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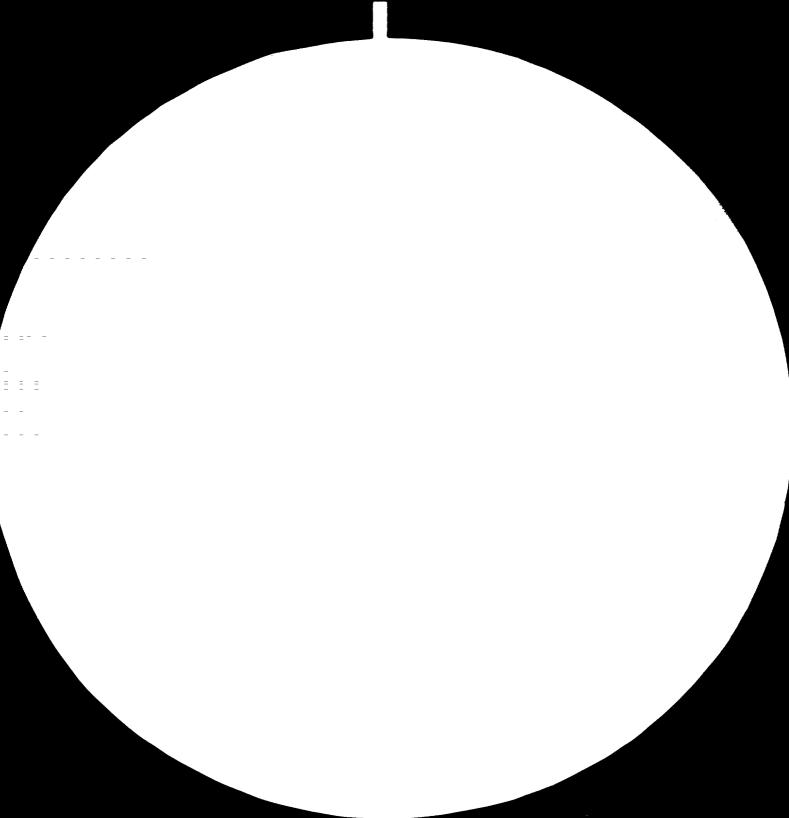
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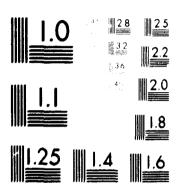
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Mission to Sri Lanka

of

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Institutional Infrastructure Branch
Division of Industrial Operations

13 - 18 October 1980

0800 ...

This report has not been cleared with the United Nations Industrial Development Organization (UNIDO) which does not therefore necessarily share the views presented.

#### 13 - 18 October 1980

## 1. Joint WAITRO/UNIDO Seminar/Workshop on Improving the Performance of Industrial Research Institutions through Co-operative Arrangements

The main objective of this mission was to attend the subject meeting on behalf of IO/INFR. A report on the meeting will be prepared by the Technology Group in co-operation with WAITRO.

It seems to me that a biannual meeting of WAITRO members is a useful exercise, provided that the meeting is properly planned. Due to the lack of manpower in the WAITRO Secretariat, this was not the case this time. I have the impression that UNIDO could play a more active role in the future, particularly by preparing short and relevant down-to-earth working papers and probably by providing some resource persons. Close co-operation between the Technology Group and IO is imperative in meetings dealing with IRSI's and other components of institutional infrastructure.

The meeting had difficulties in coming to grips with the whole concept of co-operative arrangements including twinning and co-operative research. This is mainly due to the fact that there are very few successful cases of formal co-operation between IRSI's which are applicable to IRSI's in developing countries. Very much depends on the dynamism, vision, innovative spirit and drive of cenior management, and the 'gatekeepers' responsible for specific areas of R + D work. Training and interchange of information vill probably remain the key areas where co-operation can be achieved in practice.

