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QUESTIONS OF INFORMATION

OFFICE OF THE UNITED NATIONS HIGH COMMISSIONER FOR REFUGEES

JOINT INSPECTION UNIT

'he co-ordination of activities related to early warning of possible refugee flows

Note by the Secretary-General

The Secretary-General has the honour to transmit to the General Assembly the report of the Joint **inspection** Unit entitled "The co-ordinatio³ of activities related to early **warning of possible refugees flows**" (JIU/REP/90/2).

ANNEX

**THE CO-ORDINATION OF ACTIVITIES RELATED TO
EARLY WARNING OF POSSIBLE REFUGEE FLOWS**

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EXECUTIVE SUMMARY

Some ten years have passed since the importance of early warning was recognized by the General Assembly. However, the mass movements of people have been increasing and have become a serious concern of the international community. Time has come for the United Nations system to take a concerted action to strengthen its capacity in anticipating such events.

Mass movements of people are affected by multiple and complex factors and their early warning requires an intersectoral and multidisciplinary approach. This report focuses on the co-ordination of activities which may contribute to the development of an effective early warning system for possible refugee flows. It reveals that the potential of organisations of the United Nations system is immense given their widespread representation in the world and their involvement, either direct or indirect, in various root causes of refugee flows. Many organisations have already developed various techniques and methods to monitor certain factors within their mandate. However, activities related to early warning are not well co-ordinated in the light of the fragmentation and decentralization of work of the United Nations system. The report advocates the establishment of an effective early warning system of possible refugee flows through good system-wide co-ordination.

After examining relevant aspects of the issue, the authors conclude that there is a need to introduce early warning as a regular component of work in the United Nations system in a co-ordinated manner. To this end, the report offers concrete, precise and implementable recommendations both at in-house and inter-agency levels. The most important concern the designation of a central focal point within the United Nations system for monitoring refugee flows and the establishment of a consultative mechanism. If implemented, they would greatly increase the capacity of the United Nations system in early warning by making use of existing infrastructure and resources. Organizations of the United Nations system are provided good opportunities to act together to achieve such a noble goal. The authors believe that such measures would create the conditions for the United Nations system to address the events more efficiently and effectively before the worst occurs, thereby saving human lives and diminishing damages. It is their conviction that this is in accordance with the spirit expressed in the Charter of the United Nations.

THE CO-ORDINATION OF ACTIVITIES RELATED TO EARLY WARNING OF POSSIBLE REFUGEE FLOWS

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Table of Contents

	<u>Paragraphs</u>	<u>Page</u>
I. IETRODUCTIOY	1 - 1 1	1
II. POLICY FRAMEWORK FOR A CO-ORDIUATED RARLY WARNINGSYSTEM	12 - 34	3
A. Concept of early waning	12 - 21	3
B. Development of early warning with regard to refugee outflows in the principal organs of the United Nations	22 - 34	5
III. UNITED NATIONS SYSTEM'S INVOLVEMENT IN ACTIVITIES RELEVANT TO EARLY WARNING OF POSSIBLE REFUGEE FLOWS - AS A BASIS FOR CO-ORDINATION -	35 - 7 2	9
A. United Nations	36 - 6 1	9
B. Specialized agencies	62 - 72	16
IV. METHODS AND TECHNIQUES TO MONITOREARLYWARNING	73 - 9 5	21
A. Office for Research and the Collection of Information (ORCI)	74 - 78	21
B. Food and Agriculture Organization of the United Nations (FAO)	79 - a4	22
C. United Nations University (UNU): a Global Early Warning System for Displaced Persons (GEWS) under UNU project	85 - 09	24
D. World Meteorological Organization (WMO): World Weather Watch Programme (WWW)	90 - 92	25
E. United Nations Educational, Scientific and Cultural Organization (UNESCO): International Tsunami Warning System (ITWS)	93 - 95	26
V. CO-OPERATION AND CO-ORDINATION	96 - 118	28
A. Interdepartmental co-operation	98 - 103	28
B. Inter-agency co-ordination	104 - 115	30
C. Field-level co-operation	116 - 118	33
VI. CONCLUSIONS MD RECOMMENDATIONS	119 - 129	34
A. Main conclusions	119 - 128	34
B. Recommendations	129	37

I. INTRODUCTION

1. The Joint Inspection Unit (JIU) included in its work programme for 1989-1990 a study on the co-ordination of activities related to early warning of possible refugee flow on the basis of a proposal by the United Nations.

Background

2. The mass movements of population, either refugees or displaced persons, have become one of the main concerns of the international community. The number of refugees and displaced persons counted for some 14 to over 15 million for each category in 1989. Once the events occur, numerous organs and organizations of the United Nations system take measures to provide assistance and support to remedy the problem faced by these people. Yet, the increasing number of refugees and displaced persons suggests that these efforts have been useful but not sufficient. Such assistance and support, which are very complex and costly, would have been even more efficient had the information been known beforehand, thereby preventing disaster situations and minimizing damages. Early warning is not yet a regular component of work in the United Nations system where even its concept is not very familiar. Thus, there is a need to strengthen and re-emphasize the capacity of the United Nations system to anticipate mass flows of refugees.

3. Such mass movements of population are caused by multiple and complex factors, either man-made or natural, ranging from wars and armed conflicts, invasions and aggressions, violations of human rights, forcible expulsions, economic and social factors, natural disasters, to degradation in the environment. This indicates that early warning requires intersectoral and multidisciplinary approach.

4. For the United Nations system to deal with mass movements of people, early warning is indispensable. Early warning, firmly established, is a solid management tool for preparedness, whereby advance knowledge of the potential mass movements of people would better prepare the concerned entities of the United Nations system to take appropriate action and measures effectively and efficiently, as well as for prevention.

5. The term "refugees" referred to in this report covers the large-scale mass movements of people, externally and also internally 1/, who involuntarily leave their homes for whatever reason.

Approaches

6. This report focuses on the co-ordination of the United Nations system in respect of early warning of possible refugee flows. The main problem of early warning in refugee matters is not the lack of information. Rather, it is how to make available the existing information to feed into a policy decision-making process. As the work of the United Nations is decentralized and fragmented, its activities which could contribute to early warning of possible refugee flows are subject to ad hoc efforts without adequate co-ordination.

It is from this perspective that the Inspectors established an anatomy to examine how co-ordination with regard to early warning of refugee flows could be improved. Thus, all the chapters deal with exploring measures for better co-ordination to develop the early warning capacity of the United Nations system.

Objectives

7. The main objectives of this study are: to review the actual and possible involvement of various entities of the United Nations system in the activities which may contribute to early warning of possible refugee flows; to consider their ongoing co-operation in this area of activity; to examine methods and practices to transmit, process and evaluate the information available so as to issue early warnings with a view to exploring possibilities for better co-ordination; and to recommend practical measures to increase early warning capacity of the United Nations system in the field of refugee flows.

Scope

8. Within the mandate of JIU, the Inspectors undertook a management study on the subject. Thus, the scope of this study is limited to managerial and administrative aspects. The areas of investigation are: organization of work; co-ordination (internal co-operation; inter-agency arrangements, etc.); transmission of information; management of relevant data; methods of processing information; and use of new technology. Therefore, this report deals with the information already at hand without entering either into the stage of collection of information, or into that of policy-making process.

Timeliness

9. The submission of this report to the General Assembly coincides with that of the Secretary-General's report to the forty-fifth session of the General Assembly in conformity with its resolution 44/164, on the strengthened role that the Secretary-General could play in undertaking early warning activities especially in the humanitarian area. Moreover, this study is prepared at the outset of the International Decade for Natural Disaster Reduction (IDNDR) which was proclaimed by the General Assembly of the United Nations in 1987 in its resolution 42/169 2/.

Methodology

10. The Inspectors held discussions with the officials concerned of entities of the United Nations and specialized agencies. Relevant documents and materials were collected and analysed. To examine the field-level co-operation, a questionnaire was sent to offices located outside of Headquarters. Based on this information, consultative missions were held to some of these offices. The information obtained was further assessed and evaluated so as to draw conclusions. Before finalizing the report, the draft was sent to all the concerned organizations for comments and verification.

Acknowledgement

11. The Inspectors wish to express their gratitude to those officials they met and who provided them with useful information. They are also very grateful to the offices and organizations for their contributions to the questionnaire by supplying interesting comments and information.

II. POLICY FRAMEWORK FOR A CO-ORDINATED EARLY WARNING SYSTEM

A. Concept of early warning

12. Early warning means an action to notify beforehand. As the term indicates, early warning constitutes an alerting function, not a mere forecasting or projection endeavour. As a management tool (see para. 4), it can be used during the planning process resulting in preparedness for actions by the concerned entities prior to the eruption of events, thereby avoiding taking post facto measures. Information should be made available for early warning purposes whether the events can be predicted or not, since the predictability can be seen only when early warning exercise is completed. The preventability of events should not be questioned either, since it belongs to the mandate of political decision-makers who will decide on actions or non-actions *to take depending on* the situation. A piece of information or an event, which may have a value as early information but should be distinguished from early warning, could not always be sufficient as immediate and direct input to early warning. In principle, early warnings which identify high risks should be issued only as a result of analysis and evaluation of a certain amount of information made available. Instead of emphasizing effects, the relevant information should contain both general and *specific* aspects of the situation, particularly by addressing underlying root causes 3/. Root causes should be examined in the light of factors (called indicators) which could provide indication for early warning. Receiving raw materials does not lead directly to early warning. Only when data are systematised, classified and organised for retrieval and analysis, would they constitute the rudiments of early warning 4/. The question may be raised "how early" the information should be. It may vary from a short-range to a long-term perspective. What is essential is that relevant information be made available well in advance.

13. Among various facets of the concept of early warning, one is directed towards developing contingency planning for refugee flows. This refers to the use of information to evoke active responses from organisations which need an effective early response system. Another facet is victims and damages prevention 5/ which can be efficient and effective only if tackled before the events erupt.

14. Basic constituents for early warning as considered in this study are: (i) relevant and publicly available information; (ii) transmission of information; (iii) processing, analysis and evaluation of information; and (iv) management of data.

(i) Relevant and publicly available information

15. Any indications of developing situations which could lead to the mass movement of people is information relevant to early warning of refugee flows. Information may take different forms: raw or analysed data, a given event, historical background, information which contains early warning identification, etc. Before its transmission to Headquarters, the officials

should consult with colleagues or other offices in the same country or region and even with their respective Headquarters in order to verify its relevance and significance. They should make a primary assessment and comment on the information. Staff should be properly informed, trained and made aware of the importance of early warning which should form part of their work. The central office should provide them with criteria for assessment, specific indicators, the type and formats of the information required, etc.

(ii) Transmission of information

16. The relevant information should be transmitted to the central and/or appropriate office as soon as possible. A rapid transmission of information may be assured by the use of new technology and a good, large network. This is more relevant in case of emergencies. The frequency of transmission could be determined according to the type of information required (e.g. daily, weekly, monthly, quarterly, etc.). In the event that the transmitted information was found to be incomplete or inaccurate, the recipient of information should request the senders for clarification and completion with additional elements. In this process, these offices should consult other offices before retransmitting the information concerned. Furthermore, special arrangements are necessary for emergencies (see para. 112).

(iii) Processing, analysis and evaluation of information

17. Upon the receipt of information, the central office should first proceed to its processing. This requires the selection and classification of information on each indicator as developed by the central office in order to filter the information received. The selected and classified information should be coded and rated (quantitatively or qualitatively) according to the established criteria. Depending on the methods chosen, such processed information could be presented in diagrams, tables, charts or in a descriptive manner.

18. The processed information must be analysed and evaluated for feeding into the monitoring procedure which consists of information directly applicable to possible situations. It is only after this evaluation that warnings could be given to detect refugee-producing situations by identifying vulnerability to different factors and high risks of possible movements of people. The analysis and evaluation of the processed information would require the examination of all relevant data (i.e. historical, current and advance information) which should be evaluated within the specific context, bearing in mind that the interlinkage of indicators varies widely from country to country or region to region. In particular, this function should be entrusted only to those who are specifically trained for this purpose without relying too much on computers which should only be used for providing assistance.

19. Before finalizing analysis and evaluation of the processed information, interim steps may be taken in order to obtain supplementary and missing elements from the senders of information. Besides requesting further information through communication means, quick missions may be envisaged to the offices outside of Headquarters for this purpose.

