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REPORT OF THE FIFTH ANNUAL MEETING OF THE WHO PROGRAMME ADVISORY GROUP ON THE PREVENTION OF BLINDNESS, JOINTLY WITH AN INTERREGIONAL MEETING

WHO Regional Office for the Western Pacific, Manila
8-11 March 1983

INTRODUCTION

The Fifth Annual Meeting of the WHO Programme Advisory Group on the Prevention of Blindness was held, jointly with an Interregional Meeting, from 8 to 11 March 1983 at the World Health Organization's Regional Office for the Western Pacific in Manila, Philippines.

The meeting was opened and addressed by Dr S.T. Han, Director, Programme Management, on behalf of the Regional Director.

Dr Hadi A. El Sheikh was elected Chairman, Dr Salvador R. Salceda, Vice-Chairman, and Professor Barrie R. Jones and Dr Chandler R. Dawson acted as Rapporteurs. The Provisional Draft Agenda (see Annex I) was adopted, but the statements by nongovernmental organizations were presented under Agenda Item 3. The List of Participants is attached (Annex II).

Representatives of the following international organizations reviewed their respective activities in relation to the prevention of blindness :

- United Nations Development Programme
- International Labour Organisation
- United Nations Children's Fund

Representatives of these organizations described their activities and how they interacted with the WHO Programme for the Prevention of Blindness. An edited version of their presentations is given in Annex III; a brief summary of their remarks follows here :

United Nations Development Programme (UNDP)

The United Nations Development Programme, together with other agencies, will shortly launch a new initiative, known as "Impact", the purpose of which is to intervene against avoidable disablement. There are a number of disabilities, including blindness, deafness and orthopaedic handicaps, which can be prevented easily and at low cost. Dramatic economic savings can thus be realized by disability prevention, in both developing and industrialized countries.

International Labour Organisation (ILO)

The International Labour Organisation has long been involved in vocational rehabilitation in the developing countries of Asia and the Pacific. Whilst technologically advanced devices are increasingly being used for the rehabilitation of the handicapped in industrialized countries, there is a need in developing countries for simpler devices, such as hearing aids, artifical limbs and wheelchairs. The ILO now places special emphasis on the development of centres and staff for vocational rehabilitation in developing countries, particularly in rural areas.

United Nations Children's Fund (UNICEF)

UNICEF focuses its activities on the prevention of disability in childhood. Its main activities concern immunization programmes and the improvement of nutrition. UNICEF also supports certain trachoma and xerophthalmia control programmes by supplying tetracycline eye ointment and Vitamin A capsules respectively.

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1. REVIEW OF PROGRAMME ACTIVITIES

The activities within the WHO Regions were reviewed separately by representatives of the Regional Offices for Africa, the Americas, South-East Asia, and the Western Pacific. The report of the Eastern Mediterranean Region was presented by the PBL Programme Manager.

1.1 The African Region

The WHO Regional Office for Africa cooperates with its Member States in the promotion of National Programmes for the Prevention of Blindness as well as in the organization of specific control programmes, particularly against trachoma, onchocerciasis and Vitamin A deficiency.

National Programmes for the Prevention of Blindness receive both financial and technical support in the form of equipment, and advisory services for assessment surveys, formulation and implementation of programmes, including the promotion of training and research.

Activities in 1982 included : advisory services to five countries in the Region; a seminar on the prevention of blindness, organized in Ghana; cooperation with the Government of Malawi in the organization of a training centre for ophthalmic auxiliaries; the provision of two fellowships for the Course on Community Eye Health at the Institute of Ophthalmology in London (UK), and one fellowship for the Course on Public Health Ophthalmology in Baltimore (USA); and arrangements for a long-term consultant in the southern central African region.

At the end of December 1982, the situation in the African Region was as follows :

- Blindness assessment surveys had been carried out in twelve countries, two of these surveys covered only part of the country concerned.
- One country was preparing to undertake a survey.
- National Committees for the Prevention of Blindness, or their equivalent, had been established in ten countries.
- Five countries had already formulated National Programmes for the Prevention of Blindness; three of these programmes were operational, and one which had been active had almost ceased to function.
- A consultant had assisted in the preliminary formulation of National Programmes for the Prevention of Blindness in four countries of the Region.

