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News and Notes

Retirement of Lepra's Fundraising and Publicity Director, Joy Maitland

Joy Maitland came to Lepra in 1973, the second person to be concerned with fundraising only. This post had been created in the late 1960s when prior to this fundraising had never been a major concern of charities in the post-war era, but the need was felt then by Lepra that such a person was needed.

Joy joined Lepra when a major expansion drive had been planned to coincide with its fiftieth anniversary in 1974. With these formidable events at the planning stage—The Royal Albert Hall had been booked for a fundraising event at which Lepra's Patron, HM The Queen, had consented to be present, but no one had been booked to lead the entertainment—Joy took over. Quite quickly the Albert Hall 'event' was changed to a Lord Mayor's dinner on the lines of the inaugural lunch which launched Lepra (then Belra) in 1924. However the 3-day week and its sequelae put paid to this and resulted in substantial donations to offset the disappointment for the Charity cancelling its celebrations.

Joy Maitland had good previous experience for the many faceted work she would become responsible for on joining Lepra. She had worked in hotels in Canada in her very early years, as a journalist, with films, and more recently with a large UK medical charity as part of the fundraising/publicity team and more recently still as the Gill-of-all-trades in a very small but important charity which regrettably demised shortly after Joy left it.

Within a year of joining Lepra, not only was Joy head hunted by a much bigger charity, but Lepra decided to move its headquarters out of London. Joy put up a strong case for the need of a growing charity of international fame to have a London address and this was accepted.

The expertise demonstrated by Joy, together with her enthusiasm for fundraising enabled her to take control of her inherited team of paid and voluntary staff stationed throughout the UK who had only recently been provided with a handbook to guide them. Previously it had been left to the individual to pursue whichever line of fundraising appealed to them most. Targets were set, training courses arranged, and a degree of professionalism gradually developed throughout the Lepra UK team.

Since this was the third medical charity that Joy had worked with she not only had a wide knowledge of the charity fundraising field, but also many friends in it. On the grounds that a person who give to one charity is likely to give to another, if given the opportunity, Joy soon arranged to swap mailing lists with other charities, thus enlarging the number of subscribers on whom Lepra relies. If people responded to one appeal a year, why not to two, or three or more. By careful pilot studies and monitoring results a successful mail appeal section was built up.

Although Joy enjoys fundraising, she will only do it if she has full confidence in the use to which the funds are to be put. Apart from attending meetings of the Medical Advisory Board Joy visited Lepra's work overseas and was introduced to the hardships of working in Sierra Leone before going to Malawi and India.

There are times when circumstances rightly influence an organization's structure. Lepra, in the 1970–80s, was a charity with its administrative headquarters in Colchester, its fundraising and publicity headquarters in London, with staff dotted around the country in 14 different offices, whilst its leprosy work was mainly in Malawi, India and Oxford. As a result, and since Joy had

demonstrated her ability, she was made a Director in 1974 and became responsible to the Executive Committee for the publicity and fundraising of Lepra. Although shared responsibility of this nature is usually frowned upon, the structure worked for Lepra with the two Directors working very closely together, but with clear divisions of responsibility.

This shared responsibility lead to, amongst other things Joy becoming closely involved with ILEP and its affairs. Most of those attending ILEP meetings were responsible for, and mainly interested in, the spending rather than the raising of money. Joy was able not only to introduce joint fundraising efforts, e.g. a fundraising film, and a universally accepted poster for World Leprosy Day 1989, but ensured that the status of fundraisers was improved by arranging meetings of the ILEP Publicity Committee, which she chaired for many years, to coincide with ILEP meetings. It was due to Joy that Lepra was invited to take on the Presidency of ILEP for 1984–86.

The status and ethics of fundraising have been of major interest to Joy during her career in the charity field. Not only has she encouraged training at all levels, but she has worked hard to gain acceptance of standards of advertizing and standardization of information distributed by charities in their literature—to achieve an agreed figure for the estimated number of leprosy patients in the world caused her much work.