20. The final result of early warning should include scenarios which are likely to take place in order to demonstrate how serious the situation could be. They may be accompanied by possible recommendations to decision-makers

for measures to be taken (i.e. good offices, contacts with Governments, sending investigation missions, discreet diplomacy, preparation for assistance, etc.). Consideration should also be given to which offices and organisations of the United Nations system should be referred to for action by them. In fact, they should be consulted in this evaluation phase.

(iv) Management of data

21. Presenting the evaluated information to decision-makers, together with the processed and relevant information, would make it necessary to establish and manage appropriate data by the competent offices. Decision-makers would inevitably require such data which can be retrieved at any time. As the situation develops, such data should be updated, stored and transmitted. The establishment and management of relevant data and databases, in particular by the use of new technology, should be given a very high priority in order to effectively and efficiently develop and increase the early warning capacity of the United Nations.

B. Development of early warning with regard to refugee outflows in the principal organs of the United Nations

22. In the last years, the highest authorities and principal organs of the United Nations have paid serious attention to a preventive and forthright role by the United Nations in incipient critical situations.

1. The Secretary-General

23. From the inception of his term of office, the Secretary-General has shown keen interest in developing the capacity of the United Nations in early warning. Being aware that early warning was not established as a regular component of work at the United Nations and that this constituted a lacuna in the work of the United Nations particularly in preventive diplomacy, the Secretary-General has continuously pointed out the importance of early warning activities, given that prevention is one of the most important functions of the United Nations. The Secretary-General informed in his second annual report in 1983 that he had initiated steps within the Secretariat in order to be alerted in advance to incipient problems affecting international peace and security 6/. He mentioned in his annual report in 1988 7/ that "resolving conflicts is a prime responsibility of the United Nations but avoiding them is equally necessary for the maintenance of peace". In his latest annual report, the Secretary-General indicated the necessity of the Secretariat to monitor potential conflict situations from a clearly impartial standpoint with the use of modern technology in the service of peace 8/.

24. As regards the actions taken by the Secretary-General, mindful of General Assembly resolution 39/117 of 1984 on human rights and mass exoduses, the Secretary-General designated the Centre for Human Rights "as the focal point within the Secretariat for monitoring and following-up contacts with the United Nations organs, specialised agencies and other international organisations with regard to incipient situations of mass movement of population." The Centre set out necessary arrangements to fulfil this role on a trial basis for an 18-month period ending on 31 December 1986.

25. As an action responding to the Assembly resolutions on human rights and mass exoduses and on the international co-operation to avert new flows of refugees, the Secretary-General established the Office for Research and the Collection of Information (ORCI) in March 1987 with a mandate, inter alia, to provide early warning of developing situations requiring the Secretary-General's attention and to monitor factors related to possible refugee flows and comparable emergencies. With the establishment of this Office, the Centre's role as a focal point was discontinued. The Secretary-General has been continuing to report on the development of early warning activities in the United Nations. Very recently, the Secretary-General sent a letter to the executive heads of the organizations and entities concerned of the United Nations system in order to seek their co-operation for developing early warning activities.

2. The General Assembly

26. Since 1980, the General Assembly has always had on its agenda the question of mass movement of refugees. In 1980, the General Assembly adopted a resolution 35/196 entitled "Mass Exoduses" which expressed "deep concern at the continued incidence of large-scale exoduses and displacements of populations and at the resulting hardships and problems of the persons and States concerned" and requested the Commission on Human Rights "to examine the report of the Secretary-General to be submitted to it at its next session and on the basis of that report to make recommendations for further action." In 1981, the General Assembly established a Group of Governmental Experts on International Co-operation to Avert New Flows of Refugees (the Group hereinafter) by resolution 36/148, which was enlarged in 1982 by resolution 37/121.

27. With respect to the millions of victims of mass outflows of refugees and displacements of population, the General Assembly indicated in its resolution 37/186 the consciousness about "its dual responsibility, under the Charter, to provide international protection and assistance to such victims and to eliminate or mitigate the root causes of phenomenon." In 1983, pursuant to paragraph 5 of General Assembly resolution 37/186, the Assembly examined a report of the Secretary-General 2/ on human rights and mass exoduses, which mainly contained remarks and comments made by Governments, United Nations departments and bodies, specialized agencies and non-governmental organizations (NGOs) with regard to the recommendations made in the study of the Special Rapporteur (see para. 32). In the light of the Special Rapporteur's report, the General Assembly in its resolution 38/103 considered it desirable for the Secretary-General "to utilize to the greatest extent possible relevant United Nations machinery to analyse promptly information on situations which might cause mass exoduses." It further requested the Secretary-General to follow closely developments on this question.

28. Commending the Group for the work accomplished, the General Assembly in its resolution 41/70 endorsed in 1986 the conclusions and recommendations contained in the report (see paras. 33-34). In particular, with regard to paragraphs 70 and 71 of the report, the General Assembly requested the Secretary-General to take the necessary steps to discharge the functions and responsibilities described therein. Moreover, he was requested to bring the report to the attention of Member States, and in view of paragraph 72, of all the relevant organizations, organs and programmes of the United Nations system. In its resolution 42/144, the General Assembly requested in 1987 the Secretary-General to report to the forty-third session on any developments

relating to the recommendations contained in the report of the Group. In 1988, by resolution 43/154 the General Assembly urged the Secretary-General "to use the resources available to consolidate and strengthen the system for undertaking early warning activities in the humanitarian area by, inter alia, early computerization of the ORCI and strengthened co-ordination among the relevant parts of the United Nations system" and requested the Secretary-General "to report to its forty-fourth session on the strengthened role that the Secretary-General could play in undertaking early warning activities, especially in the humanitarian area, as well as on any further developments relating to the recommendations contained in the report of the Group."

29. In 1989, the General Assembly requested the Secretary-General, in its resolution 44/164, to continue to develop the role of ORCI as a focal point for the operation of an effective early warning system and the strengthening of co-ordination of information-gathering and analysis among United Nations agencies with a view to preventing new massive flows of refugees and displaced persons. It further reiterated to urge, inter alia, early computerization of ORCI and strengthened co-ordination among the relevant parts of the United Nations system and to request the Secretary-General to report thereon to its forty-fifth session.

3. Economic and Social Council (ECOSOC)

30. Within its mandate, ECOSOC has been dealing with monitoring of development of economic and social conditions. Recently, the concept of "early warning" has been developed in conjunction with the concept of international economic security 10/. In acknowledging the importance of short-term macro-economic forecastings and of longer-term projections of world socio-economic developments and also that early identification of macro-economic disturbances is an important element in averting potential negative effects at both the national and international levels, ECOSOC adopted in 1989 a resolution 1989/85 on the role of the United Nations in early identification, analysis and monitoring of world economic developments, and requested the Secretary-General to present at its session in 1990 proposals that could be implemented within existing resources to improve the work of the United Nations on the early identification, analysis and monitoring of emerging problems in the world economy 11/.

4. Commission on Human Rights

31. The mass flows of population and mass exoduses have been a great concern of the Commission on Human Rights since 1979. In its resolution 30(XXXVI), the Commission requested the Secretary-General, in cases where large-scale exoduses become a matter of international concern and Solidarity, "to consider establishing direct contacts with the appropriate Governments to assess the relationship between the situation and full enjoyment of human rights, and to make concrete recommendations for ameliorating such situations," and also requested him, where warranted, "to submit to the next session of the Commission, or General Assembly, as appropriate, a summary of his findings and recommendations to assist Governments in restoring full enjoyment of human rights. "

32. At the request of the Commission, the Special Rapporteur prepared a study on human rights and mass exoduses which was submitted to its thirty-eighth

session in 1982 and subsequently to the General Assembly at its thirty-seventh session in 1983. The study gave a thoughtful examination of the increasing phenomenon of mass exoduses and made several recommendations, which included "the introduction of an early warning system based on impartial information-gathering and data collection concerning potential mass exodus situations, leading to expeditious reporting to the Secretary-General of the United Nations and competent intergovernmental organs for the purpose of timely action, if required". Although the report of the Special Rapporteur was highly commended both by the Commission and the General Assembly, the implementation of its recommendations has not been fully followed-up. The Commission continues to examine the question of mass movements of refugees more in general terms. In its resolution 1990152 at its forty-sixth session, the Commission requested the Secretary-General to continue to develop the role of ORCI in early warning as well as to provide a focal point within the United Nations system for policy response.

5. Group of Governmental Experts on International Co-operation to Avert New Flows of Refugees

33. Early warning has been accorded such a very high priority by the Member States that the Group was established (see para. 26) to examine the question and report thereon to the General Assembly. The Group was specifically requested to make "in the light of the existing relevant international instruments, norms and principles to undertake as soon as possible, in order to improve international co-operation to avert new massive flows of refugees, a comprehensive review of the problem in all its aspects, with a view to developing recommendations on appropriate means of international CO-Operation in this field, having due regard to the principle of non-intervention in the internal affairs of sovereign States." The final report of the Group (A/41/324) formulated several recommendations to Member States, competent organs of the United Nations and the Secretary-General. To the main organs of the United Nations, the Group urged to make fuller use of their respective competences under the Charter for the prevention of massive flows of refugees. It also recommended that the relevant economic assistance agencies and other bodies of the United Nations consider, in consultation with the States directly concerned, giving greater support to those projects that could help avert new massive refugee flows resulting from the impact of social and economic factors or natural causes.

34. The Secretary-General was recommended by the Group to undertake tasks such as: (i) giving continuing attention to the question of refugee flows; (ii) ensuring that timely and fuller information is available within the Secretariat; (iii) improving co-ordination within the Secretariat for analysing information; (iv) making the necessary information available to the competent United Nations organs in consultation with the States directly concerned; and (v) considering taking such measures as are necessary. In this regard, he was asked to act within the resources available to the Secretariat. Thus, the Member States have placed the greatest importance on the establishment, operation and development of a global watch system with early warning components in various sectors, having due regard to the necessity of international co-operation and of co-ordination, inter alia, among the United Nations system.

111. UNITED NATIONS SYSTEM'S INVOLVEMENT IN ACTIVITIES RELEVANT TO
EARLY WARNING OF POSSIBLE REFUGEE FLOWS
- AS A BASIS FOR CO-ORDINATION -

35. Many entities of the United Nations carry out activities relevant to early warning of refugees ranging from research, operations, technical assistance and training to monitoring. The extent of their involvement differs according to their mandate.

A. United Nations

1. Office for Research and the Collection of Information (ORCI)

36. With regard to the monitoring function of possible refugee outflows, ORCI is the only and central *Office* of the United Nations established to centralise publicly available data and identify threats to peace at an early stage 12/. Its mandate regarding refugee flows and comparable emergencies is given 8s follows 13/: (i) to provide early warning of developing situations requiring the Secretary-General's attention; (ii) to monitor factors related to possible refugee outflows and comparable emergencies; and (iii) to carry out ad hoc research and assessments for the immediate needs of the Secretary-General.

37. The establishment of ORCI was, on one hand, part of the process of rationalising and streamlining the political sector of the Organization, which corresponded to the recommendation of the Group of High-Level Intergovernmental Experts (Group of 18 hereinafter) regarding duplication of work in political sectors 14/. On the other hand, it was a concrete manifestation of the Secretary-General's determination to organize the Secretariat 80 as to ensure that he was provided, as soon as it became available, with information which would enable him to react to threats to the peace or to humanitarian emergencies, as well as to provide him with analyses and recommendations to help him in discharging his responsibilities. In this process, ORCI may function as a catalyst to put forward early warning capacity Of the United Nations system.

38. ORCI has been developing an integrated early warning system for, inter alia, possible outflows of refugees and a computerized system for a whole process of monitoring (i.e. analysis, storage and transmission of information). The Office endeavoured to have consultations with other departments and agencies of the United Nations system, with world-wide research institutions and NGOs. Its efforts, however, could have been even more active and dynamic, although they may have been jeopardized by several factors such as: administrative constraints, ORCI's non-involvement in operational activities, bureaucratic resistance, ORCI's limited mandate, etc. Being a central body to monitor factors of refugee flows, ORCI should discharge its functions with more persistence and dynamism. In fact, to its monitoring function of refugee flows, ORCI has not given a high priority and

has not established, for instance, a procedure to ensure available information, unlike the Centre for Human Rights which established a specific procedure in 1985 (see para. 45).