1.2 The Region of the Americas

The Regional Programme for the Prevention of Blindness has adopted the basic strategy of development of national eye care programmes as an integral part of the primary health care systems of its Member States.

A Regional Advisory Committee on Prevention of Blindness was formed in 1979, and met in 1980 and 1982.

The main activities during 1982 covered the following :

(a) Epidemiology

A blindness survey was carried out in Argentina; a WHO Consultant visited Bolivia to promote prevention of blindness activities; a PAHO/WHO Consultant visited the WHO Collaborating Centre for the Prevention of Blindness in Peru; and a WHO Consultant visited the eastern Caribbean area to assess the situation with regard to blindness prevention.

(b) Operational Research

Funds were provided to two WHO Collaborating Centres for the Prevention of Blindness in the Region for research on trachoma and cataract.

(c) Exchange of Information

A formal link between the Regional Programme for the Prevention of Blindness and the Pan American Ophthalmology Society was initiated in order to obtain more accurate information on blindness and to increase the awareness of eye specialists with regard to the problem of lack of data.

(d) Training

The first draft of a manual for training primary health workers in eye care was completed and will be revised by a working group in the first quarter of 1983.

National seminars on blindness prevention were held in Argentina, and a manual on primary eye care was developed for rural physicians and nurses. Another manual was produced for health workers.

A manual on prevention of blindness was completed and published by the Costa Rican Ministry of Health.

1.3 The Eastern Mediterranean Region

The development of the PBL Programme in this Region has focused on the promotion and strengthening of National Programmes for the Prevention of Blindness in several Member States.

In Libya, where a National Blindness Prevention Programme already exists, the control of trachoma has reached a very satisfactory level. An evaluation of the results achieved will be carried out during 1983 by a consultant. The successful control of trachoma through a community-based programme has served as a basis for the expansion of this programme to include the prevention of blindness from other causes of visual loss.

Preliminary assessments of major blinding diseases in the Yemen Arab Republic and Democratic Yemen have been carried out by consultants during 1982. However, there is still a need to obtain more comprehensive epidemiological data on blindness in both countries. It is therefore envisaged to conduct sample surveys on blindness in these two countries during 1983, before proceeding with the formulation of national programmes.

The Group took note of the expanding National Programme in Tunisia, and of pilot projects for the prevention of blindness, based on a primary health care approach, in Oman and Somalia. A research project on the prevention of blindness from ocular leprosy has been established in Egypt, as a collaborative effort between the Ministry of Health, WHO and the Francis I. Proctor Foundation, San Francisco, which is a WHO Collaborating Centre for the Prevention of Blindness.

The development of the low-cost spectacles project in Pakistan was reviewed. A simple screening procedure, enabling school teachers to assess deficient vision in their pupils, has been elaborated, and a short manual on this subject is being published in the WHO "Forum". Training courses for refractionists and opticians have been established in collaboration with the Ministry of Health, the Ophthalmological Society and the newly-founded Association of Pakistan's Opticians. It is envisaged that these courses be expanded to cover the whole of Pakistan during the next one to two years. Local opticians and ophthalmologists are working on a voluntary basis on the refraction and referral of schoolchildren with deficient vision, and it is anticipated that the large-scale provision of spectacles at low cost to schoolchildren be implemented in the coming years. This scheme will initially be based on the bulk importation of blank lenses and the local production of frame components, and will eventually include the production of cataract glasses at low prices.

1.4 The South-East Asia Region

The main emphasis of the Regional PBL Programme's activities has been on collaborative efforts with Member States in the formulation, implementation and review of their national plans of action for the prevention of blindness.

The overall strategy adopted in all Member States is the delivery of comprehensive community-oriented eye care as an integral part of primary health care, in order to achieve the objective of providing eye health for all. The areas for priority action include (i) the training of personnel at all levels of health delivery, (ii) eye health education, (iii) the provision of low-cost spectacles and essential drugs and supplies, and (iv) outreach services with strengthened community participation.

