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This week science is the theme of the programme - how can we best organise our present scientific know how and resources in Africa to our future advantage, and what are likely to be the social repercussions of any such scientific and technological advance.

Let's start then with a Conference Report. The African Studies Association of the United Kingdom recently held another of its biennial conferences, this one was at Aberdeen University. This Association has a membership of about 500. The majority of them are mainly British people who have spent some time in Africa and whose present work is directly or indirectly related to Africa. Aberdeen University, who played host to the African Studies Association of the U.K., has itself got quite a flourishing African Studies Group which draws it's membership from all disciplines at the University. The theme of the Conference was - THE ORGANISATION AND SOCIAL IMPLICATIONS OF SCIENCE IN AFRICA. Here is Mick Delap to report.

MICK DELAP:

With a title like 'The Organisation and Social Implications of Science in Africa' the Conference was bound to be wide-ranging. Papers covered the present organisation of research in Africa, the political and administrative environment, the implementation of scientific programmes, the industrial development, medicine and public health, and the training and performance of junior staff. Given the basic assumption that science is a tool capable of

bringing about change in many different ways, the Conference set out to explore the best possible way of using this tool in Africa. And with such a practical emphasis, challenges and counter-challenges were soon flying around the Conference Hall. Natural Scientists asking Sociologists if they could accurately predict the social consequences of certain developments - Sociologists asking Historians what they had learnt from past experience and Administrators asking Scientists to keep in closer touch with each other and with reality.

The Conference began with two papers discussing the past history, present organisation and future needs of research in French and English speaking Africa. The paper on French Africa was read by Monsieur Daniel Pepy, of I.R.A.T., and the one on English Africa by Mr. W.A.C. Mathieson, Deputy Secretary of the British Ministry of Overseas Development. But scientific research can only operate in a political environment - its aims are further determined by what natural resources are available, what kind of agricultural or industrial development is required, what medical hazards exist, and what personnel are available to exist in the research. So the rest of the Conference was devoted to examining these various limiting factors.

The political environment was probed by Professor Dennis Austin and Dr. W. Tordoff in a joint paper. I found this one of the Conference's most interesting sessions. Professor Austin talked of the actual authority of African Governments, the problem new States face as clients of the wealthy, and the effect of ideologies. He down played this last, pointing out that while Africa might be socially very stable, it tended to have a low level of political culture. In other words, it was difficult for any Government, however fervent its beliefs, to achieve very sweeping changes. Dr. Tordoff followed this up by describing in detail the different

political factors affecting the planning of scientific research. In the discussion that followed, delegates were divided about which political factors most affected their research, but agreed on the importance of understanding the political background in which they were operating.

After such an interesting discussion there was perhaps some danger of anti-climax; but the next session produced two more papers which I found fascinating in which delegates certainly responded to. The subject was Natural Resources and the two papers were by Dr. R.K. Cunningham, Deputy Agricultural Adviser at the Ministry of Overseas Development, and Professor G. Aubert of O.R.S.T.O.M. Dr. Cunningham listed various factors which impede the application of scientific knowledge to African agriculture. In appropriate research organisations too little knowledge of the organisation and management of research and so on. One factor to which he drew attention was inadequate knowledge of Natural Resources, and this was what Professor Aubert concentrated on. He talked of the need for integrated research projects. Integrated both in the sense that they should use African as well as European scientists wherever possible, and in the sense of including scientists of all kinds and social scientists as well. This point was echoed by Mrs. Mary Tiffin's supporting paper and re-echoed by many delegates in the discussion that followed. Examples of the need for an inter-disciplinary approach varied. Mary Tiffin for instance, described farmers in Northern Nigeria taking up the plough, but using it in a very different way from that recommended by the Agricultural Department. Her point was that a competent survey of the local economy should have revealed the factors which led to the mis-use of the ploughs. This prompted another challenge - the Ministry of Overseas Development are currently examining the possibility of exporting beef from The Gambia.

The survey team includes an ecologist, but there is no social scientist. The question posed was, if it were to include one, could the social scientist predict how The Gambia's pastoralists would react to the opportunity of selling off some of their herds. The social science delegates said yes, but the Natural Scientists looked somewhat dubious.

During the Conference's final day, six papers were presented, and four supporting papers were tabled, so I can't hope to describe them all. For me, one of the most interesting came during the session on industrial development. Mr. George Macrobie of the Intermediate Technology Development Group attacked most development plans for concentrating on large scale industrial development and on an increased gross national product as an indication of achievement. Instead, he felt development should be concentrated on providing jobs in rural areas by aiming at much more modest labour intensive projects. This line was also followed by Dr. David Morley, Senior Lecturer in Tropical Child Health at the Institute of Child Health in London. During the session on medicine and public health he attacked the present concentration on large teaching hospitals which swallowed up vast sums of money without reaching more than a fraction of Africa's rural sick. One answer he suggested was to spend more money on rural Child Health Clinics. Both Mr. Macrobie and Dr. Morley were attacked by some delegates for condemning Africa to a second best existence. But many more delegates supported their rural oriented approach. And the Conference ended with Dr. Robert Chambers, of Nairobi's Institute for Development Studies, describing how Kenya is trying to achieve rural development through the special rural development programme. All in all, it was a very busy three days, but the papers and more particularly the discussions they gave rise to, proved again how useful these meetings can be. The confrontation of delegates drawn from so many different disciplines

seemed valuable, and one conclusion that could be drawn from the whole conference is that scientific research is only useful if it takes place in a multi-disciplinary context.