39. From an administrative point of view, ORCL has overwhelming constraints. Since ORCI was created at the time of the recent financial crisis, within resources available in the United Nations, the Office was not given sufficient financial, personnel and logistic resources. In particular, with regard to the function related to early warning of potential refugee flows, it is the Planning and Research Co-ordination and Development Unit (3 Ps and 3 GSs) which has been engaged in the development of relevant indicators for early warning purposes. Being a new Office, its staff is highly motivated and enthusiastic about its work but the Unit is too thinly staffed in comparison with the tasks entrusted to it, and the work related to early warning constitutes only its partial responsibility. In addition, the Director's post (D.2), which has an overseeing and co-ordination function of early warning, has been filled only in March 1990 (with the appointed still unable to assume his functions as of May 1990). ORCI's administrative aspects require serious attention if its capacity of early warning is at all given a high priority.

2. United Nations High Commissioner for Refugees (UNHCR)

40. The UNHCR is required under its Statute to provide international protection and to seek durable solutions for refugees. The activities which the High Commissioner is authorised to undertake to carry out these functions include promotion of measures to facilitate voluntary repatriation or integration of refugees into new communities, as well as to improve the welfare of refugees and reduce the number requiring protection. The Office has over recent years increasingly come to appreciate the significance of early warning activities for its own work on behalf of refugees 15/. UNHCR Emergency Management Training Programmes, which have been carried out since 1985, have regularly included a component on early warning for emergency response. Moreover, with a view to ensuring carefully planned responses at the earliest stage after a refugee flow has started, UNHCR is in the process of institutionalizing a "Refugee Emergency Alert System" (REAS). The System is, in effect, a method of information-gathering and analysis which requires an assessment of developing situations against an agreed list of indicators, in order to forewarn UNHCR of the likely scope, nature and needs of refugee emergencies.

41. As to early warning for prevention, prevention is not formally provided for in the Statute. There has, however, been some consideration by the Office of the role it might - indeed should - play consistent with its humanitarian character and its primary responsibility to persons outside their own countries and in need of international protection. The High Commissioner himself, in a speech to the forty-sixth session of the Commission on Human Rights in 1990, stressed the need to respond comprehensively to the multifaceted refugee problems of today, drawing on the capabilities of the United Nations system as a whole. The High Commissioner specifically mentioned the importance of dealing with root causes in the framework of prevention. Recently, UNHCR set up an in-house Working Group in order to provide a focal point for consideration of issues related to early warning. The intergovernmental Executive Committee of UNHCR is also interested in examining broader aspects of protection and solutions to refugee problems and has called for the establishment of the Working Group on Solutions and Protection to examine these issues in depth, including their preventive and

early warning aspects. Finally, it is important to note that UNHCR's Centre for Documentation on Refugees is the depositary of much useful information concerning refugee problems, maintains a computerized database on refugee literature and is co-ordinating a pilot project for an international refugee documentation network. In addition, UNHCR is developing databases on national legislation and caselaw concerning refugees. In sum, as an Organization dealing directly with refugee problems, although concerned mainly with situations following exoduses rather than the causes thereof, UNHCR's co-operation with system wide early warning activities would be of great importance.

3. United Nations Disaster Relief Co-ordinator (UNDRO)

42. Whereas UNDRO does not have direct involvement in refugee problems per se, the multiple causes of refugee outflows are often associated with disasters - either natural or man-made, in which UNDRO plays a role in: (i) preparedness; (ii) relief operations following disasters, if necessary; and (iii) prevention. UNDRO has major operational and some research activities as indicated below.

43. Firstly, disaster preparedness is the action designed to minimize loss of life and damage, and to organize and facilitate timely and effective rescue, relief and rehabilitation in cases of disaster. The key to all effective emergency rescue and relief action lies in advance planning and preparedness, although the primary responsibility for establishing the necessary administrative and operational machinery and for undertaking preventive measures rests with Governments. Secondly, once a disaster occurs, the absolute priority should be given to rapid and efficient action for disaster relief action. Upon request from the Government concerned, UNDRO initiates the necessary action required for an international appeal for assistance. UNDRO may be approached directly by a Government's mission in Geneva or New York. Or, UNDP's resident representative may be informed, through which UNDRO should receive a report immediately by telex, telephone or cable, even before it is known whether the disaster-stricken State is likely or unlikely to request an international relief aid. On the basis of the information received on a disaster, UNDRO immediately establishes situation reports, containing a general appraisal of the disaster and of probable relief needs from abroad, which are dispatched to Governments, organizations of the United Nations system, NGOs, intergovernmental organizations, etc. Thirdly, disaster prevention implies measures designed to prevent natural phenomena from causing or resulting in disasters or other emergencies. It concerns the formulation and implementation of long-range policies and programmes to prevent or eliminate the occurrence of disasters. UNDRO promotes the study, prevention, control and prediction of natural disasters and provides a clearing house for scientific and technological information in this field. These activities of UNDRO suggest that UNDRO's further involvement and possible contributions to early warning would be of vital importance.

44. UNDRO is closely associated with the Secretariat of the IDNER (see General Assembly resolution 44/236). In addition, its use of computers in disaster management is noteworthy. In particular, the United Nations Emergency Network (UNENET) links electronically members of the world-wide disaster management community to provide instantaneously both background and operational disaster-related information and place them in direct contact with each other.

4. Centre for Human Rights

45. Given that the violation of human rights is one of the major causes of refugee flows and that the Centre holds voluminous information on human rights at the country level, its role to play in early warning of refugee flows is of paramount importance. The Centre for Human Rights serves as the secretariat to different meetings on human rights which report to ECOSOC such as the Commission on Human Rights, the Sub-Commission on Prevention of Discrimination and Protection of Minorities, as well as to other committees under international legal instruments. Following its designation as the focal point within the Secretariat in 1985, the Centre established accordingly procedures to ensure available information and to analyse and evaluate the information received. In 1985, the Sub-Commission issued its first early warning alert, in its resolution 21 16/ which drew the Commission's attention to a problem "with great potential to cause a mass exodus, especially of members of the Ahmadi community"; however, the Commission did not take any action on this alert. Although the Commission has not yet tried to warn the international community on impending exoduses, it has begun to consider the linkage between specific causes of refugees and human rights violations 17/. The Centre is very well placed to follow such a development for monitoring early warning of possible refugee flows, particularly by addressing specific root causes which produce refugee situations. As mentioned in paragraph 25, in the light of the establishment of ORCI which was especially entrusted with responsibilities, inter alia, for early warning in political, as well as humanitarian emergencies, the Centre's role as focal point was discontinued. It does not preclude, however, its predominant role in early warning, for which the restructuring of its information as utilizable Beta is necessary.

46. One progress made is that the Centre established a task force on computerization to initiate a study on computerizing the work of the treaty monitoring bodies in relation to reporting with a view to increasing efficiency and facilitating compliance by States parties with their reporting obligations and the examination of the reports by the treaty bodies. In order to computerize information on the application of treaties, the Centre would have to establish and analyse country-by-country situations on various kinds of human rights. The establishment of such a comprehensive information, which would provide a good basis for monitoring refugee-producing situations, should be highly encouraged.

5. Office of the Director-General for Development and International Economic Co-operation (ODG/DIEC)

47. Its mandate includes providing assistance in the identification of and focus on emerging problems requiring the attention of and/or action by the international community. Thus, ODG/DIEC has been a focal point and will be a central focal point to ensure effective response by the United Nations system in the field of disaster and other emergency situations. It will organize inter-agency meetings of certain entities of the United Nations system to meet and, when required, to assist the Secretary-General in carrying out those tasks. It is envisaged that these arrangements should provide a central focal point at United Nations Headquarters to ensure that the Secretary-General is kept advised of developments and to make such special arrangements, as may be necessary, to ensure an effective responsibility by the United Nations system. Resident co-ordinators who report to this Office provide a solid basis for establishing further co-operation in the field among various organizations of the United Nations system.

6. United Nations Development Programme (UNDP)

48. UNDP's involvement in refugee flows is limited to the cases where durable solutions to refugees are sought and when assistance to development is requisite. However, UNDP's role at the country level is significant in that resident representatives perform co-ordination functions providing assistance, not only to the Governments concerned but also to other agencies. UNDRO and UNDP's co-operation has been highly appreciated. Mention should be made of the fact that, *in* the countries where there are *no* UNHCR representatives, UNDP's resident representatives deal with refugees problems.

49. Recently, resident representatives have received guidelines from Headquarters to identify information with regard to internally displaced persons. As a result of the guidelines, an internal working group on refugees, returnees and displaced persons was established. With these new guidelines supported by UNDP's existing infrastructure, UNDP will certainly contribute to a great extent to the early warning of displaced persons (both internal and external) and other emergencies. Importantly, the Governing Council included in its agenda of the thirty-seventh session an item on refugees and displaced persons 18/. In addition, UNDP has developed a database on "assistance to refugees, returnees and displaced persons in Africa", which will be installed in New York, Geneva (at UNHCR) and field offices.

7. Department of Public Information (DPI)

50. The principal task of DPI is to promote understanding of the work and purposes of the United Nations among peoples of the world. Within this framework, the United Nations information centres (UNICs) (located in 56 countries) perform: the dissemination of information on the United Nations; the production of materials and documents on the United Nations; and informing the Headquarters of the countries covered. Thus, UNICs have been given specific guidelines directly by ORCI on the reporting of up-to-date and reliable information concerning political, economic, social and humanitarian developments in their respective areas. According to the guidelines, the reports should be based on official documents and statements on media and summarize carefully, inter alia, the developments and functions which may give rise to the displacement of parts of population and to flow of refugees. In addition, DPI has taken measures to enhance the communication capacity of UNICs, which would further be of great assistance to the development of early warning of refugee flows.

8. Regional economic commissions

51. Not necessarily directly involved in refugee matters, United Nations regional economic commissions assume leadership and responsibility for co-operation and co-ordination at a regional level in the economic and social activities. Their extensive scope in economic and social factors together with their regional coverage can be an asset in the contribution to early warning by providing assistance such as: technical advice; offering use of their infrastructure; developing programmes; and organizing inter-agency meetings.

9. Department of International Economic and Social Affairs (DIESA)

52. Within its research activities on social and economic affairs, it has some involvement by publishing reports and studies on early warning functions both from short- and longer-term points of view. In particular, the World Economic Survey published by DIESA has been dealing with factors and indicators for economic and social forecasts. In response to BCOSOC 19/ resolution 1988/75, the World Economic Survey 1989 includes as an annex a survey entitled "Early Identification, Analysis and Monitoring of World Economic Developments" which reported on the mechanisms and means thereof currently available within the United Nations system.

10. United Nations Children's Fund (UNICEF)

53. Under its emergency operations, UNICEF's assistance is geared to children and women facing natural disasters, which may be exacerbated by prevailing situations (such as armed conflicts) resulting in major internal and external displacements of population. The importance of this kind of activity on a decentralised flexible manner has been strongly underlined by the Executive Board. At the country level, UNICEF works closely with the resident co-ordinators, other United Nations organs, specialized agencies, non-governmental organizations and Governments. UNICEF never works in isolation in the field which requires firm co-ordination with other organizations, thereby establishing many bilateral or inter-agency collaboration agreements between/among UNICEF, WFP, UNHCR, WHO at the country level. Facing a recurring need to develop and apply a longer-term strategy for preparedness both internally and with counterparts at the national level, UNICEF has developed activities such as: pre-disaster planning assistance, assessment missions, inter-agency trainings, etc.

54. Within the context of early warning system⁸ for food and nutrition, there is the Food and Nutritional Surveillance Programme which is a joint programme of UNICEF, WHO and FAO. It aims to: (i) analyse existing information on trends in a limited number of specified indicator⁸ on food and nutrition at national and subnational levels; and (ii) promote the prompt use of this information for national and international advocacy. In the long run, the Programme is designed to strengthen the institutional capacity of 40 to 60 developing countries to produce, analyse and use related alert; and to promote recognition and use of this information at country and regional levels by advocating that considerations of human nutrition are essential for the proper development of policies and programmes ^{20/}.