In the UK Joy has been concerned with the ethics of fundraising on a wider basis. She was instrumental in setting up the ICFM, the Institute of Charity Fundraising Managers, a body which laid down standards and guidelines for charity fundraisers and which she chaired for many years.

For readers of *Leprosy Review* however Joy's achievements will be judged mainly on the amount of money she raised to be used in the fight against leprosy. The figures speak for themselves. In 1973 Lepra's income was £394,000. In 1989 it is estimated to be £2,607,000.

Well done Joy, and thank you. Happy retirement.

Francis Harris, *retired Director of Lepra*

Vaccine trials in India

The following is extracted from *Nature*, **340,** Number 6233, 1989:

After nearly four years of vacillation, the Indian government has agreed to launch a human trial of the anti-leprosy vaccine developed by the World Health Organization (WHO). India will be the third country, following Malaŵi and Venezuela, to test the vaccine.

The WHO vaccine, a combination of live BCG and heat-killed *Mycobacterium leprae* derived from armadillo, has been cleared by the drug controller and according to Dr A S Paintal, director general of the Indian Council of Medical Research (ICMR), the trial, to be funded by ICMR, will start in January 1990.

The decision, reached at an ICMR expert committee meeting early in July, brings to an end a long controversy that began at the time WHO proposed an Indian trial of the vaccine in 1985 (see *Nature*, 1985; **317:** 665). Although ICMR was keen, the proposal was voted down by a section of leprologists who claimed that a cheap, effective and safe indigenous vaccine was available and that there was no need to test the WHO vaccine (see *Nature*, 1987; **328:** 660).

Since then, two more candidate vaccines have emerged from Indian laboratories, prolonging the debate between those who favoured the WHO vaccine and those who favoured home-developed vaccines.

The plan is to use the BCG–*M. leprae* vaccine in phase-two trials on a few thousand healthy people to determine if there are any adverse effects. The trial will last 4 months. After that, the vaccine will be evaluated, along with two (or possibly three) Indian vaccines, in a single 'comparative' trial involving several thousand subjects at one location in south India. The vaccine that gives the best results, whether Indian or foreign, will be recommended for India's leprosy control programme.

Dr Paintal says the trial will be designed and conducted by a committee of experts chosen by ICMR. WHO will simply supply the vaccine and provide one scientist to sit on the monitoring committee. This arrangement constitutes a major change from earlier vaccine trials where WHO

assumed total control while Indian participation was limited to provision of infrastructural facilities and manpower.

The two Indian competitors in the race are the ICRC vaccine developed at the Cancer Research Institute (CRI) in Bombay and the vaccine developed at the National Institute of Immunology (NII) in New Delhi from a soil mycobacterium. A third Indian vaccine developed at the Central Drug Research Institute in Lucknow (from *Mycobacterium habana*) may also be included in the study.

Leprosy vaccines

The following is extracted from '*Tropical Diseases; Progress in International Research, 1987–1988*, UNDP/World Bank/WHO, Special Programme for Research and Training in Tropical Diseases (TDR), 1989:

M. leprae shows about 40% DNA sequence homology with *M. tuberculosis*, and the two organisms have much in common, including sensitivity to particular drugs and their ability to modulate the host immune response. The mycobacterial cell wall has been shown to act as a powerful adjuvant, potentiating immune responses to a variety of antigens. Both species can stimulate an intense delayed-type hypersensitivity in the host (a reaction that forms the basis for the tuberculin and soluble *M. leprae* antigen skin tests) and in the case of *M. leprae* infections, progression to severe disease is due largely to an inability of the host to mount this cell-mediated immune response.

There are thus two approaches to the use of leprosy vaccines: immunoprophylaxis, which seeks to prime the immune system to prevent the establishment of an infection; and immunotherapy, which seeks to boost suboptimal cell-mediated responses in order to prevent the development of severe forms of the disease. In addition, better understanding of the immune responses to *M. leprae* should help in identifying the patients who are most at risk of developing severe disease.