JOHN JONES: Mick Delap reporting on the recent Biennial Conference of the African Studies Association of the United Kingdom held at Aberdeen University.

Over now to Nigeria and to Ife University where particular emphasis is being placed upon the development of a programme of technology. This I suppose should not be too surprising as along with industrialisation one expects to see the growth also of technology. Ife University has taken the line that the teaching of science will be pretty meaningless in a developing country without suitable emphasis being placed upon its application, especially to the rapidly expanding industrial sector. In 1967 Ife started its technology programme with electronics and in October 1969 it expanded into the field of chemical technology where twenty students are now working on their second year. Well at Ife, Akin Euba has been talking to Professor Ojo, who is Head of the Department of Physics. Akin asked Professor Ojo what branches of technology the University planned next.

PROFESSOR OJO: This is always a difficult question to answer; it's a matter of priorities and it's a matter of what would be most useful to the nation as a whole, but for the immediate future Agricultural Engineering and Surveying and Technological Mathematics seem to be on the plan.

AKIN EUBA: Professor Ojo, are there any problems involved in the study of technology which are peculiar to Nigeria?

PROFESSOR OJO: I wouldn't say peculiar to Nigeria, but there are a lot of problems in programmes of technology. First of

all, there is the question of cost; training in technology is always expensive and sometimes we wonder whether training technology will be within the means of our resources. Another problem, a very important one, is that of industrial opportunities for training. The classroom training, laboratory training, is not enough in technology, the students have to go out into the field and not only are the facilities rather meagre, industry at the moment is not particularly anxious to take in students unless they can see an immediate return for their pupilage under them. Another difficulty is to determine what exactly the priorities should be - what fields should be established in the university, and finally there is the question of employment opportunities even after the training. These are problems we are studying all the time.

AKIN EUBA: How far can the University of Ife prepare students before they would need to go abroad for advanced studies?

PROFESSOR OJO: In the fields that I have mentioned, the University of Ife can give all of the training given the necessary facilities, but generally students should go abroad in any case for outside experience.

AKIN EUBA: What kind of publicity have you given to your technological programme, and what kind of co-operation are you getting both within and outside Nigeria?

PROFESSOR OJO: Well what we have done in the case of electronics was that as soon as we had a programme ready, we discussed these with those who are likely to consume the products of the training, the telecommunications people, the broadcasting corporations, industry, what manufacturing industry does exist like Phillips Nigeria Ltd., and in 1967 we gave a lecture to the Nigerian Society of Engineers. This is apart from the handbooks that go out from time to time, the University and Faculty Handbooks.

In Chemical Technology they've even done better. Before they started at all, they did a survey of requirements in industry, and on the basis of this they drew up their programme. As to the response and co-operation from the public, both within and outside Nigeria, I can only speak in respect of electronics. I must say that the response in Nigeria has been quite enthusiastic. In telecommunications especially I have been told, by those who should know, that the kind of people we are trying to produce would probably fit in more with the developments in Nigeria than people with general training in electrical engineering with electronics tagged on. Outside Nigeria, the co-operation and responses also have been very encouraging, as a matter of fact, at the moment we are discussing co-operation with the Chelsea College of Technology and the University of Sussex both in respect of staff and the training of students at post graduate level.

AKIN EUBA: What will be the immediate effects of the availability of locally trained technological experts in Nigeria?

PROFESSOR OJO: I see the immediate effects as two fold, but this may be over hopeful. The first effect is that the areas of shortage of man power will be immediately satisfied, at least to the extent that the universities can cope in terms of enrolment and production of graduates. The second effect which I consider even more important, is that I see training in technology as a stimulation to the development of technology itself; that the products we send out, we hope will be prepared to see a challenge and use their own initiative to meet this challenge.

AKIN EUBA: Professor Ojo, do we have the same kind of programme that we have at Ife, at other universities in Nigeria?

PROFESSOR OJO: No, the answer is definitely no; and this is what I hope all the Nigerian Universities will do when they establish new programmes. We look around, see what the needs are, and see to what extent they are being met. If they are already being satisfactorily met elsewhere, except in the basic sciences and the humanities which have to be present in every University anyway, if the need is already being satisfactorily met elsewhere, we do not intend to go in. But where there is a need, a well known need, which is not already being satisfied this is where we come in at the University of Ife.

JOHN JONES: Professor Ojo, Head of the Department of Physics at Ife University. He was talking to Akin Euba about the University's approach to technology; an approach which reflects how rapidly Nigeria is catching up with the 20th. Century.

For another week then, that's it from University Report. We'll be back again next week at the same time, so until then, from me, John Bankole Jones, it's goodbye for now.