The training of manpower has had special emphasis in nearly all countries of the Region, while outreach services for cataract surgery have been enhanced in Bangladesh, Burma, India, Nepal, Sri Lanka and Thailand.

The nongovernmental organizations have played an increasingly important role in supporting activities in the countries of the Region, including the provision of financial resources for the appointment of a Regional Adviser for the Prevention of Blindness at the Regional Office.

An innovative approach to the delivery of eye care, with nongovernmental organization support, recently carried out in one of the least developed countries, was the utilization of an ophthalmic team from India to visit the Republic of Maldives to carry out cataract and other surgery - an example of technical cooperation amongst developing countries (TCDC).

The Regional Office provided the following advisory services : (a) the assessment of the magnitude of glaucoma as a cause of blindness in Burma, India, Nepal and Thailand; (b) the assessment of the available facilities and the future requirements in microbiology/ophthalmic pathology services in Bangladesh, Sri Lanka and Thailand; (c) assistance in and review of the ongoing activities in the Nepal Prevention of Blindness Programme; (d) the review of programmes in Indonesia, Sri Lanka and Thailand, and assistance in the formulation of national plans.

An Intercountry Consultative Meeting was held in Rangoon, Burma, to formulate a plan of action for the UNDP-funded project for the prevention, at the community level, of blindness due to glaucoma.

1.5 The Western Pacific Region

The prevalence of blindness in the Region based on registers and institutional records ranges from 0.13% to 0.8% in all age-groups of the population. The majority of developing countries lack trained staff and appropriate training facilities for staff at all levels, eye care at all levels, and rehabilitation centres.

Regional prevention of blindness activities included a Workshop on the Planning of National Blindness Prevention Programmes, with emphasis on training, which was held in Manila in December 1981. The discussions focused on (a) the collection of population-based data on blindness; (b) surveillance systems; (c) the delivery of eye care by auxiliary health personnel; and (d) coordination of eye care training schemes and blindness surveillance within National Programmes for the Prevention of Blindness.

With regard to country activities, China has completed the first phase of a community-based pilot project on the prevention of blindness, and Viet Nam has formulated a National Programme, which WHO is assisting in terms of ophthalmic equipment and supplies.

Plans are under way to assess the blindness problem in Fiji and Vanuatu, and to formulate national eye care programmes in these countries. The Philippines are developing a National Programme for the Prevention of Blindness, and efforts will be made to integrate this activity into primary health care. A national survey on blindness jointly with a study on cardiovascular diseases will shortly be carried out in Malaysia.

1.6 Global Activities

The Group was informed of the generally satisfactory progress of the WHO Programme for the Prevention of Blindness (PBL), with an increasing number of countries planning and implementing National Programmes for the Prevention of Blindness. At present, such National

Programmes exist in 23 countries, and the target set within the Medium-Term Programme for the 7th General Programme of Work of the World Health Organization is to have 60 operational National Programmes by 1989. The main features of the draft Medium-Term Programme for the Prevention of Blindness, focusing on operations, training and research for support and development of national blindness prevention programmes were presented to and endorsed by the Group.

The PBL Programme has placed increased emphasis on collaboration with other WHO Programmes related to blindness prevention, in particular the UNDP/World Bank/WHO Special Programme for Research and Training in Tropical Diseases, with which a jointly sponsored meeting on research on ocular onchocerciasis was held, in addition to consultations with the Units of Nutrition and Leprosy. The documentation of the PBL Programme is being increased in several respects, particularly publicizing achievements made in blindness prevention. The recent issue of "World Health" magazine, entirely devoted to the prevention of blindness, was noted with appreciation, as were contributions made to the UNICEF newsletter "One in Ten", and the production of a film on blindness prevention in Nepal. The Group was informed that the document previously elaborated on "Strategies for Blindness Prevention in National Programmes" would be published shortly in several languages. A poster illustrating eye care at the primary level, developed together with the International Eye Foundation and supported by the Japanese Shipbuilding Industry Foundation, will now be widely distributed. Other projects to develop training material on eye care are envisaged and the collaboration of nongovernmental organizations is being sought in this context.