Vaccines for *immunoprophylaxis* currently undergoing field evaluation with TDR support are based on heat-killed *M. leprae* derived from armadillos. Two long-term trials are in progress. The one in Venezuela,[10] of which the intake phase has been completed, now includes more than 29,000 household and other contacts of known leprosy patients. In the other trial, in Malawi,[11] which will eventually involve 120,000 persons and cover an entire leprosy-endemic district, 95,000 persons have been enrolled to date. Both trials began in 1984–85, after preliminary sensitization studies on smaller numbers of individuals, using the killed *M. leprae* vaccine with or without BCG. No serious vaccination side-effects have been reported, although problems have been encountered with batch-to-batch variability of the soluble antigens used for skin-testing. Because of the long incubation period of leprosy, the trials are expected to last for 7–10 years, with periodic examination of subjects for the development of leprosy.

In India, two non-TDR-funded trials of leprosy vaccines, based on cultivable atypical mycobacteria have also been initiated.

Immunotherapy trials are continuing in China, France and the Philippines. These trials are comparing the heat-killed *M. leprae* vaccine and BCG, either alone or in combination, administered to lepromatous leprosy patients who show a negative skin-test (indicating impaired cell-mediated immunity). The aim is to determine the acceptability of repeated vaccination, and to determine how effectively the different vaccines enhance the immune response and lead to conversion to a positive skin test.

Research to develop synthetic vaccines based on specific antigens or antigenic subunits has been aided by the further characterization of proteins defined by genes isolated from material in the WHO *M. leprae* and *M. tuberculosis* recombinant DNA expression libraries (gene banks). The amino acid sequences of four proteins of different relative molecular mass (M_r)—18,000, 32,000,

65,000 and 70,000—have now been deduced from the DNA sequence, and this will help in elucidating all the T-cell-stimulating determinants (epitopes) present in them. Human *M. leprae*-specific T-cell clones have also been established that recognize unique recombinant proteins that are coded by genes in the *M. leprae* gene bank but not recognized by existing antibodies. At least three *M. leprae* proteins have been shown to have a striking DNA sequence homology with known stress or heat-shock proteins (HSP).[12] Research is proceeding into the significance of this finding. Heat-shock proteins are ubiquitous, being found in animals, bacteria, parasites and plants, and appear to play a complex role in the interactions between host and pathogens.

The recombinant mycobacterial analogue of the 64K (M_r 64,000) heat-shock protein from BCG is now in production in gram amounts for distribution by TDR to provide reference material for the identification of epitopes that might be included in candidate mycobacterial vaccines.

By using a shuttle plasmid, it has been possible to introduce foreign DNA into cultivable mycobacteria—in this case, the substitution into *M. smegmatis* of a marker gene coding for antibiotic resistance.[13] This represents the first step in the development of engineered cultivable mycobacteria, such as BCG, as vaccine vehicles to express protective antigens for *M. leprae*, *M. tuberculosis* and a variety of additional pathogens.

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Leprosy in children

The following is extracted from *Tropical Diseases; Progress in International Research, 1987–1988.* UNDP/World Bank/WHO. Special Programme for Research and Training in Tropical Diseases (TDR), 1989:

Children and tropical diseases; leprosy

- Because leprosy develops slowly and most of the advanced and easily recognized cases are seen among adults, leprosy in children tends to be an unrecognized problem. In leprosy endemic areas, however, the disease is by no means infrequent among children, with prevalence rates as high as among adults in some places. In one highly endemic area in South India, the prevalence rate among children under 15 was found to be as high as 32·5 per 1000.[21]
- Being rare among infants below 1 year of age, leprosy was long considered not to be transmitted congenitally, but recent indirect evidence indicates that congenital transmission resulting from placental crossing of *M. leprae* or its antigens can take place. In a study in an Ethiopian leprosy hospital, *M. leprae*-specific IgA and IgM antibodies were detected in the cord blood of 30–50% of babies born to lepromatous mothers,[22] and 2 infants with rising IgA and IgM antibodies developed clinical leprosy at 9 and 17 months of age.[23] The youngest age at which leprosy has been recorded is $2\frac{1}{2}$ months.[24]
- The occurrence of leprosy among children is a sensitive yardstick for gauging the status of the disease in a country or commmunity. For instance, a WHO Study Group identified the proportion of children 0–14 years old among all newly detected cases as an important operational and epidemiological indicator for leprosy control.[25] Application of this indicator in a recent study in 12 Latin American and Caribbean countries showed proportions varying from 8·9% in Brazil to 41·7% in Guyana.[26] The leprosy prevalence rate among children is also sometimes used for its predictive value to estimate total prevalence.[27]

