Training Statistical Staff and Continuing Education in Developing Countries

One of the contributed papers meetings (CP24) organised by the IASE at the 50th Session of the ISI in Beijing focused on 'Training Statistical Staff and Continuing Education in Developing Countries'. In this article, Peter Wingfield Digby, organiser of the meeting, traces ISI's involvement in statistical training, and discusses issues arising from the papers presented at this meeting. [c/o Ghana Statistical Service, PO Box 1098, Accra, Ghana. Tel: 233-27-557519, Fax: 233-21-664652]

The ISI's concern with statistical training goes back a long way. As David Vere-Jones noted in a recent paper in the International Statistical Review ("The Coming of Age of Statistical Education", 63 (1), April 1995), the early period in the history of the ISI Education Committee, set up in 1948, was largely dominated by concerns for augmenting the supply of statistical staff available to governments.

At that time an underlying concern in both the UN and the ISI was the need for better statistical information from developing countries. A major hurdle to obtaining such information was the lack of staff within those countries to undertake the necessary data collection and analysis, and the ISI Education Committee therefore did its best, within limited means, to address this issue. In those early years, probably the most important ISI initiative in the area of training from the point of view of developing countries was the support given for the establishment in 1950 of the International Statistical Education Centre (ISEC) in Calcutta.

Over time the focus of ISI's education programme changed, away from the relatively narrow one of training statistical staff for developing countries, to a much broader consideration of statistical education as a whole. These changes are also reflected in the statutes of the newly formed IASE, which has as its objectives "..to promote the understanding and advancement of statistical education... and to foster the development of effective and efficient educational services....". Nonetheless, in some developing countries, and particularly in Africa, this problem of a shortage of trained statistical staff still persists. This ISI contributed papers meeting in Beijing on statistical training in developing countries thus provided an opportunity to review progress to date, and to highlight some new training developments that were taking place.

It was appropriate that one paper (Bikas Sinha, 'Four Decades of Statistical Training in the Indian Statistical Institute: An Overview') focused entirely on the work of the ISEC in Calcutta and other training activities of the Indian Statistical Institute. The driving force behind founding the Indian Statistical Institute and the Directorate of National Sample Survey (NSS) was P C Mahalanobis, who was also instrumental in creating the ISEC in Calcutta.

In the context of statistical training, Mahalanobis's special contribution was his emphasis on providing rigorous on-the-job training for all workers engaged in survey work, his projection of statistics as a key technology of the century, and his attempts to spread statistical training among scientists from a wide range of disciplines. These positive developments helped to create a 'culture' of statistical training at the Indian Statistical Institute, which spread over also into the training provided by the ISEC in Calcutta, benefiting trainees not just from the Asian subcontinent, but from places further afield such as Africa.

This sort of 'culture' is also reflected in the comments made in another contributed paper, though in a very different context. In a paper entitled 'Statistics Teachers' Educational Programme: A Refresher Course with a Difference', Saleha Habibullah described a Statistics Teachers

Educational Programme (STEP), set up at a women's college in Pakistan, which is intended to provide a forum for the enhancement of teachers' knowledge, through lectures, open discussion, and group work. The STEP involves a series of two-day workshops, and is designed to inculcate in teachers a sense of pride and professional esteem, so that they can work actively to improve statistical education at the undergraduate level.

Particular features of the programme are that it has been set up by a women's college, that it covers every region of the country, and that the programme has been organised by the faculty members in the college with the collaboration of a group of students aged only 16-19. Feedback from teachers participating in the programme indicated that they found open discussion and group work especially beneficial.

Another perspective on continuing education was provided by Sohair Higazi in a paper entitled 'Quantitative Methods Courses in Business Continuing Education Programmes in Egypt'. Since 1990, two supervised university business continuing education programmes have been implemented in Egypt: an Open Learning programme affiliated to two universities (Cairo and Alexandria) and a Transfer Learning programme at Tanta University. These programmes are similar to distance learning programmes; students usually have a profession but, because of various obligations, are not able to attend normal university classes. They attend lectures at the weekends and use traditional instructional material.