11. Department of Special Political Questions, Regional Co-operation, Decolonization and Trusteeships

55. Its Unit for Special Emergency Programmes plays a key role in alerting the international community on the crisis situation developing in Africa. Arrangements are made with various entities (e.g. UNDRO, UNHCR, WFP, etc.) of the United Nations system to inform this Unit when emergencies are developing in Africa. While not responsible for synthesising information leading to refugee flows, its familiarity with developing situations in Africa would make it well placed to provide expertise in the analysis and evaluation stage of early warning.

12. United Nations Environment Programme (UNEP)

56. Within its mandate, UNEP does not directly deal with refugee issues. However, environmental degradation is one of the causes of refugee flows.

57. Very importantly, UNEP has a Programme called Earthwatch which is the first of the three operational areas recommended by the United Nations Conference of the Human Environment held in Stockholm in 1972. These are: (i) environmental assessment; (ii) environmental management; and (iii) supporting measures. This assessment area "Earthwatch" was conceived as a co-ordinated global system of national facilities and services to study the interaction between man and the environment, to provide early warning of environmental hazards and to determine the status of selected natural resources. This is composed of: evaluation and review, research, monitoring and information.

58. To undertake the Earthwatch Programme, the Global Environment Monitoring System (GEMS) was established as a tool, whereby the environment of the globe is monitored constantly. The GEMS provides a series of data banks to which information is systematically gathered, assembled and electronically stored. The GEMS is assisted by the Global Resource Information Database (GRID). Although its allocated budget for the GEMS is very modest, it has been developing joint programmes with other entities such as: FAO, UNESCO, WHO and WHO. UNEP's input to early warning through its GEMS and GRID would be undoubtedly of utmost importance 21/.

13. United Nations University (UNU)

59. While UNU cannot be directly involved in daily operations of early warning, it could play an essential role by creating a global alert mechanism for a long-term perspective. This would assist people to recognize potential problems and provide an early warning of the need for policy change and preventive action. Its Second Medium-Term Perspective for the period 1990-1995 (MTP II) gives a greater concentration of efforts on this aspect. Within the context of the proposed programme and budget for the biennium 1990-1991, the global alert function will be made operational.

60. Although the concept is implicit, the global alert function of UNU may emanate from its mandate. Under the Charter, UNU is "an international community of scholars, engaged in research, post-graduate training and the dissemination of knowledge in furtherance of the purposes and principles of the Charter of the United Nations ." (Art. I, para. 1). Moreover, UNU is directed to "devote its work to research into the pressing global problems of human survival, development and welfare that are the concern of the United Nations and its agencies, with due attention to the social sciences and the humanities as well as the natural sciences, pure and applied." (Art. I, para. 2). UNU's autonomous existence with its composition of academic scholars and mandate to examine the "pressing global problems of human survival, development and welfare" constitutes the essential part for its global function. At the time when the world is becoming more and more interdependent, such a function will become highly important in the years to come. UNU is a genuine institution to deal with early warning issues from long-term and global points of view.

61. Without any involvement in operational activities, UNU's activities have been oriented to academic and research fields. It does not provide any technical assistance to any specific country. Nevertheless, its role has been recognized as one of giving intellectual input to policy-makers of the United Nations organizations or of Governments, thereby contributing to the settlement of real problems. UNU has produced many interesting studies in this sense. In practice, UNU has been closely co-operating with some organizations (UNICEF, UNESCO, WHO, etc.) in developing assessment techniques and procedures, particularly in food and nutrition, and primary health care. Its various studies related to conflict resolutions, multilateralism, global economics research, and its other programmes concerning human dimensions of global change, sustainable development in the humid tropics, mountain ecology and sustainable development, and natural resources in general would benefit the international community. Whereas UNU's research results have not been very well known, within its global alert function which UNU will pursue in the forthcoming years, there is an increasing need for the international community to benefit from its research results which concern the future of human beings in this interdependent world. UNU will thus be able to provide valuable contribution to the development of early warning capacity.

B. Specialized agencies

1. Food and Agriculture Organization of the United Nations (FAO)

62. FAO's involvement in monitoring refugee situations and their relief needs is largely through the Global Information and Early Warning System on Food and Agriculture (GIEWS). The System was established in 1974 in response to the world food crisis of the early 1970s and the recommendation of the World Food Conference (resolution XVI) of 1974, which was endorsed by the United Nations General Assembly at its twenty-ninth session in 1974 (resolution 3348(XXIX)). Through this System, FAO deals with some of the root causes of refugees in its regular activities.

63. The GIEWS has two main functions : (i) to monitor continuously the food supply/demand conditions at the global level so as to assist Governments in taking timely and appropriate measures in quickly changing situations; and (ii) to identify countries and regions where serious food shortages and worsening nutritional conditions are imminent and make an early assessment of the possible emergency food requirements. The GIEWS activities assist not only the national Governments concerned but also facilitate decisions by donors on the provisions of emergency food aid. To the extent that food shortages affect the movement of people, the System has an important role to play in providing information on refugee situations and their relief needs. The GIEWS has co-operative arrangements with a number of United Nations, international and national agencies, as well as with more than 50 NGOs which share information with the System. As far as the monitoring of the socio-economic indicators is concerned, co-operation with NGOs has been particularly useful in providing either early warning of impending food supply difficulties or the identification of populations most seriously affected, including refugees. An important input to the System is the information supplied through the FAO representatives in a monthly crop/food situation

report questionnaire, which is circulated to over 100 Governments. Outposted staff of FAO report regularly on the food situations in the countries concerned. The output of the GIEWS are several regular reports issued on monthly, quarterly, annual and ad hoc basis such as: Food Outlook, Foodcrops and Shortages, Food supply Situation and Crop Prospects in Sub-Saharan Africa, Food Outlook Statistical Supplement, Assessment of Cereal Production in Western Africa and Special Alerts. GIEWS' capacity for analysis has been noticeably upgraded by information fed through remote sensing techniques (for details, see paras. 79-84).

64. In its reply to the letter of 29 May 1989 from the Secretary-General, FAO expressed views on its possible involvement in early warning of the humanitarian area by means of the GIEWS. It explained the capability of the GIEWS to provide early warning of possible refugee flows resulting from natural causes through its monitoring of drought, food supply/demand situation and pre-famine indicators and of likely population movements when civil strife or internal disorders cause disruption of agricultural activities or interruptions of vital food supply lines. In this connection, it indicated that FAO could supply the above information to ORCI 22/. Such proposals might as well be incorporated in concrete terms in the further development of early warning system by ORCI.

2. International Atomic Energy Agency (IAEA)

65. Despite its specificity, IAEA's involvement in early warning is fundamental. It cannot be ignored that nuclear accidents, which fall under IAEA's field of activity, could influence the movement of people. In connection with the implementation of the Convention on early notification (which is equivalent to early warning) of nuclear accident and the Convention on assistance in case of nuclear accident or radiological emergency, IAEA has been assigned a vital role. These two Conventions provide an international framework for States and international organizations for taking quick actions to inform all States which might be expected to be affected by a nuclear accident and to make arrangements for providing assistance where needed. The Secretariat of IAEA has been appointed by the participants of the Conventions as the focal point for the notification of a nuclear accident and for receiving offers for assistance or arranging for assistance. IAEA has taken all steps necessary for implementing the obligations assigned to it by the two Conventions. Several Member States have already taken advantage of these arrangements. IAEA is now a partner in WMO's CTS (see paras. 90-92), which was designed for the rapid transmission of large quantities of meteorological and radiological data, and acts as an early warning system for disasters, including nuclear accidents.

3. International Labour Organisation (ILO)

66. ILO is not directly involved in early warning activities. At the request of lead organizations (i.e. UNDRO, UNHCR), ILO takes some action in its field of activity such as rehabilitation, vocational training and creation of employment, which falls under post-disaster action rather than disaster relief. Yet, due to its work related to the application of international labour standards, it holds enormous information on labour and employment situations at the country level, which is another element affecting the movement of population.

4. United Nations Educational, Scientific and Cultural Organization (UNESCO)

67. UNESCO has important activities related to refugees within its mandate covering education, culture, social needs, information, communications, research, training and science. In particular, its activities relevant to refugees education are carried out through inter-agency co-operation, although they deal with refugee problems after they have occurred. Its involvement in human rights is comparable to that of the Centre for Human Rights, UNHCR and ILO. UNESCO has also developed a database centre for social science which is an asset for contribution to early warning. Moreover, within its mandate on science, it has already developed a number of early warning-related programmes jointly with UNEP, UNU, FAO, WHO, etc. Importantly, it specifically established an early warning system to monitor tsunamis (for details, see paras. 93-95). Thus, within its large scope of mandate, backed up by the wide network spread in the field, UNESCO has a great potential role to play in early warning of refugee flows.

5. World Food Programme (WFP)

68. WFP's activities cover the assistance to refugees, returnees and internally displaced persons in its mandate to provide food aid. It has wide activities for disaster relief operations where WFP's early warning functions have been effective in providing information on potential emergency situation through its field network (80 country offices covering 90 countries). WFP's regular involvement in FAO's GIEWS has been highly appreciated. Along with its functions to assist Governments with food-aid development projects, the country offices have standing instructions to notify the Executive Director of all situations which may result in requests for WFP emergency assistance, whatever the reason. These instructions form part of the WFP Handbook on Food Aid in Emergencies which contains specific sections on early warning and preparedness. One of its general policy objectives is "(a) Reduction of the impact of disasters through appropriate early warning, prevention and preparedness measures in disaster-prone areas." To this end, WFP in collaboration with UNDP, UNDRP, FAO and other agencies should encourage and provide, where possible, support and assistance to the establishment of appropriate early warning and preparedness systems at national and local levels. In practice, priority is given to development projects which contribute to reducing: (i) the risks of disasters; and (ii) the vulnerability of communities to the impact of known disaster risks and food insecurity in general. To facilitate the monitoring of food allocations and related logistics for food aid management, WFP has developed the International Food Aid Information System (INTERFAIS) which is a comprehensive database for food aid. Its weekly emergency telexes may also have interesting value for early warning.

6. World Health Organization (WHO)

69. While the main thrust of WHO's work is to support countries in the sustained build-up of their health systems, the repeated set-backs in national effort, due to short-term emergency situations, cannot be ignored. These include natural disasters such as floods, earthquakes and cyclones, as well as droughts with their particularly severe long-term effects on the health and economy of large numbers of countries and people. Technological disasters are becoming more frequent and affect large numbers of people all

over the world. Although emergencies and disasters are hard to foresee in time and place, early warning systems can be established and advance measures taken to reduce the adverse health effects of disasters. The main responsibility for emergency preparedness and management rests with the national Governments; however, in large-scale disasters, appropriate and timely international assistance may greatly alleviate the situation. The importance of preventive measures and preparedness, plus the necessity of an integrated response to link emergency measures with long-term development, have been recognized in WHO resolutions. WHO's Programme Budget provides a Programme on Emergency Preparedness and Management which has a two-fold objective: to promote national and international preparedness for emergencies and disasters and capability in their management; and to facilitate the provision of prompt, adequate and effective health relief. The Executive Board gave an emphasis to this field of activities and proposed to increase budget allocation to this Programme for the period 1990-1991. Its activities include, inter alia, the promotion of emergency preparedness and strengthening of national management capacities through training and build-up of technical capacities in the countries; streamlining of the Organization's emergency management at all levels, including information and communication systems, so that the technical capacities of the Organization will be available in a co-ordinated manner and within the framework of the Organization's emergency programmes. Furthermore, it has also outlined a Consolidated Information System for Famine Management (CISFAM) and databases for an Emergency Management Information System (EMIS).

7. World Meteorological Organization (WMO)

70. WHO is not directly involved in the activities related to mass movement of refugees. However, under the World Weather Watch (WWW) Programme, WMO developed a Global Telecommunication System (GTS) which monitors the meteorological information through its Satellite communication network. Given that the meteorological condition is one of the main factors which could influence the mass movement of people and that its global system is very much advanced, WMO's contribution to early warning activities would be most useful. In particular, the System is operated by the Member States of WMO (over 160), including those countries which were not sufficiently equipped to operate the System, to which WHO has provided equipment and experts within its technical co-operation activities. Thus, the infrastructure of WMO in this field is very solid (for details, see paras. 90-92).