- Fortunately, the preponderance of benign tuberculoid forms of leprosy in children usually permits fairly rapid treatment with relatively few sequelae. Children, moreover, are more readily accessible to leprosy control services than are adults, and school surveys provide good opportunities both for early case-detection and for health education.

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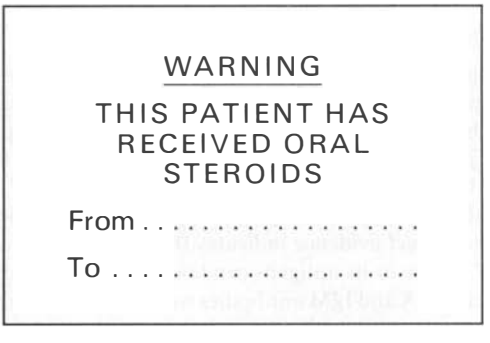
Oral steroids—card-carrying patients!

The Reverend L A Wiseman of the Leprosy Mission (Southern Africa), PO Box 890527, Lyndhurst JHB 2106, South Africa has supplied the following information on an idea developed by the Mission:

'One of the areas of concern to us is that of reaction in leprosy. Generally we find that the recommended doses of oral steroids are effective. Our concern is in the danger which patients face while they are on steroids should they meet with an accident or should they require surgery.

In order to obviate any problems The Leprosy Mission has prepared a label (see below) which states that the patient is receiving oral steroids. One label is placed on the card which the patient should carry on his/her person, one goes on his file at the local clinic, and also one on the patient's file at the nearest general hospital. In this way we hope to continue preventing other complications. Thus far we have found the system to be effective and believe that because of this red label, we have had no major problems.'



Polystyrene chips act as dummy patients for slit-skin smears

We are grateful to June Nash of The Leprosy Mission, PO Box 447, Madang, Papua New Guinea for the following suggestion for use of polystyrene chips such as are used as standard packing for drugs. They have found these chips very useful in the teaching of slit-skin smears. Each student is given a chip and asked to practise the squeezing, slitting and scraping technique on the polystyrene chips before they get to a patient. We have found that they are a very good representation of a human slit-skin smear, and that students, not to mention the patients, are much happier if they have practised before doing the actual thing!

Multi-centre field trial for ofloxacin use in leprosy—call for participants

The Scientific Working Group on the Chemotherapy of Leprosy (THELEP) is planning a multi-centre field trial to evaluate a multidrug regimen which would include ofloxacin, a fluoroquinolone with demonstrable activity against *Mycobacterium leprae*. Requirements for centre participation include:

(1) a well-organized out-patient treatment facility capable of receiving at least 100 new, untreated, or minimally treated (up to six months with dapsone therapy), multibacillary patients per year; (2) ability to follow up the patients regularly through a field organization; and (3) facilities to carry out routine biochemical and other tests to monitor for toxicity.

Qualified Centres interested in participating in this trial should send a letter of intent, providing information on their qualifications and facilities to: Dr S K Noordeen, Chief Medical Officer, Leprosy Division of Communicable Diseases, World Health Organization, 1211 Geneva 27, Switzerland.