The first programme is offered to older General and Commerce secondary school graduates, while the second is limited to Commerce secondary school graduates who work with the Ministry of Education. An evaluation of the second programme suggests that many participants derived satisfaction from learning new methods and techniques, but had some difficulty and slowness in reaching correct solutions to the problems set. For most of the participants in the second programme, their main objective in joining the programme was to improve their economic and social status and to be qualified as certified school teachers.

With the 50th Session of the ISI taking place in Beijing, it was appropriate that one paper for the meeting dealt specifically with statistical training in the People's Republic of China. Guido Ferrari, in a paper entitled 'Training Statistical Staff for the First Agricultural Census in China', reported on the experiences of a project run jointly by Italy, the Food and Agriculture Organisation, and China, to train staff in Beijing and in provincial centres for the agricultural census. The purpose of the Beijing training was three-fold: to train statisticians for future statistical activities; to prepare statistical material for the training of officials at the provincial level; and to provide the training for provincial trainers.

Problems were experienced with respect to: timetabling the training programme; poor language comprehension among trainees since many trainees had no, or only a very rudimentary, grasp of English, the medium of instruction; and the weakness of many participants in mathematics, statistics and economics. The project highlighted the need for: fellowships abroad, in order to improve the quality of participants' training and to broaden their experience through exposure to similar projects overseas; access to high quality international experts, especially in computer hardware and software; adequate supply of support facilities (computers, photocopiers, audiovisual equipment and reference books); and good co-ordination among the various parts of the project, both national and international.

Finally, two other papers presented at the ISI meeting dealt specifically with statistical training in Sub-Saharan Africa. Enock Chinganda and James Ntozi, in their paper 'Training Employees for African Statistical Offices', provide an overview of the efforts made during the last 20 years to establish, improve and expand the facilities in Africa for training middle level and professional

staff. They focused particularly on the activities carried out initially under the Statistical Training Programme for Africa (STPA), and subsequently under the Statistical Development Programme for Africa.

Over the 15 years of the STPA existence, 16 STPA centres were established, guide syllabuses were prepared to assist in standardising curricula and qualifications, and the teaching staff were strengthened through fellowships and visiting lectureships. However, STPA suffered from various problems: the small number of women graduates; lack of adequate training facilities in Portuguese-speaking countries; inadequate research; too few scholarships for staff development; the loss of skilled staff; and inadequate financial resources. When funding support for STPA ended, some centres were forced to close, whilst others had their funding massively reduced. The particular needs of a national statistics office were examined by Ackim Jere in his paper 'Training Statistical Staff for the National Statistical Service in Zambia', which was presented on his behalf by Jeremiah Banda. He stressed the value of having an in-service training programme, designed to upgrade the statistical skills of sub-professional staff in the office. Zambia offers two such courses for its staff, both run on a full-time basis and conducted mainly by senior staff of the office: a six-month course at the primary level, and a ten-month course at the intermediate level. Those who successfully complete the latter course qualify to join the STPA diploma course at the Eastern African Statistical Centre (EASTC) in Tanzania. Staff from the Zambia office have followed a variety of overseas short-term and degree programmes; for example the statistics degree programme offered by the Institute of Statistics and Applied Economics (ISAE) in Uganda.

These various training programmes have helped to improve the quality of statistical work in the office, but some major constraints remain: the lack of sufficient funds for advanced training abroad; the loss of highly trained staff; and the absence in Zambia of a statistical institution of higher learning.

Although these two papers on statistical training in Africa indicate that there have been some positive developments, at both the national and regional levels, this needs to be seen within the context of the general decline in the quality and quantity of African statistics over the last 20 years. The Strategy for the Implementation of the Addis Ababa Plan of Action for Statistical Development in Africa in the 1990s, adopted by the 1992 ECA/Conference of Ministers responsible for economic development and planning states clearly that: "the (current) state of African statistics has to be redressed with great urgency".

Training is a key element in current efforts to promote African statistical development. This fact has been acknowledged by the Co-ordinating Committee on African Statistical Development (CASD) which has assigned one of its four sub-committees to work solely on this topic.