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Note by the Secretariat

Addendum

UNITED NATIONS CENTRE ON TRANSNATIONAL CORPORATIONS (UNCTC)

The United Nations Centre on Transnational Corporations has informed the secretariat of two recent publications on transnational corporations and transborder data flows. A brief summary of the contents of each of these publications is provided below. The information in the present document must be read in conjunction with the information appearing in MDF/17, pp.27-42.

The UNCTC publication "Transnational Corporations and Transborder Data Flows: Background and Overview" (Amsterdam: North Holland Publishing Company, 1984) is the first volume of the series: UNCTC Studies on Transborder Data Flows and Transnational Corporations. This first volume contains a number of documents which provide an overview of a broad range of issues relating to transnational corporations and transborder data flows, and an up-to-date summary of the results of the work of the United Nations in this field. It includes an "Overview", "Discussion and decisions of the Commission on Transnational Corporations" at its seventh, eighth, and ninth sessions; "Progress reports" submitted by the Centre to the eighth and ninth sessions of the Commission; the "Secretary-General's note verbale" on transborder data flows; "Preliminary investigation of transborder data flows in Japan"; "the Programme of Work on transnational corporations and transborder data flows"; "Transborder data flows and Poland: Progress report on the Polish case study"; and "Transnational corporations and transborder data flows: A technical paper." (The last paper is mentioned in MDF/17, pp. 27-31).

The principal purpose of the UNCTC report, "Transborder Data Flows: Transnational Corporations and Remote-Sensing Data" (ST/CTC/51) is to increase understanding regarding the use of satellite-acquired remotely sensed data for negotiations between transnational corporations and developing countries. The report focuses on the use of such data in mineral and petroleum exploration and the management of agricultural resources.

Chapter I begins with an introduction to remote sensing and a review of national remote-sensing programmes. The chapter suggests that satellite-acquired resource information will create increasingly useful data in the years to come. Chapter II contains an analysis of the user community for Landsat data, the only publicly available remote-sensing data. The chapter suggests that corporations and developing countries do indeed utilize remote-sensing data but in varying amounts. Chapters III and IV outline how

remotely-sensed information is actually used in operational terms by developing countries and transnational corporations. Chapter IV, in particular, examines the crucial question of how such data are used by transnational corporations. Chapter V concentrates on obstacles to the use of remote-sensing data by developing countries and reviews some policy considerations in this regard. The last chapter contains a summary of the report and its conclusions.

The text is supported with a detailed array of tables and figures and a supplemental annex of statistical tables detailing user profiles in various countries as well as Landsat data sales information.

Remote sensing is a unique form of transborder data flow which permits the transmission of data between countries and also makes it possible to generate new data about particular countries and disseminate such data to other countries. As commonly applied, the term "remote sensing" refers to the examination, study, exploration or monitoring of the earth and its resources "remotely", or from a distance. These activities may be conducted using a wide variety of data acquired from aircraft or orbital space platforms. Examples of such data are aerial photographs, multispectral scanner data and radar. The principal advantage of remote-sensing technology lies in its ability to collect data rapidly over large areas. This is particularly evident for data collected by satellite which provide a means of repetitive collection at low marginal cost.

As the technology advances, remote sensing is likely to become an increasingly important source of information. Remote-sensing data are used for a broad range of purposes and can be of particular importance for the management of a country's resources. In particular, remote sensing has played an important role, together with data from other sources, in the exploration and development of petroleum, natural gas and mineral deposits and the management of agricultural, forest and water resources.

While the United States has pioneered remote sensing, a number of other countries - including developing ones - are operating remote-sensing satellites of their own or are building or designing such satellites. It is expected that, by the end of the present decade, six or more remote-sensing satellite systems will be operated by national or regional agencies. At present, national remote-sensing programmes in various stages of implementation exist in the United States, the Union of Soviet Socialist Republics, India, China, France, Canada, the Federal Republic of Germany, Japan, and Brazil. The European Space Agency is also developing a remote-sensing satellite. However, the only source of large-scale, publicly available remote-sensing data is the United States Landsat programme, which sells its data world-wide, especially through the EROS Data Center. Sales by the Center have grown considerably over the past 10 years, with developed market economies being by far the largest user of remote-sensing data. Sales of such data on developing countries continue to be considerably above the volume of remote-sensing data bought by developing countries.