Sasakawa Research Building, Bangkok, Thailand

On 2 October 1989 this building was formally handed over to the Ministry of Public Health in Thailand. Representatives from Japan included Professor Ishidate and Dr Yo Yuasa of the Sasakawa Memorial Health Foundation. It is adjacent to the present offices of the Leprosy Division in Bangkok and consists of a two-storey building with superb research facilities, including a large unit for the housing of mice under germ-free conditions. It is intended primarily for leprosy research but may develop work on other diseases in the future. Financial support will continue from the Sasakawa Memorial Health Foundation for the first 4 years of operation, thereafter reducing towards final support by the Ministry of Public Health after a further period of 4 years. Leprosy research activities, including a large nude mouse colony (see *Lepr Rev* (1983), **54,** 305–308 and (1988), **59,** 25–30) are in the process of transfer from the Raj Pracha Samasai Institute in Phra-Praedaeng to this Institute. Further enquiries: The Director, Sasakawa Research Building (Raj Pracha Samasai Institute), Dhivanond Road, Nonthaburi Province, Thailand.

Leprosy control in Thailand

In 1953 it was estimated by WHO that Thailand had 140,000 cases. In 1956, a new approach to leprosy control in Thailand was introduced at Khon Kaen Province of North-Eastern Region with assistance from WHO and UNICEF. The control programme was gradually expanded to cover all 72 provinces in 1976. Following the national policy, partial integration of leprosy control into provincial health services was undertaken in 66 provinces from 1971 to 1976. Two hundred and sixteen groups of 8634 health workers were trained for 3 days prior to integration.

By the end of 1982, it was reported that 93,086 cases had been detected and treated, of which 49,796 had been released from control. At that time 43,290 cases were on the registers. Multiple drug therapy was started in 1984 and at the time of writing (October 1989) all 73 provinces in Thailand are covered. Currently about 20,000 cases are on MDT. About 6000 cases are released from chemotherapy each year and about 2000 new cases detected. The annual incidence of new cases was in fact beginning to decline before the start of MDT in 1984 and it has continued to decline, steadily and significantly, since then. Disability and child rates have also declined. There has been a progressive transition from vertical (specialized) services for leprosy to a horizontal, integrated approach and at present only 6 provinces maintain a vertical system. Further enquiries: Dr Surusak Sampattavanich, Leprosy Division, Ministry of Public Health, Bangkok, Thailand.

McKean Rehabilitation Centre, Thailand

McKean Rehabilitation Centre, a service unit of the Church of Christ in Thailand, provides rehabilitation treatment for patients suffering from various diseases and accidental injuries.

Founded in 1908 by a medical missionary, Dr James McKean, the island was established as the first treatment centre for leprosy patients in Thailand. Beginning with bamboo shelters and basic care for their symptoms, the facilities and treatments developed until 1950 when a specific antileprosy drug became available. Dapsone then became standard treatment for leprosy until 1983, when the use of multidrug therapy was instituted by the medical staff of McKean.

By 1970 the number of people, including patients, staff and their families living on the island, was over 1000. Rehabilitation and integration into society then became the primary focus of the treatment for leprosy. Outpatient clinics were opened in surrounding villages and in the city of Chiang Mai so that patients with leprosy could come for treatment without leaving their families and communities. Admissions to the hospital facilities were limited to patients with complications requiring specialized short-term care or surgery. As cooperation with expanding public health services improved, the village clinics were closed and the Ministry of Health officially recognized McKean as the leprosy referral centre for northern Thailand. As spaces became available patients were admitted with problems other than leprosy, who could benefit from corrective surgery, physiotherapy or prosthesis.

In 1988, there were approximately 400 residents on the island including hospitalized patients, staff and their families, and the 100 elderly and handicapped residents of the social welfare village. The average number of patients in the wards was 70, down from about twice that amount only 10 years ago. Because of this trend towards outpatient treatment and fewer admissions of patients with complications, plans have been made to expand the services to include extended rehabilitation therapy for a greater number of people. The construction of a new patient facility is proposed to house all patients in an integrated therapy setting with the double purpose of erasing the stigma against leprosy and providing a more effective therapy setting for a greater variety of patients.