71. The birth of WWW relates to the proposals made by the United Nations General Assembly in 1961 in its resolution 1721(XVI) on international co-operation in the peaceful uses of outer space which called upon WMO to undertake a comprehensive study of measures: (i) to advance the state of atmospheric science and technology so as to provide greater knowledge of basic physical forces effecting climate and the possibility of large-scale weather modification; and (ii) to develop existing weather forecasting capabilities and to help Member countries make effective use of such capabilities through regional meteorological centres. Accordingly, WMO prepared and presented to the following session of the General Assembly an initial report which discussed in broad outline a "world weather watch" combining satellite and conventional observations, a network of world and regional weather service centres, and a telecommunication system. In a new resolution 1802(XVII), the General Assembly, in 1962, urged WMO to "develop in greater detail its plan for an expanded programme to strengthen meteorological services and research, placing particular emphasis on the use of meteorological

satellites...". This recommendation was taken up by the Fourth Congress of WHO in April 1963. WHO considered the idea for a WWW as an exciting development which meteorologists have long needed and decided to undertake further studies. The decision of the Fourth Congress elicited a third resolution of the United Nations General Assembly 1963(XVIII) in 1963 which endorsed the efforts towards the establishment of a WWW under the auspices of WHO to include the use of satellite as well as conventional data and urged all countries to support these efforts. Massive time and effort spent during the next four-year period (1963-1967) resulted in the formulation of the WWW Plan which was approved by the Fifth WHO Congress in April 1967.

72. Within the *framework* of the IDNDR, special attention should be given to early warning systems (see para. 9). WHO is very keen in highlighting the increasing importance of its infrastructure related to WWW, which is capable of warning of natural hazards of meteorological events which could influence the mass movements of people.

IV. METHODS AND TECHNIQUES TO MONITOR EARLY WARNING

73. This chapter will consider how various methods have been used and could be developed by the central office of the United Nations in order to monitor refugee flows. With a view to applying these methods in the central monitoring process of early warning, it will take into account the diversity of monitoring methods employed by several entities of the United Nations system within their mandate, whether short or longer-range and whether they lead to concrete actions or not.

A. Office for Research and the Collection of Information (ORCI)

74. ORCI is currently using methods which consist of: (i) preparing in advance country profiles, according to a wide variety of indicators covering eventually all countries in the world; and (ii) monitoring current developments against this set of background data. For the long term, as a central office for monitoring both international conflicts and humanitarian affairs, ORCI opted to use a method applying a quantitative analysis of modelling, whereby political and humanitarian risks are quantitatively measured by a computer in the light of indicators. It has envisaged to establish a computerized integral system for early warning which will be geared to receive, process and store information. Once completed, this would be an effective and comprehensive data system for monitoring early warning; however, this seems an ambitious and time-consuming project. The Inspectors feel that the accuracy of this approach requiring quantification is a crucial process because, if the measurement is not precise, policy-makers may run a risk of misjudging the situation. This will require several preparatory stages: to identify information sources; to establish channels of communication; to establish indicators; and to establish procedures for processing information such as classification, quantification and qualitative assessment.

75. As a part of developing the integral system for early warning, the Office has already formulated a large number of indicators for international peace and security, many of which are common to those for refugee flows. ORCI is basically concerned with international conflicts and domestic situations which have inter-State implications. A major part of ORCI's work has thus been directed towards the preparation for notes, briefings, analysis, issue profiles, etc. The question of refugee flows, although largely interrelated, has been a minor part of its concern, thereby the efforts having been kept to a minimum. This was also jeopardized by its limited staff and resources (see para. 39) despite that Member States have given a very high priority to early warning of refugee flows. Since its establishment in 1987, ORCI has made substantial efforts towards its objective but is still at a conceptual preparatory stage. Given the importance of tasks entrusted to ORCI, this Office needs appropriate means and arrangements in order to effectively develop its early warning capacity.

76. With regard to the use of new technology, the General Assembly explicitly urged in its recent resolutions 43/154 and 44/164 the early computerisation of ORCI. Appropriate computer equipment 23/ would be a pre-requisite for ORCI to provide fast, easy and cost-effective access to a wide range of data and to create an early warning system to monitor existing situations and their developments. ORCI has not established links with external computer installations other than NEXIS 24/ and UNINET of UWDRO. There is great scope for developing links with databases existing in the United Nations system and other sources, many of which appear in this report. However, to assume early warning functions, it is desirable that ORCI expand and upgrade its use of computers by adding servers, workstations and printers, or by acquiring a mini-computer. Finding the applicable software package to early warning functions has been extremely difficult, and it hired a consultant to design its own programme. Yet, it will take a few more years to operate the completed system.

77. In view of the increasing number of conflicts and refugee outflows which are already threatening international peace and security, ORCI's role in early warning is becoming more important. To meet the needs, its methodologies require reconsideration. For assisting the Secretary-General, ORCI has had to use traditional methods of analysis to date which are not sufficient and require further elaboration, particularly the development of criteria for analysis in order to monitor complicated factors which may produce refugee flows. On the other hand, the completion of the envisaged early warning system is still far off. To expedite the preparatory work for the system, it should accord the highest priority to the development of specific indicators for possible refugee flows. This would also be useful for the traditional methods.

70. The process of developing indicators and criteria for assessment merits a special reconsideration. The Inspectors feel that, before finalizing indicators, ORCI should consult other entities of the United Nations system for comments, technical advice and suggestions within the field of their competence. It is on this basis that this Office could also establish a whole communication network for making information available throughout the United Nations system. Paragraph 38 mentioned some reluctance shown by other entities to ORCI's attempts to seek their co-operation. However, such reluctance would have been much less if it had requested specific information on concrete indicators in which they are specialised. If FAO's GIEWS, GEWS under URU project and WHO's WWN have been successful in early warning exercise, it was particularly because of their clearly established indicators and methodologies. Similar remarks are offered in respect of the guidelines given to UNICs (see pars. 50). In summary, methodologies for early warning should be discussed and examined among the actors who could participate therein rather than imposing a methodology chosen by the central office.

8. Food and Agriculture Organization of the United Nations (FAO)

1. Global Information and Early Warning System (GIEWS)

79. Within the framework of the GIEWS, FAO's Headquarters assures the transmission of information from Governments, its field offices and WFP's offices (in countries where there is no FAO representation). A special report

on impending food shortages is transmitted to the CIEWS by its field representative whenever the possible occurrence of an emergency situation is foreseen. This includes an estimate of the affected population and their emergency food and needs. Information is also provided by a number of NGOs which closely co-operate and share information with the CIEWS. It has further expanded its working-level contacts with donor agencies, all of these efforts having contributed to a smooth information flow from field to the CIEWS.

80. The information transmitted through the questionnaire inevitably differs from country to country in analytical methods and inadequacy of data. However, to the extent feasible, the CIEWS has adopted a systematic approach 25/. Basically, its methodology to crop assessment entails selective application of techniques of agronomy, agrometeorology, statistics, economics and remote sensing, which provides both qualitative and quantitative assessment. This does not cover directly refugee situations or sudden natural disasters; however, it could identify affected populations in order to make estimation of emergency food aid requirements. The information provided is not only on food and crop situation but covers a wide range of socio-economic indicators to the extent possible, including population movements. Where the harvest outlook is uncertain or crop reporting systems are weak, special crop assessment missions 26/ have been sent to countries. The number of visits by CIEWS country monitors to vulnerable countries has greatly increased, resulting in a better assessment of the crop and food supply position in countries, coupled with closer working-level contacts with Governments and NGOs. The analysis of crop conditions through agrometeorological and remote sensing techniques, which provide the CIEWS with information independently from other data sources, has been used over the past years for cross-checking and proved to be very useful.

81. The expanded application of computers in assisting the analysis of the CIEWS has resulted in great progress. Computers are used for the retrieval of information from FAO's remote sensing ARTEMIS and the agrometeorological database. This has improved CIEWS' process of processing information, which has also increased the efficiency in the analysis of incoming information, thereby expediting release of CIEWS reports. Moreover, CIEWS country monitors have been provided with personal computers to access, process, record and store statistical information in FAO's mainframe. They have also access to other sources. Country files are maintained by the CIEWS both for historical data and forecasts on individual indicators. Furthermore, computerized spread sheets are now available in respect of cereal supply/demand balances for all countries monitored 27/.

82. As one of the most developed systems for early warning in the United Nations system, there is much to learn from FAO's methodology and experience, in particular the development of socio-economic indicators, method of assessment, computer application, etc.

2. Remote sensing techniques 28/

83. FAO's Remote Sensing Centre (AGRT) was established in 1980 following the recommendation of the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS) that FAO should establish a remote sensing centre for renewable natural resources. The Centre's main objective is to strengthen the self-reliance of developing countries in the application of remote sensing to mapping, assessment and management of their sustainable development. Particular emphasis is on remote sensing applications related to food

production and food security in the least developing countries.

On 1 January 1990, the Agrometeorological Group joined the Remote Sensing Centre in order to facilitate integration of remote sensing and agrometeorological data use for forecasting and monitoring of agricultural drought.

84. The ACRT provides CIEWS with information derived from satellite remote sensing data, as well as the agrometeorological information based on ground observations. While the satellite-based information is independent of other data sources and systematically recorded over large areas, the agrometeorological information is more accurate but representative only for locations of the agrometeorological stations. Furthermore, ground observations may be interrupted during the periods of war and civil strife, when the information may be needed most urgently. Hence, integration of the remote sensing and agrometeorological information in the CIEWS analysis process offers the best approach for systematic monitoring of crop conditions in developing countries at the regional and global scales during the vegetative seasons. Real-time communication between FAO and counterpart national and regional institutions in Africa will be possible through a dedicated satellite communication system DIANA which is being developed by the European Space Agency in co-operation with FAO.

C. United Nations University (UNU): a Global Early Warning System for Displaced Persons (GEWS) under UNU project

85. Unlike FAO's CIEWS, GEWS ^{29/} under UNU project ^{30/} was developed by applying global modelling which is on the same line as ORCI's approach. Therefore, the information is processed by a computer. The global modelling was first used in the field of economics. The model used here is called the "Future of Global Interdependence" model (FUGI model), which is actually used by DIESA for long-term forecasting ^{31/}. On the basis of FUGI model, GEWS was developed by supplementing subsystems to cover more extensive issues such as: environment, population, energy, food, social conditions and human rights.

86. The system has 4 categories of selected indicators which could affect the displacement of persons: (i) destruction in environment; (ii) failures in development; (iii) absence of peace and security; and (iv) violations of human rights. These categories comprise the subsystems for GEWS. Each category includes a number of subindicators, each of which is rated at the country level through questionnaire by experts. The network for this rating process has been somewhat limited. Participation of entities of the United Nations system would enlarge the coverage and volume of information and provide more realistic data. In respect of each year, the computer draws a diagram for each category of selected indicators ((i) to (iv)) and also for integrated indicator⁵. The diagram for each country should be examined separately, since the influence of indicators differs from one country to another.

87. In applying GEWS, actual forecast was made on the risks of displaced persons in Asia (13 countries) by examining each indicator. On the basis of the changes made from 1980 to 1985, a forecast was made on the changes likely to be seen after 1985. This project forecast that, among the Asian countries, the Philippines was to be seen as having the highest "country risk", i.e., attention must be paid to the Philippines as a country with a high risk of generating displaced persons. This forecast proved to be correct.

Importantly, this system is capable of making "scenario forecasting"; for example, as to how many civilians would be likely to die, what factors would affect the probability of large numbers of civilians becoming displaced persons, what percentages of the population would be likely to become displaced, etc.

88. On the basis of CBWS which covered 13 countries in the Asian region, the fifth-generation global model is under preparation. This will include over 150 countries and regional units to make a world-wide comprehensive modelling system. It will also include a more detailed classification of the countries, thereby covering more extensive regions of the world. Such a task will require interdisciplinary research work. In fact, the university which was associated with this project will establish an Engineering Department and the Institute of System Science in 1991. This Institute will use IBM compatible computers so that GEWS will be accessible to all interested. GEWS' monitoring mode is very flexible and can be further shortened, if necessary, by expediting the questionnaire handling process. This global model will be completed before the Institute is established so that this will function as from April 1991.