Remote-sensing data from satellites are, at present, most useful for reconnaissance surveys carried out for prospecting, principally in the preparation of mineral and oil exploration projects to generate data for determining potentially resource-rich smaller areas, which are then explored in greater detail. Transnational corporations are among the most important user groups of remote-sensing data. Prospecting and exploration of mineral and non-mineral resources, as well as the management of agricultural resources through remote-sensing activities are of great value to transnational corporations. Remote-sensing data are, therefore, of particular importance at the outset of a resource-development programme, especially in negotiations between transnational corporations and developing countries for exploration rights.

To the extent that satellite data are an increasingly important information source, and to the extent that resource information influences resource negotiations, remote-sensing data are likely to play a growing role in future resource negotiations for those who can utilize these data effectively. Since it is almost certain that the major transnational corporations will stay abreast of technological development and applications in this area and increase their use of remote-sensing data, developing countries that have difficulties in utilizing such data effectively may find themselves at a potential disadvantage in resource negotiations.

In particular, a number of institutional, technological and human constraints may have to be overcome by developing countries. This will require the development of an effective institutional and technological infrastructure pertaining to remote sensing, a familiarization on the part of decision-makers and scientists with the advantages and disadvantages of remote-sensing technology and the training of personnel in the use of this technology.

Transnational corporations, for their part, are building and expanding their capabilities for sophisticated processing and routine applications of remote-sensing data in order to be in a position to utilize fully the advantages offered by the underlying technologies. Whether or not an increasing number of developing countries will also develop capabilities of their own to use satellite remote-sensing data depends on their analysis of competing national priorities, alternative methods of resource information acquisition, the future commercial availability of such data and their assessment of the political and technical future of remote-sensing satellites. In the event that developing countries do not take into account the increasing importance of remote-sensing data for building and maintaining an adequate resource information base, they may place themselves on a seriously unequal footing vis-à-vis transnational corporations.

A number of countries have taken measures to develop indigenous remote-sensing capabilities. Some important examples follow.

Egypt established the Egyptian Remote Sensing Centre in 1971. The Centre has become a focal point of remote-sensing expertise in the Middle East and North Africa, employing over 65 highly qualified personnel and having working arrangements with many remote-sensing institutions around the world. The Centre has succeeded owing to its development of trained personnel and its ability to co-ordinate national remote-sensing needs in a central remote-sensing agency.

India has developed a strong national space programme, with a large remote-sensing component. Building on an excellent organizational base and training programme, India has established a full ground receiving and processing station and plans to launch its own resource-sensing satellites. While some of the more sophisticated sensor technology is imported, the country has begun to build a strong, independent space capability in remote sensing.

Finally, Thailand established a special Remote Sensing Division within its National Research Council to co-ordinate the needs of the more than 30 agencies using remote-sensing data. It also initiated a regional training programme and created a computer analysis capability suited to local needs and limitations. A ground receiving station has been completed, which further adds to Thailand's capabilities. Over 100 Thai scientists and technicians have been trained and are fully active in the remote-sensing programme.

It should further be noted that several regional technology transfer programmes have been established. In the framework of these programmes, a great number of scientists and persons from natural resource management levels have been trained in the application of remote-sensing data.

These examples show that it is quite possible to overcome the obstacles facing the establishment of national remote-sensing capabilities. In such efforts, developing countries are also aided by a number of organizations and bodies of the United Nations system which assist in the utilization of remote-sensing technology, through the provision of advisory services and training courses, support in field programmes and the establishment of bodies for operational activities. Thus, for instance, the Food and Agriculture Organization of the United Nations has created a Remote Sensing Centers and the Natural Resources and Energy Division of the Department of Technical Co-operation for Development of the United Nations Secretariat has established a Remote Sensing Unit.