I had a number of useful contacts with IRSI's senior managers outside of meeting hours. The Chairman of the Pakistan Council of Scientific and Industrial Research assured me that his organization is still very much interested in working with UNIDO but that negotiations

regarding a large-scale technical co-operation project had failed in the past due to differences of opinion about the concept of the project. The Chairman of the Sri Lanka National Engineering Research and Development Centre is very much interested in assistance from UNIDO (see part 2).

We probably should use the Shri Ram Institute for Industrial Research in New Delhi as a case study for a successfully run, privately owned IRSI. The presence of a Senior Director of IPT, São Paulo, proves that this Institute is very much interested in TCDC arrangements.

In the future, a visit should be paid to the Royal Scientific Society in Jordan because although the activities of this Institute are at present limited to information, testing and analysis, some R ÷ D work could probably be initiated in the future. The representatives of CARIRI, Trinidad and Tobago, told me that they are very much interested in joining the Regional NDT project in Latin America and the Caribbean.

#### 2. National Engineering Research and Development Centre

A visit was paid to this Centre in the company of Mr K.L. Schwennesen of the Jutland Technological Institute (Denmark). Mr Nordenstrom of DnV (Norway), and the UNIDO/JPO, Mr D. de Jong. This Institute is located outside Colombo and a team of approximately thirty engineers and technicians is involved in a number of development projects in intermediate technologies for rural areas. One example is the basic improvements which have been made to the traditional bullock cart without increasing its costs. Another innovative technology seems to be the use of wood instead of steel for the supporting structure of windmills (similar to UNIDO's wooden bridge projects?). Other interesting devices under development are micro hydro-plants with improved designs for the turbine, designs for windmill blades, materials development for biogas plants and solar energy equipment (flat plate. solar cooker and solar concentrator), and replacement of large machine tool castings by ferro-cement. The requirements of the Centre are mainly in the area of equipment for forging, casting, heat treatment, welding and generally machining. At present most of the work is contracted to industry which is very expensive.

Another area where assistance is needed is learning abroad in similar centres, and probably some advice by consultants although this could be limited to specialized problems as the staff seems rather competent to tackle most of the problems themselves under the guidance of their highly experienced and dynamic chairman.

It was suggested to Mr Nordenstrom that we could probably develop a Joint UNIDO/NORAD project in which UNIDO would supply equipment from non-convertible currency sources while NORAD could take care of the convertible currency components.

## 3. The Bandaranaike Memorial Ayurvedic Research Institute and the Medical Research Institute

I paid a visit to the latter Institute, where Dr da Silva, the Director of the former Institute, is carrying out research on herbal medicine against rheumatism and arthritis. This project looks very promising as it may also open up export markets due to the fact that effective medicine against these diseases is almost non-existent in the industrialized world. It is expected that double-blind tests on patients will be carried out by the middle of next year. I suggested to Dr da Silva also to include in this testing programme the use of colour therapy, and specifically the use of colour filters which energize water. This new medicinal technology is being developed by an Institute in Kent, U.K., and, if proved effective, will have great potentialities for developing countries due to its very low cost.

Dr da Silva's work is hampered by the lack of a mass spectrometer.

Samples at present are being sent to fellow 'gatekeepers' in Sussex, France and Uppsala, but this is of course a rather time-consuming procedure.

I suggested to Dr da Silva to collect the support of a number of users of this sophisticated equipment so that the purchase of one set for use by all interested on the island could be proposed. It seems that the CISIR might be the right location for the installation of such equipment because they have an electronic department which is in charge of repairs and maintenance, not only for the Institute itself but also for many outside clients.

#### 4. Energy

A meeting was held with Mr Jayawardene, the Secretary General of the National Science Council, in the presence of the UNIDO/JPO. Due to the rapid increases of oil prices, there is serious concern about the energy situation in Sri Lanka. The Secretary General is of the opinion that there is sufficient technical talent on the island to start tackling the problems. The inputs which UNIDO could provide would be in the form of information and short-term missions of top-level experts who could assist in policy designs, the creation of institutional infrastructure, and the identification and formulation of R + D projects.

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