With regard to the mobilization of resources for the PBL Programme, the Group took note of the recent important financial contribution made by the Arab Gulf Programme for the United Nations Development Organizations, for the strengthening of blindness prevention in some of the least developed countries. Contributions for programme development have also been received during 1982 from the Japan Shipbuilding Industry Foundation, and from the Netherlands and Norway to the Nepal PBL project. Further funding is being sought from nongovernmental and governmental organizations, particularly to support the new development of the PBL Programme in the African Region.

The planned activities for 1983-1984 include the organization of meetings, one on evaluation mechanisms for blindness prevention programmes, and a second on the prophylaxis and treatment of ophthalmia neonatorum, both of which will involve several other WHO programmes.

The PBL Programme has made extensive use of consultants during 1982, and this need is likely to persist in the absence of more permanent staff. The Group took note of the difficulties experienced in identifying suitable consultants, and the growing need for more programme staff at both the Regional and Headquarters levels. Nevertheless, the Group commended the WHO staff for the results achieved, and expressed its support of the activities carried out and those being planned.

2. REPORTS OF THE WHO COLLABORATING CENTRES FOR THE PREVENTION OF BLINDNESS

Reports describing the activities of the WHO Collaborating Centres for the Prevention of Blindness were received from all 11 Centres. The detailed reports can be made available on request.

African Region

- Institut d'Ophtalmologie Tropicale de l'Afrique, Bamako, Mali

Region of the Americas

- Servico de Oftalmologica Sanitaria, Sao Paulo, Brazil
- Dr Rodolfo Robles V Ear & Eye Hospital, Guatemala City, Guatemala, Central America
- Hospital Santo Toribio de Mogrovejo, Centro Oftalmologico "Luciano Barrere", Lima, Peru

- International Center for Epidemiologic and Preventive Ophthalmology, The Wilmer Institute and Johns Hopkins School of Hygiene and Public Health, Baltimore, Maryland, USA

- National Eye Institute, National Institutes of Health, Bethesda, Maryland, USA

- Francis I. Proctor Foundation for Research in Ophthalmology, University of California, San Francisco, California, USA

European Region

- Department of Preventive Ophthalmology, Institute of Ophthalmology, London, UK

- Department of Viral and Allergic Eye Diseases, Helmholtz Research Institute of Ophthalmology, Moscow, USSR

South-East Asia Region

- Dr Rajendra Prasad Centre for Ophthalmic Sciences, All-India Institute for Medical Sciences, New Delhi, India

Western Pacific Region

- Department of Ophthalmology, Juntendo University School of Medicine, Tokyo, Japan

The Group noted the wide range of training and research activities being conducted by the Collaborating Centres. The Group felt there should be more coordination of the activities of the Centres, and that greater emphasis ought to be placed on health services research. It also noted that the PBL funds available for research are extremely limited, and that the Centres must, of necessity, depend on funding sources other than WHO.

3. REVIEW OF ACTIVITIES OF NONGOVERNMENTAL ORGANIZATIONS IN THE FIELD OF PREVENTION OF BLINDNESS

The nongovernmental organizations represented at the meeting each described the objectives and activities of their organizations.

3.1 International Agency for the Prevention of Blindness (IAPB)

The International Agency for the Prevention of Blindness has been in official relations with the WHO Programme for the Prevention of Blindness of the World Health Organization since 1979. Its constituent members comprise nongovernmental organizations and 56 national committees throughout the world. Following the Second General Assembly of IAPB in October 1982, the Agency is planning the following activities in its capacity as promotive and representative intermediary :

- The compilation of an inventory of ongoing governmental and nongovernmental programmes, including the objectives of each programme, its location, personnel and resources.

- The mounting of a targeted programme in publicity and public relations in order to generate more support for the prevention of blindness, from both the professional and lay communities.

- Programme planning to determine the resources required for the work of constituent members to meet the needs of prevention of blindness programmes.

The purpose of these activities is to increase public awareness and enhance political support for blindness prevention throughout the world.

3.2 International Union of Nutritional Sciences (IUNS)

IUNS is concerned with the prevention of blindness due to Vitamin A deficiency and xerophthalmia, one of the major causes of preventable blindness in developing countries.

