## FOURTH ASIA CONFERENCE ON REMOTE SENSING (FOURTH ACRS) AT THE BANDARANAIKE MEMORIAL INTERNATIONAL CONFERENCE HALL From 10-15 November 1983

Sri Lanka is privileged to be able to host the Fourth Asian Conference on Remote Sensing (4th ACRS) in Colombo commencing today. The first of these conferences was held in Thailand (1980). After that in China (1981) and Bangladesh (1982).

The prime objectives of the Association are to collaborate and share in space technology applications for remote sensing of natural resources; to study the application of remote sensing technology in the Asian Region; and to share any information on research and development.

Over 100 overseas participants are attending this conference and a similar number of Sri Lankan scientists and resource managers. They represent many local organisations, state and state sponsored. Sri Lanka is a founder member of this Association and most of the Asian nations are members.

The eye was the first 'remote sensor' and in many ways still remains the best ; however it has severe limitation, viz.

 (a) it only operates with visible light, which is merely a tiny fraction of the total radiation band (one octave out of scores); (b) it cannot store the information it collects and analyse it quantitatively to give precise numerical data.

These limitations have been largely removed by the development of technical devices-of which the camera was the first and still remains one of the most important. It has now been joined by sensors working in the invisible infra-red and ultraviolet, and by radar, so it is now possible to gather massive amounts of information concerning mineral resources, hydrology, marine and agricultural productivity, pollution and much else from distances of hundreds or even thousands of kilometres.

Although these remote sensing devices are used extensively on aircraft, what has made them of truly revolutionary importance (especially to the developing world) is their installation in satellites such as the US LANDSAT series. Despite their great initial cost, Earth Resources Satellites have these over—whelming advantages ; (1) they can provide complete coverage of huge areas in a few minutes, whereas aircraft might take months ; (2) they can repeat their surveys at rapid intervals (typically about a week) whereas air surveys are often years apart. Thus a country's resources can be continuously updated. This includes maps showing roads, dams, urban development etc., —which for many countries are years out of date, or even non—existent.

Besides their obvious benefits, Earth Resources, Satellites can raise grave political problems which have already caused concern to many countries. Though (as yet) they have only a fraction of the resolving power of the Military Reconnaisance Satellites operated by the US and USSR, they can provide information of strategic and-equally important-economic value. (Thus the United States was able to obtain an accurate assessment of the Soviet Union's grain production-long before it was harvested).

Another type of Satellite, the Communication Sat (COMSAT) have created a world without distance and have already a profound effect on international business, news gathering and

tourism. In 1976 an international telephone call from Sri Lanka was an exercise in frustration. Now thanks to the Indian Ocean Satellite a Sri Lankan can get through to London or Europe in a few minutes. Yet the impact of COMSAT has scarcely begun. At the end of this century, in another 17 years, they will have transformed the planet sweeping away much that is evil, and, unfortunately not a few things that are good. We hope to have at least one telephone in every village before the end of this century. Sri Lanka though it is one of the developing nations and comparatively poor it has already imported over 100,000 T.V. sets and thousands of Video Tape Recorders. This was unthinkable only a few years ago. When human-beings need information and entertainment as they need food, when inventions arrive which can provide both in unprecedented quantities, sooner or later everyone manages to find the money for it.

The civilised world has learnt the value of natural resources and the necessity for them to be carefully managed and husbanded. In order to make devisions on how effectively to manage these resources information must be acquired and presented to those concerned in conservation and utilisation. We have therefore to first find out what are the resources, where they are found and how much is available.

In the progress of man's understanding of nature are on the one hand the accelerators (microscopes) that probe ever deeper into the smallest constituents of matter; and on the other the telescopes which explore the overall structure of the universe. The ultimate aim of basic research in any field is the enhancement of man's understanding of himself and his environment and his place in it the broadest sense. It is this quest for understanding that has brought mankind to its present state of civilisation.

Before modern technology entered the field of inquiry, for example, to assess the seasonal rice crops, the international method was to obtain individual farm lot extents as examples and thereafter to obtain a district average. The same system applies to forests resources where field mapping and sampling of timber volume were constantly used. These methods were slow, expensive, and did not yeild satisfactory and accurate results. Aerial photography has taken the place of some of these more primitive methods and is one of the remote sensing techniques adopted. This also could not be done often but was an improvement on the earlier methods, as larger areas could be assessed.

In the 1970's artificial Satellites were used for remote sensing and a revolutionary change occurred in that data could be acquired covering an entire country and at very frequent intervals without an appreciable increase in cost. This method was useful in the cases of resources that undergo changes seasonal e.g., paddy, coastal resources, land use, urban development and forestry.

Sri Lanka has made use of the Satellite remote sensing system made available to us through NASAS' Landsat for the last 10 years. Together with aid from Switzerland we have been able to adopt simplified techniques of processing and interpreting this data for mineral, forestry, paddy and land use. Our Centre under the auspices of the Survey Department provides centralised facilities and guidance in training for many other government organisations. We hope to improve the facilities of this Centre and this conference will provide a filip to their endeavours.

The more developed Nations such as USA, European countries, Japan, India, China and Russia are planning new Satellite remote sensing systems. It is difficult for smaller nations and developing nations to compete with them and there is more reason for international collaboration with countries like outs to participate in the benefits of remote sensing. Sri Lanka has considerable resources yet to be utilised for the benefit of man. It has a large population which needs the wider use of its resources to ensure a significant rise in the wealth of the nation to improve the quality of life of its people. Whether it be in agriculture, marine, or mineral resources covering all fields that we are aware, of, the maximum use must be made of them on a planned and scientific basis. The Government has approved a national and remote sensing programme and the creation and expansion of the Centre for remote sensing. Hence the holding of this conference to show Sri Lanka's dedication to this form of aid in development.