89. Given that GEWS is an existing system specifically for *refugees* and displaced persons which can be further developed to a world-wide system and is also a flexible system which can be tailored to meet the needs, for instance, by adding other indicators, it could serve as an important source of information. Now that this university will introduce GEWS with IBM compatible equipment, it will be easy to have access to this system. Before developing its own system, which would require an enormous amount of time, cost and man-power, ORCI may use GEWS even on a tentative basis. Taking the early warning information provided by GEWS as a basis, ORCI could then concentrate on its own analysis which is indeed its genuine mandate of "monitoring" entrusted to it.

D. World Meteorological Organization (WMO): World Weather Watch Programme (WWW)

90. WMO's WWW applies the satellite communication network and processes the information by computers. WWW has three main components:

- (a) the Global Observing System (GOS),
- (b) the Global Telecommunication System (GTS), and
- (c) the Global Data-Processing System (GDPS).

91. The system functions as follows:

(a) GOS comprises facilities on land, at sea, in the air and in outer space, for the observation and measurement of meteorological elements. There are today over 9,000 observing stations on land and 7,000 mobile ship stations. However, the real progress in filling the gaps was made with the rapid development of meteorological satellites and of automated observing system. With GOS, every point on its surface is under surveillance twice per day. GOS thus has been developed as a composite observing system which produces every day approximately eight million characters of alphanumeric observational data for distribution regionally and globally.

(b) GTS is a world-wide telecommunication system for the rapid exchange of the observational information as well as of analysed and processed information, including forecasts, which are produced by GDPS. GTS conveys over 15 million characters of alphanumeric data and 2,000 weather charts daily operating with a high speed, automation and efficiency. GTS is composed of three elements: the Main Telecommunication Network (MTN) and the Regional and National Telecommunication Networks. MTN connects the three National Meteorological Centres (NMCs) and 15 Regional Telecommunication Hubs (RTHs). The data-processing speed is now at 19,200 bits per second, which means that the information can be transmitted to all over the world in half an hour. This owes very much to the introduction of computers and the gradual automation of the telecommunication centres in their functions of collecting, sorting, selecting and retransmitting vast amounts of data to various destinations. Within the arrangements made with the IAEA for the early notification message, the IAEA can be notified within three seconds. GTS is also the instrument for collecting meteorological information, thereby a number of meteorological satellites are capable of receiving information from data-collection platforms which may be installed anywhere within the communication range of the satellite.

(c) GDPS is a network of world and regional computerized data-processing centres. It is not possible for every NMC to have the extensive computer and telecommunication facilities and the expertise required to process the ever-increasing volume of observational data and make use of the up-to-date knowledge in numerical analysis and prediction techniques. GDPS is the system of three World Meteorological Centres (WMCs) (Melbourne, Moscow and Washington D.C.) and was designed (together with GTS) to ensure access for every Member to the processed information it needed for both real-time and non-real-time applications. The three WMCs now produce almost 350 analyses and forecasts daily while the Regional Meteorological Centres between them make over 2,000 products.

92. The extension of the utilisation of GTS requires the discussion by the Governing Body and the Congress of WHO, which may agree provided that the volume of information for transmission is very low. Early notification arrangements have already been made with the IAEA. Moreover, the Conference on Disarmament has shown very keen interest in connection with the verification process. Thus, technically, it is feasible for ORCI to have link with GTS so as to transmit emergency message rapidly to/from all over the world and also to have access to processed information through GDPS.

B. United Nations Educational, Scientific and Cultural Organization (UNESCO): International Tsunami Warning System (ITWS)

93. The ITWS was established by the Intergovernmental Oceanographic Commission (IOC) of UNESCO after the great destruction caused by the Chilean Tsunami in 1960 and the Alaskan Tsunami which focused attention on its need. The International Tsunami Information Centre (ITIC) was established in 1968 within a general mandate of mitigating the effects of tsunamis throughout the Pacific, more specifically to insure dissemination of tsunami warnings; to collect tsunami information on a real time basis; to encourage tsunami research; and to promote the exchange of scientific and technical personnel

and date among the participating nations. The ITWS is a system to provide the ITIC with several measures to monitor early warning of tsunamis.

94. Present protective measures entail primarily the use of the existing tsunami warning system by employing advanced technological devices for data collection and warning communications. Several countries which have developed sophisticated warning systems have accepted the responsibility to share warning information with other countries of the Pacific. Their resources have been integrated into the ITWS. The present system makes use of 31 seismic stations, 53 tide stations and 101 dissemination points throughout the Pacific Basin. The Pacific Tsunami Warning Centre (PTWC) in Honolulu, operated by the United States National Weather Service, is the operational Centre for the system. The ITWS is to detect and locate major earthquakes in the Pacific region, determine whether they have generated tsunamis, and provide timely and effective information and warnings to the population of the Pacific region in order to minimize the effect of the hazards. Functioning of the System begins with the detection by any participating seismic observatory of an earthquake of sufficient size to trigger the alarm attached to the seismograph at that station. Earthquakes greater than 6.5 on the Richter scale are investigated. On the receipt of data, PTWC collects the data and determines and computes the magnitude of earthquakes. When reports from tide stations indicate that a tsunami poses a threat to the population in part or all of the Pacific, a warning is transmitted to the dissemination agencies for relaying to the public. The agencies then implement predetermined plans to evacuate people from endangered areas. In addition to the ITWS, a number of regional warning systems have been established, or are being envisaged, some of which are to warn the population in areas where tsunami frequency is high and immediate response is necessary.

95. The ITWS is the result of IOC's involvement and active co-ordination. It is one of the most successful international scientific programmes with the direct responsibility of mitigating the effects of tsunamis. It is an operational programme with a direct humanitarian objective and its value in the protection of human lives and the preservation of property cannot be overemphasized ,

V. CO-OPERATION AND CO-ORDINATION

96. Co-operation and co-ordination have not been easy in the light of the decentralization and fragmentation of the work of the United Nations system. The report of the Group of 18 mentioned that "in this process of institutional growth, sufficient attention has not always been given to avoid overlapping of agenda and duplication of work. This is the case for the United Nations itself and its affiliated bodies, as well as for the relationship between the United Nations and the specialized agencies." 32/, and pointed out that "today's structure is too complex, fragmental and top-heavy" 33/. This explains the difficult background for co-ordination of any kind both within the United Nations Secretariat and the system, including early warning. The Group of Governmental Experts on International Co-operation to Avert New Flows of Refugees concluded, inter alia, that the task of averting mass flows of refugees should require improved international co-operation at all levels, in particular, in the framework of the United Nations 34/.

97. Although the co-ordination related to early warning of refugee flows suffers from the same environment, the Inspectors feel that the problem of this co-ordination is not insurmountable. As mentioned on several paragraphs in this report, the actual difficulty of co-ordination related to early warning of refugee flows is in the lack of suitable methodologies, well-defined procedures and established mechanisms. To remedy this deficiency, what is required is to take appropriate and concrete measures on a system-wide basis.

A. Interdepartmental co-operation

98. Within the Secretariat of the United Nations, although there has been no lack of information, there are no binding rules and guidelines to consolidate the necessary information for developing early warning capacity. There is no regular consultative mechanism for early warning, thereby resulting in the lack of awareness and consciousness of the officials and offices concerned.

99. With a view to the rationalization and co-ordination of the dissemination of news and political analysis activities in a number of United Nations departments and offices, ORCI had initiated efforts to obtain up-to-date, publicly available information so as to enable it to "institute expeditiously the most appropriate means of preventive diplomacy in particular situations of tension and potential conflict" 35/. These efforts may provide some basis for early warning systems; however, ORCI has not been very successful in receiving replies. Its mandate does not seem to be well known to many departments and organizations, even to those which should be in close contact with it,

100. Despite the specific mandate given, ORCI's position within the Secretariat may not be prevailing in real terms. ORCI alone would not be able to

assume its functions without relevant and specific information which many other entities of the United Nations system may possess. This indicates the need for bilateral agreements for modalities of mutual co-operation which could be useful for other entities, bearing in mind that ORCI could in turn provide specific and analytical information, combined with early warning indications. As already mentioned (see paras. 50 and 78), there exists bilateral co-operation between ORCI and DPI, the modalities of which need to be strengthened. In this regard, many useful agreements concluded for operational purposes may be examined.

101. There are some difficulties regarding the use of communication equipment for transmission of information. The offices of the United Nations system have developed the use of new technologies in communication equipments which are not necessarily compatible. Offices of UWHCR, many of which are located on the country border away from the capital, have very often communication problems, although they endeavour to use other means like radio-telecommunication system which can be available at UNDP or outside of the United Nations system. Thus, in the field, sharing of office facilities, particularly existing communication systems for early warning purposes, needs to be rationalized and improved. On the other hand, positive developments have been made in this regard. Among the entities which have wide field activities, UNICEF and UNDP have particularly good inter-office communication systems for electronic mail by using computers. A great progress has also been made in communication system of UNICs, 24 of which are now equipped with mini-computers with electronic-mail capacities. Technically speaking, ORCI could have access to those existing inter-office communication systems to facilitate the work.

102. The United Nations annual average expenditure on communication (i.e. telex, cables and telephone calls) is over US\$ 12 million, which is passed to commercial circuits, in addition to US\$ 1 million on rented circuits and equipment. The United Nations' communication network has still been making a rapid progress towards for a more enhanced and economical network 3 1/2%. In view of the growing need for more effective and comprehensive network, the application of satellite communication and earth stations should further be developed. In addition, in the area of administration and management, a priority was given to the modernization of management information systems and the Integrated Management Information System (IMIS) is under way. Once all the phases of the IMIS are implemented, this would result in extensive improvement and streamlining of inter-office communication in the United Nations in this area. Such an improvement would be an asset for increasing the early warning capacity of the United Nations.

103. Tasks to achieve good co-ordination at the United Nations Secretariat tend to be very complex, cumbersome and non-rational. There are several offices mandated to deal with co-ordination at the United Nations Headquarters. Apart from ORCI, which has a mandate to monitor early warning of political and humanitarian questions, ODG/DIEC for instance has a mandate to ensure effective response by the United Nations system in the field of disaster and other emergency situations and exercise overall co-ordination within the system to ensure a multidisciplinary approach to the problems of development on a system-wide basis. The Unit for Special Emergency Programmes of the Department for Special Political Questions, Regional Co-operation, Decolonization and Trusteeship has been co-ordinating emergency operations in Africa. Many other offices have a co-ordinating

role in their own mandate as well. None of these offices, however, are directly oriented towards co-ordination proper in respect of early warning of refugee flows. Therefore, for early warning purposes, there is a need to establish a regular consultative mechanism at the United Nations Headquarters and streamline tasks for co-ordination. In addition, ORCI could also be invited to participate in inter-agency meetings organized, for instance, by ODG/DIEC so that ORCI will keep abreast of operational activities and make some contributions inasmuch as it possesses an enormous amount of information and analysed data.

B. Inter-agency co-ordination

104. There exist already bilateral co-operation and inter-agency co-ordination for operational purposes. For early warning purposes, however, there is no regular mechanism to consolidate relevant information to the central office, although many individual and sporadic actions were taken on a case-by-case basis. To the extent that giving early warning signs requires a systematic methodology with intersectoral and multi-disciplinary approach, close co-operation and good co-ordination are essential.

105. With respect to early warning of refugee flows, there may be various approaches for co-ordination, one of which was presented by the Assistant Secretary-General for ORCI before the Commission on Human Rights in 1989. On the basis of the recommendations of the Group, the Assistant Secretary-General advanced views which could provide the ground for co-ordination in respect of early warning for refugee flows. First, monitoring continuously all potential outflows should be the primary responsibility of offices such as UNHCR, UNDRO and ORCI. Second, giving continuing attention to ways and means of averting new massive flows of refugees should be a shared responsibility of the United Nations system. Third, analysing the information, so as to obtain an early assessment on the situations which might give rise to flows of refugees, should be a lead responsibility of ORCI. Fourth, co-ordinating within the Secretariat of the efforts of United Nations organs, specialized agencies and of Member States concerned for timely and more effective action should be a shared responsibility of the United Nations system. Finally, making the necessary information available to the competent United Nations organs in consultation with the States directly concerned should also be a shared responsibility thereof. The Assistant Secretary-General also indicated, inter alia, that "a consultative arrangement among the ORCI, UNHCR, UNDRO and other agencies for assessing information and situations and for identifying options for the Secretary-General" and "an arrangement for rapid consultations in cases of urgent need" should be some of the criteria for co-ordination 32/.