Further enquiries: Dr Trevor Smith, McKean Rehabilitation Centre, PO Box 53, Chiang Mai 50000, Thailand.

Indo–UK Workshop on Leprosy Research

We are grateful to Dr H Srinivasan for supplying details of the Indo–UK Workshop on Leprosy Research held at the Central JALMA Institute for Leprosy, Agra, India. Some 50 scientists participated in the proceedings of this 3-day Workshop held in February 1989.

The Workshop was inaugurated by Professor T Ramakrishnan, Emeritus Professor, Indian Institute of Science, Bangalore. Dr H Srinivasan, Director, CJIL, Agra welcomed the delegates and explained the purpose of the Workshop as: 1, To bring together scientists from the UK and India interested in leprosy research and related areas; and 2, To identify topics of mutual interest for possible collaborative research projects under the extended Indo–UK collaboration programme.

Three themes relevant to the National Leprosy Eradication Programme of India had been selected for consideration at this Workshop. They were: 1, recognizing leprosy early; 2, recognizing nerve involvement/damage early; 3, assessing efficacy of chemotherapy. The participants were drawn from a variety of disciplines such as dermatology, experimental medicine, leprology, immunology, microbiology, biochemistry, molecular biology, surgery, neurology and neurophysiology.

Invited speakers informed the delegates of the current status of the various disciplines involving leprosy. The participants were then divided into three groups to discuss one of the Workshop themes, identify topics of mutual interest for possible collaborative research projects and any other recommendations. The resulting recommendations and topics are given in detail in a report, which is available from Dr H Srinivasan at the above address.

Symposium of Leprosy Research, October 1990

The VI Santa Margherita Ligure Meeting is organized by the Amici di Raoul Follereau Organization and will be held on 3–7 October 1990 in Genoa, Italy. The topics covered are: genetics

of leprosy; biochemistry of *M. leprae*; drug development for leprosy; culture of *M. leprae*; experimental animal models; identification methods of *M. leprae*; immunology; leprosy reactions; multiple drug therapy of leprosy; implementation of MDT; vaccination and immunotherapy; and health services research.

The objective of the symposium is to exchange, in the interim between two International Leprosy Congresses, recent information and views and to promote further research. The symposium is open to those who are already engaged in leprosy research as well as others engaged in other research projects relevant to leprosy research. Each topic will be introduced by a position paper to be presented by an invited speaker. This will be followed by presentations of original research by other participants and discussion.

A limited number of grants, covering the journey and accommodation expenses, are available for participants who have important contributions to give but are unable to meet the expenses. The grants will be awarded, by request, on the ground of the abstract presented.

For further details write to: R. Manservisi, Associazione Italiana, Amici de Raoul Follereau, Via Borselli 4, 40135 Bologna, Italy.

Third Congress on Hansenology of Endemic Countries, Alicante, May 1990

The subjects included in this Congress to be held on 29–31 May 1990 are: bacteriology, immunology, experimental leprosy, pathology, subclinical infections, epidemiology and control, therapeutic prophylaxis, rehabilitation and social aspects.

If you are interested in attending please write for further details to: Dr Jose Terencio de las Aguas, Director Medico, 03791 Fontilles, Alicante, Spain.

Impairment of cutaneous sensibility in psoriasis, morphoea and necrobiosis lipoidica

A recent paper, 'Quantitative evaluation of cutaneous thermal sensation in psoriasis, morphoea and vitiligo', Sanjay Ghosh and B. Haldar, published in the *Ind J Derm Venereol Leprol*, 1989; **55:** 30–32, draws attention to the findings of impaired cutaneous sensibility in some (not all) cases of psoriasis and morphoea. Thermal sensation was studied using a commercially available instrument consisting of a test probe, a temperature sensor and control unit, with readings on a digital meter. Significant differences in sensory thermal thresholds were demonstrated between the lesions and the lesion-free contralateral site in 83% of psoriasis patients and 71% of morphoea patients. No differences were noted in vitiligo. The brief discussion is of considerable interest and the reference list valuable. This paper could well be read in conjunction with that of R J Mann and R R M Harman: 'Cutaneous anaesthesia in necrobiosis lipoidica' in the *Brit J Derm* 1984; **110:** 323–5. Both publications include a discussion of neuropathological findings in the skin which might account for the clinical changes. These reports should not be interpreted as detracting from the importance of sensory impairment as a classic finding in the skin lesions of leprosy (in many cases), but they are a reminder that such impairment may occasionally occur in other conditions.

