

CONCLUSIONS AND RECOMMENDATIONS

STEERING COMMITTEE ON BIOTECHNOLOGY

Natural Resources, Energy & Science Authority of Sri Lanka, 47/15, Maitland Place, Colombo.

Two discussion sessions were scheduled at the Workshop. One was held half way through the proceedings. The other, held after the formal presentations ended, covered the entire proceedings. Many participants, who had not presented papers at the workshop, took part in the final discussion. The following conclusions and recommendations for further action emerged from the discussion:

1. The objective of bringing together research scientists and the major private and public sector end-users of biotechnology, and to familiarize them with the scope of biotechnological activities presently undertaken in Sri Lanka and those that held promise for the future, was largely met at the workshop. This was the first undertaking of its kind in the country in the field of biotechnology. The links established at the workshop will help in developing biotechnology-related industries in Sri Lanka. Further activities to strengthen the links established at the workshop should be encouraged. Mechanisms for collaborations, consultancies and contract-research among the different institutions need to be developed.
2. Private firms and public sector institutions such as the Department of Export Agriculture expressed the need for biotechnological research into specific problems and processes. While in some instances *in-house* funding might be available, in others public sector funding from either the treasury or external agencies will be required. The Council for Agricultural Research Policy (CARP) presently acts as a channel for overseas funds for agricultural biotechnology research. However, NARESA can also actively seek and disburse funds for biotechnology research particularly, in the non-agricultural sector.
3. The development of human resources needed for biotechnology can be addressed at different levels. A general understanding of biotechnology can be imparted in schools and the traditional school curriculum can be modified for this purpose. At the undergraduate level, the basic sciences disciplines presently taught in Sri Lankan Universities that have an impact on biotechnology should be strengthened. There is a particular need for reinforcing the teaching of Molecular Biology, Biochemistry, Immunology, Applied Microbiology, Genetics, Cell Biology and Cell Culture within the existing university departments, and in particular through the creation of new departments within the faculties of science.
4. At the postgraduate level, it is recognized that biotechnology is a multi-disciplinary field and inputs from different university departments including Chemical Engineering are needed for teaching. Conversely chemical engineers might usefully be taught basic Microbiology. There is a need for an inter-university post-graduate course in Biotechnology that might be collaboratively organised in the Colombo region. Such a

course might be based on similar successful courses available in other countries. Opportunities for research related to biotechnology needs to be strengthened. It was recognized that equipment needed for biotechnology research is very expensive and therefore some centralization may be inevitable. Collaborations and shared use of equipment between different institutions should be encouraged where possible to make optimal use of the currently available facilities. The importance of continuity, given the present rate of turnover of scientists, was recognized and it was felt that working conditions need to be improved to address this problem.

5. The need arises to identify an institution or institutions to locate large biotechnology-related projects. The Ceylon Institute for Scientific and Industrial Research was regarded as suitable since it was to shortly become the Industrial Technology Institute catering to demand driven research.

A degree of overlap in the research and development activities in plant tissue culture in different organizations was identified eg. four organizations including three public sector institutions are independently engaged in potato tissue culture. While a degree of overlap is inevitable, and in some cases essential, greater coordination of research activities may be prudent. It was suggested that NARESA might undertake this function.