106. The Inspectors concur with the views advanced by the Assistant Secretary-General for ORCI. In particular, from the manner of involvement in early warning-related activities, they consider that ORCI, UNHCR, the Centre for Human Rights, UNDRO, FAO and UNESCO could take a joint initiative in promoting the development of an effective early warning system. In this respect, ORCI could take the lead responsibility as part of its monitoring function. These bodies, nonetheless, could be supported by others which

have certain activities of some relevance in order to share the responsibility. As practical measures, it would be very useful for ORCI to invite, as soon as possible, all of these entities for preliminary discussions without waiting for the establishment of mechanisms. The Inspectors are convinced that such consultative arrangements and close co-operation would offer a good basis for co-ordination.

107. As already mentioned in paragraph 38, ORCI has met some difficulties in its efforts to seek co-operation from relevant entities of the United Nations system. Given that early warning should be a system-wide task, the Inspectors feel that entities, particularly those which are already involved in related activities, should respond more positively to such efforts.

108. Despite the General Assembly's appeal made in its resolution 44/164 for "strengthened co-ordination among the relevant parts of the United Nations system, especially ORCI, as well as the Office of UNHCR, the Centre for Human Rights and the relevant specialized agencies.", there is no regular consultative mechanism at the inter-agency level in respect of early warning of possible refugee flows. The highest leadership of the organizations of the United Nations system should recognize an urgent need to establish a strategy on this subject in a co-ordinated and systematic manner. In the Inspectors' opinion, there is a possibility within the Administrative Committee on Co-ordination (ACC) to provide an appropriate forum for discussions with a view to working out necessary measures and procedures for the modes of co-operation.

109. Admittedly, there have been already some developments for a global strategy, for example within the framework of the preparation and elaboration of an international development strategy for the Fourth United Nations Development Decade. In its decision 1988/1, the ACC requested the Task Force on Long-Term Development Objectives "to review the ongoing work in the various parts of the system on trends and problems relating to the 1990s, to identify any additional studies that are needed, and to suggest ways in which those studies could be prepared through co-operative efforts." Upon the ACC Task Force, its Inter-Agency Technical Working Group had a discussion and prepared a report on "Monitoring Development Progress During the Decade of the 1990s: Economic and Social Indicators in a New Strategy for Development." This contained the following aspects: (i) a comparative analysis of medium- and long-term economic and social projections prepared by agencies for the period to the end of the century, (ii) the identification of economic and social indicators relevant for the early identification, analysis and monitoring of world economic and social developments, particularly indicators that measure the social aspects of development and which might serve as guides in a strategy to be implemented in an active manner, and (iii) ways and means of integrating social and environmental factors into the various quantitative frameworks maintained by agencies for projection purposes. Nevertheless, these efforts are directed towards economic and social development and fall under projection and forecasting exercises rather than warnings.

110. Since all the problems are interlinked and should be examined from a global perspective, similar efforts may be encouraged in the humanitarian areas for warning purposes. The ACC should take an initiative in addressing the issue. It may establish a task force to discuss specifically early warning of refugee flows and comparable emergencies to which ORCI, UNHCR, Centre for Human Rights, UNHCR, FAO and UNESCO, and other relevant entities

may be invited. The Consultative Committee on Substantive Questions (Operational Activities) (CCSQ(OPS)) already included on its agenda an item on refugee flows, other comparable emergencies and development. Given that the CCSQ (OPS) had experience 38/ of discussing the system-wide co-ordination on emergency management, it is well placed to discuss early warning of possible refugee flows. It may be necessary for CCSQ(OPS) to establish a technical working group in order to solicit working-level contacts to discuss practical matters. In elaborating the possible procedures to be followed, experimental procedures established by the Centre for Human Rights may be taken into consideration as an example (see para. 45).

111. The system-wide good co-ordination should be based on systematic administration and management of information on various aspects. In order for the entities to contribute efficiently to early warning, they may take necessary measures to set up in-house groups or designate officials to manage information related to early warning and restructure the method of work, if necessary. Such efforts would perpetuate a solid and streamlined network of the United Nations system for early warning purposes.

112. Special arrangements are necessary in case of emergencies when information should be transmitted by the most rapid means of communication. This is how a co-ordinated mechanism of the United Nations system would be most useful, by sharing facilities and services. Different existing means for communication exposed above suggest that the United Nations system still offers enormous possibilities for extending communication network, in particular in case of emergencies.

113. Until very recently, as pointed out by a JIU report, on the changing use of computers 39/, specialized agencies were not authorized to use the United Nations communication network for their own traffic because of the provisions of the International Telecommunication Convention of 1947. Therefore, they had to develop the use of commercial lines, although exceptions have been given in cases of emergency. Now that the Plenipotentiary Conference of the ITU in 1989 agreed to authorize 40/ its use by specialised agencies, there will be "significant co-operative and operational benefits and cost savings" 41/ in the area of telecommunication for specialised agencies. This would certainly contribute to the further development of early warning system. In order to implement this amendment, a technical panel of interested organisations, under the chairmanship of the United Nations as the owner and operator of the network, will be established to study the potential use of the network by the agencies and its implications, both from technical and administrative points of view.

114. A number of offices and organizations have established databases on managerial or substantive aspects although they vary in scope and nature. As far as they provide a good background as well as relevant information, arrangements could be made to make these data available to the central office. Even if data are not computerised, they should be transmitted as they are, since they could also provide a good basis for monitoring. These data should be supplemented by databases developed outside of the United Nations system, for example, by intergovernmental organizations, NGOs, research institutes, etc.

115. From a long-term and global perspective, entities involved in early warning should take into account research results which exist in the United Nations system, for instance, by UNU, UNITAR, DIESA, UNESCO, etc.

Importantly, after discussing co-operation between research institutes, the General Assembly adopted at its forty-fourth session a resolution 44/175 which, inter alia, encouraged "15. . . the Secretary-General to continue to explore new modalities for greater interfacing among United Nations research bodies, endorses the proposals of the Secretary-General and requests the Director-General for Development and International Economic Co-operation to organize a meeting of United Nations research institutes with a view to enhancing practical co-operation among them, particularly in regard to the formulation and implementation of their programmes and plans". Such a meeting took place in July 1990. It is important that this practice continue by providing extensively an intellectual input to decision-makers.

C . Field-level co-operation

116. Given the widespread field representation of the United Nations system, contributions from its field offices to early warning, particularly those which are located in the refugee-prone countries or neighbouring countries, would be of paramount importance. The fact that a majority of these field offices are located in developing countries adds to their importance, because underdevelopment is one of the major elements to compound the vulnerability of the populations who may be compelled to move away from their areas. Thus, the location in these countries and familiarity with their conditions would undoubtedly raise the importance of contributions by field offices to early warning. Their contacts with NGOs, many of which have direct involvement in root causes, also add to their importance.

117. Co-ordination at the field level also suffers from inconsistencies and requires streamlining. Since field offices activities differ in mandate and scope, the exchange and share of information and intersectoral consultations at the field level would be crucial in order to make useful contributions to early warning. Yet, no systematic measures for field-level co-operation with regard to early warning have been taken, while good modes of co-operation for operational activities have been in place among different offices and entities of the United Nations system. Thus, there is great scope for developing regular and systematic field-level co-operation for early warning purposes instead of relying on individual relationships on a case-by-case basis.

118. Since field offices have different coverages such as at regional, subregional and country levels, the co-operation in the field requires serious discussion and careful examination for exploring the potential development of early warning capacity. The Inspectors have learned, from the discussions in the field, that officials of field offices are convinced about their important role to play and are very keen about their contributions to an early warning system, if the mechanisms are established and instructions are given. It would be very necessary to co-ordinate the work of field representatives specifically for early warning of refugee flows. The Inspectors believe that United Nations resident co-ordinators could play an essential role in this regard. Further, there is also a specific need for subregional consultations, particularly in the subregions where there exist frequently refugee problems.

VI. CONCLUSIONS AND RECOMMENDATIONS

A. Main conclusions

119. The Member States of the United Nations have placed and continue to place the greatest importance on the establishment, operation and development of a global watch system for early warning purposes in the political, economic, social and humanitarian sectors. The General Assembly dealt with the question of early warning of refugee flows in various resolutions. However, it has not been established as a regular component of work in the United Nations system to date, and even its concept is not very familiar. Ten years have already passed since the General Assembly first took up the subject. Yet, the problem of refugee flows has become even more critical. In the light of the importance and urgent need of the early warning system, the Inspectors feel that strategies should be established both for short- and longer-term objectives.

120. The Secretary-General of the United Nations has shown keen interest from the inception of his mandate and demonstrated a high degree of initiative in emphasizing the importance of early warning activities in the political and humanitarian sectors. The Secretary-General's decision to establish ORCI was not only a response to the resolutions of the General Assembly but also a concrete manifestation of his determination to organize the Secretariat, so as to ensure that he was provided as soon as it became available with information which would enable him to react to threats to the peace or to humanitarian emergencies, as well as to have information analyses and recommendations to help him in discharging his responsibilities.

121. ORCI was thus designated to assist the Secretary-General in the discharge of his early warning responsibilities in the political and humanitarian sectors. ORCI provides the Secretary-General with information and analysis which has already enabled him to undertake discreet action in a number of situations. However, there is a need to further strengthen its capacity and mandate. First, ORCI has overwhelming constraints from an administrative, financial and staffing point of view, in comparison with the magnitude and complexity of functions entrusted to it. To establish an effective early warning system, it is a prerequisite for ORCI to be provided with sufficient staff, adequate budget and appropriate equipment, particularly for data management purposes. Secondly, not sufficient emphasis has been placed on the monitoring of early warning of refugee flows, which is one of the functions of ORCI; therefore, more concentration on the development of appropriate methodology, including the finalization of specific indicators, is urgently required. Without this effort, ORCI would always be in a difficult position to seek co-operation from other parts of the United Nations system. In re-examining its methodology, ORCI is required to take into account existing monitoring techniques in other entities of the United Nations system.

122. Furthermore, ORCI has not taken sufficient initiatives in developing co-operation and co-ordination between/among the entities concerned of the

United Nations system aimed at developing early warning of refugee flows. On the other hand, its efforts have been jeopardized by a resistant atmosphere which induced even bureaucratic opposition and administrative reluctance. Another element is ORCI's mandate which only covers the United Nations Secretariat. Noting that such circumstances would not lead to successful development of close co-operation and good co-ordination within the United Nations system, is need to overcome these obstacles.

123. Another consideration is that even in offices which can play an important role in early warning of possible refugee flows, the information is not organized in such a manner as to be useful. There is a need to establish in-house groups or designate officials responsible for administration and management of information related to early warning within the entities concerned, so that they could consider restructuring their information as appropriate data.

124. The fact that refugee flows are induced by multiple and complex root causes suggests that early warning requires good, system-wide, co-ordination machinery. However, there is no systematic co-ordination on early warning-related activities concerning refugee flows, either in the United Nations Secretariat or in the United Nations system as a whole. Given the immense potential of the United Nations system, backed up by its wide scope and communication channels, there is considerable room to enhance the early warning activities related to refugee flows. Without co-operation from all relevant parts of the United Nations system, building an early warning capacity would be an impossible task. In order to be able to operate efficiently an early warning system, drawing upon the resources of the United Nations system, it must assure that information from relevant parts of the United Nations system is transmitted as rapidly as possible to the central office for monitoring where it is analysed and evaluated so as to provide intellectual assistance to decision-makers in discharging their responsibilities. The rapid transmission, pooling and analysis of information is, therefore, a crucial feature of an early warning system. However, there are no binding rules or guidelines to implement these criteria. There should be a central focal point within the United Nations system for monitoring of refugee flows. It would be necessary that the highest levels of the leadership of the secretariats of the United Nations system recognize the importance of early warning capacity and initiate a dialogue to work out practical measures for better modes of co-operation and co-ordination of early warning activities. The Inspectors are convinced that the establishment of an efficient early warning system in a co-ordinated manner would further be enhanced by ORCI's inputs to other entities of the United Nations by providing them with analytical and evaluative findings on the incipient situations, thereby leading to improved mutual co-operation which would also be of great assistance to them in undertaking operational activities.