Writing proposals for research grant applications

The following, written by Dr David Payne, of TDR and the Malaria Action Campaign, WHO, Geneva, is extracted from *TDR News*, Number 29, 1989 and gives those applying for research grants an idea of what information their application should contain.

1 *Why is the study necessary?*

The first step in approaching a new project idea is to ask oneself 'Why?'. Would the information gained from this study advance scientific knowledge and would this knowledge be important in the current research priorities on this subject.

It is often useful to turn the whole question around and ask oneself, 'If I were the person reviewing this proposal, what would I need to know about it to be reasonably sure it would produce worthwhile results?' Most reviewers would need to know the answers to the next four questions.

2 *What is to be measured?*
We need to be absolutely clear in our minds what has to be measured and how precisely; in a complex study many parameters may need to be determined.

For example, if we are measuring parasite rates, do we need prevalence or incidence, or both? To measure one without the other may not provide all the information we need. So whilst repeated 6-monthly point prevalence surveys of a random selection of the population could meet the needs of prevalence, incidence may require a monthly, longitudinal, house-to-house survey to cover all newborns and children up to 12 months of age. Obviously the resources required for the two options are vastly different.

3 *Can it be measured?*
It is one thing for something to be measured in theory, but quite another to ensure it can be meaningfully measured in fact.

For example, we can measure rainfall in a particular area very accurately with a whole range of rain gauges, but this will not tell us whether this is within the normal monthly range for this particular area. To do this we would need to have data for comparative periods in the past using the same, or an equivalent, collection technique. If these data were not available we would have to consider making our own longitudinal study and this could have serious implications in terms of project duration and cost.

4 *What sample size is required?*
One of the prime conditions to be met in any research study is to ensure that the experiments we conduct and the data we collate provide sufficient information to permit analysis with an acceptable degree of statistical confidence. The decision as to what is an adequate sample size varies depending on the aims of the study, but will require at least a reasonable guess as to what results are required and how precise these results should be. Of course we must also consider possible operational and demographical limitations which might complicate achieving the minimum sample size.

In addition to many technical publications dealing with the subject, the World Health Organization has available an up-to-date publication titled 'Sample Size Determination—A User's Manual'. The WHO publication reference number is WHO/HST/ESM/86/1.

5 *For how long should it be measured?*
The duration of the project should be sufficient to ensure that all the required data are collected, collated, and analysed. Remember, processing and writing up the data as the study progresses greatly facilitates the preparation of required periodic reports. Moreover this will help you to spot any deficiency in the protocol so that you can take appropriate remedial action. It is also important to allow time for the necessary preparatory work for the study itself and for analysis of results and writing up the study. Realistic work schedules should be calculated and established for each activity with allowances for unforeseen delays and operational difficulties.

Undoubtedly the path of the would-be researcher is not an easy one, with the spectre of rejection always hovering, but with careful thought, preparation and presentation, you *can* prepare a successful proposal.

Poona District Leprosy Committee, Annual report 1987–88

We are grateful to Dr Jal Mehta, Honorary President of Poona District Leprosy Committee, 35 Manisha, 2/A Moledina Road, Pune 411 001, Maharashtra, India, for supplying the Project's annual report.

It contains an outline of each department's work and unusually quotes from visitors on their impressions of the Project. Visitors were obviously inspired by what they saw and their comments must be an encouragement to the workers of Poona.

Copies are available from the above address.