Research on tropical diseases is coming closer to where the action is. By its nature and objectives, social and economic research is primarily concerned with on-the-spot field issues. Here are some examples of dogma-toppling findings of such research, some of it supported by TDR.

To find out how severe a problem urinary schistosomiasis is in a district of the United Republic of Tanzania, a team of scientists from the Swiss Tropical Institute in Basle found that asking teachers and children in schools gave information almost as reliable as that provided by a complicated, expensive scientific field study. It is certainly faster and cheaper, reports Marcel Tanner, who headed the Institute's project.

For the school project, simple questionnaires were sent to the head teachers and to all children aged between seven and 14 in the 77 schools of Kilombero District, in eastern Tanzania. Village chairmen in the 47 villages of the district received the same questionnaire as the head teachers; both groups were asked to rank by severity a list of diseases common in the area. The children's questionnaire asked them to tick off the diseases for which they had had symptoms during the previous month. Questionnaire results were compared with those from a mobile laboratory that tested the urine of children in 54 of the schools for schistosome eggs and blood (the main signs of urinary schistosomiasis).

Within four weeks, results were available from the school questionnaires as compared with three months for the village chairman and for the mobile laboratory. Information from the school questionnaires showed a 95 per cent concordance with that from the mobile laboratory tests — at about one hundredth of the cost. Although the method does not provide a quantitative evaluation of disease severity, it was, Dr Tanner reports, certainly accurate enough to enable anti-schistosomiasis interventions to be targeted to the communities most in need of them.

The Swiss researchers noted that using a country's health system to investigate the prevalence of a disease had, in addition to speed and low cost, the merit of involving several sectors of the community — village elders and local party chiefs, the district administration and education systems, and the children of the villages. They also foresaw the possibility of using teachers to administer schistosomiasis drug treatment to children identified as being infected.

The method was subsequently tried out in the neighbouring district of Kilosa, with its 168 schools and 15,000 schoolchildren and proved equally successful. The teachers themselves were found to be capable of being taught to counter-check the children's questionnaire results quite accurately by dip-stick testing of urine samples. In an extension of these pilot studies, the school questionnaire method is being tested in a further

_Bulinus truncatus, the water-snail which transmits schistosomiasis to human beings._
eight African countries: Cameroon, Congo, Ethiopia, Malawi, Nigeria, Zaire, Zambia and Zimbabwe. The researchers believe such methods could also be used for other diseases, such as river blindness (onchocerciasis) and sleeping sickness.

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Venezuelan peasants and the triatomine bugs that transmit Chagas disease unfortunately like the same kind of housing, with mud walls and palm thatch roofing. The bugs live in cracks in the mud walls and glue their eggs to the palm roofing. Spraying these houses with insecticide is expensive, as well as unpleasant for the house owners. Government schemes for providing the campesinos with "bug-proof" modern prefabricated houses have foundered; the poorest peasants, those at highest risk of the disease, find them too expensive and uncongenial. More than one-third of 200,000 such houses under construction in Venezuela over the past ten years have remained unfinished because the owners default on house loan repayments.

A new pilot scheme, using such local building materials as earth, wood and stone to improve houses or provide new ones more in line with the traditional dwellings, is meeting with considerable success, according to Roberto Briceno-Leon, sociologist at the Venezuela Central University. He heads a research team running the scheme in collaboration with the Housing Department of the State of Cojedes. The villagers were shown how to build the houses and were paid to participate in the construction work. They received loans for the materials used.

Twenty houses were built, all completed within three months compared with more than ten years for the government's prefabricated houses. All the owners repaid their loans before the due date. The least expensive "bahareque" houses cost between US $150 and $300, and the better-equipped houses using stabilised soil blocks $1,300. The government houses cost $2,000 and $4,000 respectively. Tests conducted after the houses were built showed that they were all free of triatomine bugs.

On the strength of these results, the

_Schoolchildren and their teachers in Tanzania proved to give as reliable information on schisto as an expensive field study._
Venezuelan Ministry of Health is planning a similar project to provide 3,000 homes in regions where Chagas disease is endemic. One spin-off from the scheme reported by Dr Briceño-León was a boost to the self-esteem of the campesinos, who are often regarded as social outcasts. Many of them are now building houses of their own, without government help, using techniques they learned during the scheme. Another spin-off was the preparation of a manual which provides simple instructions on how to improve or build low-cost rural housing. The Pan American Health Organization (PAHO) is distributing this throughout Latin America.

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Setting up a primary health care service in a developing country, however well-organized and well-intentioned, by no means guarantees that it will be used by the local population, according to growing evidence from sociological research.

**Health workers overlooked**

One study conducted in a fertile, fairly well-developed district of Burkina Faso found that villagers turn to community health workers in only three per cent of cases of serious illness and nine per cent of cases of mild illness. In the vast majority of instances, other members of the family or professional nurses are the first to be consulted. Only two per cent of toddlers are taken by their mothers to the community health workers. Even with diarrhoea, a condition considered by WHO to be eminently treatable with oral rehydration therapy through a primary health care service, community health care workers are consulted in only three per cent of cases.

These findings are in line with low utilisation rates reported for community health worker programmes in other developing countries: 0.6 to 35 per cent in different studies in Indonesia, two per cent in a Thailand study, 19 per cent in Tanzania and Peru, and 54 per cent in India.

A social and economic research project funded by TDR in the Philippines, found that people with swelling of the scrotum due to filariasis preferred to consult folk healers. Their methods of applying heated stones, herbs and abdominal massage were considered by the patients to be as effective as those of modern medicine, much less costly and more accessible.

The message from these and other studies pointing to under-utilisation of modern health care services provided in the name of primary health care seems to be that these services ought to take into account the health care needs of community members as they themselves perceive them.

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Gold miners in Brazil's Amazon region view malaria as a blessing in disguise, according to a recent study made by the Centre for Regional Development and Planning (CEDEPLAR) at the University of Minas Gerais, Belo Horizonte. Malaria epidemics, sometimes reaching alarming proportions, have been breaking out among workers attracted to the new areas being opened up for settlement and economic development.

Gold miners, who work and sleep outdoors, run a more than 100-fold risk of the disease compared with other categories of workers in the area, the study found. But the miners were not unhappy about the danger because it kept down the numbers of newcomers to the area and hence potential competitors for the limited labour market. They were therefore unwilling to cooperate in malaria control activities. On the strength of these findings, the malaria control efforts of the Brazilian public health control agency SUCAM will focus on control of local epidemics among the gold miners.