125. Some entities like ORCI, UNHCR, and the Centre for Human Rights, as well as UNDRO, FAO and UNESCO, are involved in monitoring factors related to refugee flows or have developed particular methods. The Inspectors consider them as a nucleus body which will play a key role in early warning of the United Nations system in the area of refugee flows. There must be a high degree of co-operation among these entities. Furthermore, they should work in close co-operation with a supporting group of entities such as ODG/DIEC, UNDP, DPI, WFP and WMO. Each of them being involved in some aspects of early

warning activities within their respective mandates, they should be incorporated in the development process of inter-agency co-operation and co-ordination concerning early warning of possible refugee flows.

126. In the field, resident co-ordinators play an essential role in co-ordination among representatives of various entities of the United Nations system to carry out operational activities for development at the country level. For this reason, it would be appropriate for resident co-ordinators to also co-ordinate early warning of refugee flow in the field in close co-operation with UNHCR's representatives.

127. The use of new technology would be a key to strengthen an early warning capacity of the United Nations system since it is inevitably related to information handling and data management. While the United Nations system's use of advanced technology, especially computers, has certainly been extending and its communication network has been gradually enhanced, different entities of the United Nations system use their own advanced computer technology in their own manner and little attempt has been made to seek compatibility of systems. Administrative and technical arrangements are necessary to have an access to the existing equipment and communication systems so as to achieve the highest possible degree of sharing facilities. In particular, even the designated office for monitoring early warning (ORCI) is not equipped with appropriate computer equipment, nor has developed many links with external useful databases.

128. Although not much attention has been paid to the results produced by research bodies which could have provided useful intellectual input to operation-oriented entities from a long-term and global perspective, various aspects of early warning have been examined and studied by numerous research institutes all over the world. UNU represents a salient example by developing close co-operation with other research institutes as well as operational entities which form its extensive network. It will be necessary for ORCI to establish and develop links with such research, scientific and experts communities so as to enlarge the scope and modernize the approach to early warning issues. There is a further need for networking in the United Nations system between/among research bodies aimed at the dissemination of their research results.

B . Recommendations

129. In the light of the findings of this report, the following recommendations are offered:

Recommendation No. 1

In order to introduce early warning as a regular component of work and to increase the early warning capacity of the United Nations system in refugee matters by improving its co-ordination, the ACC should:

(a) include in the agenda of its forthcoming session an item on early warning of possible refugee flows and further consider this subject from time to time as needed (paras. 108, 110 and 124);

(b) designate a central focal point of the United Nations system for the co-ordination and monitoring of factors related to possible refugee flows (paras. 106, 108 and 124);

(c) establish a working group on early warning of refugee flows, consisting of representatives of ORCI, UNHCR, Centre for Human Rights, UNDRO, FAO and UNESCO, as well as those of ODG/DIEC, UNDP, DPI, WFP and WHO, to work out practical measures for modes of co-operation and procedures to develop an effective early warning system for refugees (paras. 106 and 125);

(d) set forth a regular inter-agency consultative mechanism which should consider concrete cases of early warning of possible refugee flows and meet urgently in case of emergencies (ORCI and UNHCR serving as the joint convener and secretariat of such a mechanism) (paras. 108 and 124); and

(e) make arrangements for United Nations resident co-ordinators to serve as co-ordination points for early warning of refugee flows in the field (paras. 117, 118 and 126).

Recommendation No. 2

The Secretary-General should make administrative arrangements (financial, staffing, etc.) for ORCI within the resources available aiming at increasing the capacity of this Office in early warning of refugee flows (paras. 39, 75 and 121).

Recommendation No. 3

Further to the ACC's decisions related to recommendation no. 1, the executive heads of relevant organizations of the United Nations system should make internal arrangements as may be appropriate with a view to strengthening early warning activities related to refugee flows, and particularly by:

(a) assuring the rapid transmission of information to ORCI and to the executive heads of specialized agencies which may assist the Secretary-General to discharge his responsibilities for early warning of possible refugee flows and may enable the organizations to address more efficiently the problems in undertaking their operational activities (parse. 16, 114 and 124);

(b) taking measures to reorganize, wherever necessary, relevant information within their respective organization or office and strengthen their information management methods for better contributions to early warning (pars. 111 and 123); and

(c) making necessary administrative and technical arrangements so as to achieve the highest possible degree of sharing of equipment and communication facilities within the United Nations system, in particular at the field level (paras. 101, 112 and 127).

Recommendation No. 4

With a view to expediting the work related to early warning of possible refugee flows, ORCI should:

(a) reconsider its methodologies to develop an effective system for early warning of possible refugee flows, particularly by taking into account existing methods and techniques for monitoring within and outside of the United Nations system (paras. 38, 74-93 and 121);

(b) give a priority to the finalisation of specific indicators concerning root causes of refugee outflows (paras. 38, 77, 78 and 121);

(c) take an initiative in promoting consultative discussions with entities which may contribute to early warning (paras. 38, 106 and 122); and

(d) further develop links with existing databases within the Secretariat and the United Nations system, as well as with external sources (paras. 76, 114 and 127).

Recommendation No. 5

(a) Entities involved in early warning of refugee flows should pay more attention to the research results of several institutions (e.g. UNU, UNITAR, DIRESA, UNESCO, etc.) with a view to benefiting from the intellectual input of these institutions for their operational activities (parse. 115 and 128); and

(b) research institutions of the United Nations system should make more efforts to disseminate information on their work related to alert function by sending their products to the entities involved (paras. 61 and 128).

Notes

1/ The embracement of the category of internally displaced persons in this report does not imply the authors' intention to intervene into internal affairs of sovereign States. It is because the authors consider that, in order to efficiently provide humanitarian assistance to the countries in need, the organizations of the United Nations should always be prepared for appropriate measures and actions before the events erupt and the Governments concerned ask for their assistance.

2/ See para. 4(a) of General Assembly resolution 42/169.
See also 44/236.

3/ The examination of specific root causes of refugee flows would merit a particular in-depth study, which is beyond the scope of this report. This report, however, takes them into consideration, inter alia, to the extent that they influence the division of work among the entities of the United Nations system with a view to establishing an appropriate network of early warning through co-operation and arrangements.

4/ K. Rupesinghe, "The Quest for a Disaster Early Warning System Giving a Voice to the Vulnerable", Bulletin of Peace Proposals, Vol. 18, No. 2, 1987, p. 218. See also other articles by the same author: "Early Warning and Conflict Resolution". A discussion paper. PRIO Report No. 4, July 1989; "Some Conceptual Problems with Early Warnings", in Bulletin of Peace Proposals, No. 2, 1989, p. 20; "Ethnic Conflict, Human Rights and Early Warnings", in UNESCO Yearbook for Peace and Conflict Studies 1986; published by Greenwood Press, Westport, Connecticut, 1988.

5/ See L. Drüke, "Preventive Action for Refugee Producing Situations", Peterlang, Frankfurt a.M., Bern, New York and Paris, 1990.

6/ Report of the Secretary-General on the Work of the Organization, A/38/1, p. 2.

7/ Report of the Secretary-General on the Work of the Organization, A/43/1, section VIII, p. 11.

8/ Report of the Secretary-General on the Work of the Organization, 1989, A/44/1, section IV, p. 5.

9/ A/38/538.

10/ See A/42/314, p. 17. See also A/42/314 - R/1987/77.

11/ E/1990/80.

12/ Reform and Renewal in the United Nations: Progress Report of the Secretary-General on the Implementation of General Assembly Resolution 41/213, A/42/234, para. 19.

13/ ST/SGB/225, 1 March 1987.

14/ Report of the Group of High-Level Intergovernmental Experts, Supplement No. 49, (A/41/49), see Recommendation 18.

15/ See Lance Clark, Selected Constraints on Early Warning Actions by UNHCR (And what to do about them?), Refugee Policy Group (RPG), Centre for Policy Analysis and Research on Refugee Issues, Washington D.C., USA, December 1988; Early Warning of Refugee Flows; ibid.; Conducting an Early Warning Analysis; ibid.

16/ Resolution 21 on the Situation in Pakistan, Report of the Sub-Commission on Prevention of Discrimination and Protection of Minorities, thirty-eighth session, E/CN.4/1986/5; E/CN.4/Sub.2/1985/57, 1985, p. 102.

17/ R. Cohen, "Introducing Refugee Issues into the United Nations Human Rights Agenda", Refugee Policy Group, Washington D.C., U.S.A., January 1990, p. 9.

18/ See DP/1990/66.

19/ World Economic Survey 1989 (United Nations publication, Sales No. E.89.II.C.1 and Corrigendum), special issues, section II.

20/ UNICEF in Ethiopia, UNICEF, Addis Ababa, 1987.

21/ UNEP Report No. 1 (1981), Earthwatch an In-Depth Review, UNEP, Nairobi.

22/ A/44/622, p. 13.

23/ At present, it has a COMPAQ 386/25 PC (300 lib storage capacity) and two workstations (COMPAQ 286 PC with 40 Mb) which were installed in March 1989. The COMPAQ 386 is connected to a modem to access to NYCS mainframe and Telenet. ORCI has not established links with external computer installations other than NEXIS and UNINET of UNDRO. One of the COMPAQ 286 PC is connected through an Asym Data Interface (ADI) to the Wan8 VS system located at the Office Automator-Service which routes the connection to the NYCS mainframe. Regarding software, other than word-processing package, ORCI has acquired several software packages (such as: Paradox 2.0, a database management system; dBase III Plus, also a database management system; LOTUS 1-2-3, spreadsheet; Harvard Graphics; wordperfect, word processing; Harvard Total Project Manager; and CASCOM).

24/ NEXIS is a commercial electronic library containing a large number of major United States and European English-language newspapers, wire services and magazines, as well as of reference books, specialized journals and many other sources. There is great scope for developing the possible link with external databases existing in the United Nations system and other sources.

25/ Cf. CFS:89/5, Jan. 1989, FAO; Methodology for the Assessment of the Food Supply Situation and Requirements for Exceptional Assistance Arising from Crop Failure or Unusual Crop Surpluses, March 1987.

26/ Guidelines for Use by FAO Crop Assessment to Africa, October 1985.

27/ CFS:89/5, 92. cit.

28/ "Remote sensing" means the observation of a target (object) by means of a device (sensor) which is separated from the target by a certain distance. A technical definition is given in the international "Convention on the Delivery and Use of Data from Remote Sensing of the Earth from Outer Space" (signed on 19 May 1978).

29/ Displaced persons in this system include both internationally and internally displaced persons.

30/ "Refugee Problems in Asia", Report of the Study Group on Refugee Problems, jointly established by the UNU and Institute of Asian Studies, Soka University; "A Supplementary Report on the Global Early Warning System for Displaced Persons", by Dr. A. Onishi; see also A. Onishi, "Global Early Warning System for Displaced Persons: Interlinkages of Environment, Development, Peace and Human Rights", in Technical Forecasting and Social Change 3, 1987, pp. 269-299.

31/ For short-term forecasting, DIESA uses a "Project Link" system.

32/ A/41/49, p. 1.

33/ Ibid.

34/ h/41/324.

35/ A/42/234 and Corr.1, para. 18.

36/ At the outset, it was composed of two primary operating centres in Geneva and New York interconnected by leased commercial circuits (AVDs circuits) which now also link United Nations Headquarters in New York with United Nations offices and regional economic commissions (Addis Ababa, Baghdad, Bangkok, Nairobi, Santiago, Vienna) and major peace-keeping centres (in Jerusalem, Yaquora, Teheran, Baghdad, Rawalpindi, Islamabad, Kabul, Luanda and Windhoek). There are also teletype-only circuits between New York and Lagos, Geneva and Rome, and London and Paris. These circuits are supplemented by a satellite communication network using INTELSAT Atlantic space segments and earth stations owned and operated by the United Nations in New York, Cyprus, Jerusalem and Yaquora, although this satellite system is primarily used for peace-keeping. ACCIS 89/025, para. 2.1.

37/ A/44/622, para. 8.

38/ Under the agenda item on "capacity of the United Nations system to respond to emergencies", see CRP. 1 of ACC/1985/3; under the agenda item on "modalities of integrating food aid and emergency assistance into other development aid", see CRP. 3 of ACC/1988/7. See also ACC/1990/OP/CRP.5.

39/ The Changing Use of Computers in Organizations of the United Nations System in Geneva: Management Issues, A/40/410.

40/ The Plenipotentiary Conference of the ITU, Nice, France, May 1989; resolution No. COM8/1.

41/ JIU, ibid., para. 188, p. 38.