extension of this strategy to the postpartum period would result in a major decrease in the burden of malaria among mothers,” he said.

He also pointed out that the emergence of chloroquine resistance and problems of compliance have limited the effectiveness of weekly chemoprophylaxis with chloroquine. The latest studies in Kenya and Malawi (*American Journal of Tropical Medicine and Hygiene*, 1998, 59: 813–822; *Annals of Tropical Medicine and Parasitology*, 1998, 92: 141–150) have found that a new and simpler control strategy of two doses of sulfadoxine–pyrimethamine has proved effective in decreasing maternal anaemia and low birth weight.

Dr Nahlen added that malaria during pregnancy is potentially the most controllable part of the global malaria problem. “However, despite the availability of an effective control strategy, the implementation of programmes to prevent malaria in pregnancy has been rare. WHO’s Roll Back Malaria Programme has brought a new emphasis to malaria-control efforts and has identified the need for control strategies in areas of intermittent or unstable *P. falciparum* transmission, where women have little acquired immunity, as well as in areas of *P. vivax* transmission.”

WHO now recommends intermittent preventive treatment with an effective, preferably one-dose, antimalarial drug such as sulfadoxine–pyrimethamine in areas where *P. falciparum* is resistant to chloroquine and sensitive to sulfadoxine–pyrimethamine. Such intermittent treatment should be made available to women in highly endemic areas, especially for women in their first and second pregnancies. Treatment should be started from the second trimester onwards at intervals of not less than one month apart. ■

Roger Dobson, *Abergavenny*

Outdoor air pollution has a large impact on public health

Outdoor air pollution, although usually of small immediate risk to the health of individuals, has a large impact on long-term public health in Europe, says a report presented at the World Congress on Lung Health in Florence this September. The report was also published to coincide with the congress (*Lancet*, 2000, 356: 795–801).

Dr Nino Künzli from the Institute for Social and Preventive Medicine at the University of Basel, Switzerland, headed a team of specialists who estimated the impact of outdoor and traffic-related air pollution on public health in Austria, France and Switzerland.

The authors attributed around 6% of total mortality or more than 40 000 deaths per year to air pollution. There were more than 48 000 hospital admissions, and about half a million asthma attacks. Traffic accounted for half of this public health impact and also for 25 000 new cases of chronic bronchitis, 290 000 episodes

of bronchitis in children, and 16 million person-days of restricted activities.

Total costs estimates, soon to be published in an Organisation for Economic Cooperation and Development report by the economist Dr Heini Sommer and colleagues, reached 600–700 Euro per capita per year, in all three countries, giving a final total cost of approximately 50 000 million Euro. However the estimates are based on prudent assumptions and the overall impact may be larger.

These findings are significant because they are the first data that can be compared across the participating countries. Cross-country comparisons are possible because population exposure was modelled for each square kilometre and identical assumptions and methods were used.

Given that air pollution is mainly due to the excessive burning of fossil fuels, the promotion of energy efficiency and renewable energies is urgently required to protect both the climate and public health. Dr Künzli emphasized the need for international clean air regulation and enforcement. He said: “the paper strongly underlines the public health relevance of WHO efforts to improve air quality. The opportunistic decisions of governments in many countries to subsidize the use of gasoline and, thus, to support air pollution and the related health effects, is a drastic example for the fundamental failure of politicians to base decisions on scientific evidence, public health relevance, and the vision of sustainable development. WHO will have a long way to go.”

Independently, WHO held a strategy meeting on Air Quality and Health in Geneva in the second part of September that identified major areas to be addressed on the way to creating a WHO strategy on air pollution and health. “WHO would like to provide its 191 Member States with a sound environmental policy framework and actions applicable to different settings and to different socioeconomic conditions” explained Dr Michael Repacholi, WHO Coordinator for Occupational and Environmental Health. He added: “But first all parties involved should hammer out a unified methodology for collecting comparable data worldwide to support science-based assessments of health impacts”. ■

Tudor Toma, *London*