Accordingly, a committee has been appointed and is charged with the periodic assessment of the present knowledge on this nutritional deficiency, and the identification of important research areas. Most of its members are also members of the International Vitamin A Consultative Group (IVACG), and are aware of the recommendations of IVACG's annual meetings and task forces.

3.3 World Council for the Welfare of the Blind (WCWB)

In order to carry out its functions, WCWB has six geographical regions, each with a committee to organize services in its own region. WCWB also has three sub-committees whose responsibilities are : Prevention of Blindness; Development Cooperation, which relates to education and training; and Rehabilitation.

WCWB does not organize or direct the work, but leaves this to its various components and members . A number of organizations may be involved in a particular project, and these may include one or more of the UN agencies, governments and individuals.

WCWB collaborates with three major aid organizations whose interests are global, namely the Royal Commonwealth Society for the Blind, Christoffel Blindenmission and the Swedish Federation of the Blind.

At the present time, WCWB, in collaboration with other organizations, is participating in the development of a programme for preventive and curative services in Papua New Guinea.

3.4 Helen Keller International Inc. (HKI)

Helen Keller International Inc. is a nongovernmental organization with its headquarters in New York. Since 1975, HKI has been active in more than 80 countries, introducing braille printing and launching education and rehabilitation services in addition to undertaking blindness prevention activities. Today, HKI's main focus is on the implementation of integrated, community-based programmes for primary eye health care.

HKI programmes are now being conducted in the following countries :

- Bangladesh : Technical advice on is being provided both on Vitamin A capsule distribution and on a nationwide survey on nutritional blindness.

- Fiji : Support has been given to integrated education and rehabilitation programmes; an assessment of eye health conditions has been carried out and, together with the Ministry of Health and WHO, HKI will be working on a primary health care approach to blindness prevention. Similar programmes are planned in other islands in the Pacific Region.

- Haiti : Efforts against nutritional blindness are continued.

- India : Technical support continues to be provided for rural rehabilitation workers in conjunction with Christoffel Blindenmission.

- Indonesia : The nutritional blindness programme is now being expanded to include support for the Indonesian Goverment's community-based primary eye care efforts. Services to the blind, including early childhood stimulation, integrated education and rehabilitation programming have also been provided.

- Peru : The primary eye care and training efforts of the Luciano Barrero Centre for Ophthalmology have been supported.

- Philippines : A large-scale rural project for the rehabilitation of the blind has been set up together with the Ministry of Social Services and Development.

- Sri Lanka : Rehabilitation services have been programmed, and will include training of health workers in blindness prevention activities.

- Tanzania : A trachoma control campaign in the central part of the country will be integrated with the Christoffel Blindenmission programme will be sponsored.

3.5 International Eye Foundation (IEF)

The International Eye Foundation is a voluntary, non-profit making nongovernmental organization which provides humanitarian relief and development assistance at the request of the governments of developing countries.

Upon request, and as funding allows, IEF provides the following types of assistance :

- Assessment of the prevalence, causes and geographic distribution of eye disease and blindness and of the resources available for general health care and specialized eye services.

- Development of national blindness prevention and treatment programmes, based on the initial assessment and the availability of resources. While the primary health care approach is emphasized, attention is given to enhancing or developing a continuum of services extending from central hospitals outward to the underserved rural areas.

- Identification of financial and human resources for programme implementation. This may include technical assistance from IEF staff in actual programme implementation and training of health personnel.

- Curative services, where appropriate.

Where possible, resources to implement national programmes are developed further to serve regional needs within the concept of technical cooperation between countries, especially in relation to training programmes.

A basic approach, pioneered by IEF, has been the training of various levels of health workers to provide eye health care, including eye surgery, appropriate to the needs and available resources in each country.

IEF conducts country programmes in the Dominican Republic, Egypt, Guinea, Honduras, Kenya, Malawi and Saint Lucia. Regional programmes include : a Latin American programme, based in Puerto Rico; a Caribbean programme, based in Barbados and Saint Lucia; a programme for East and Southern Africa, based in Malawi, and a programme for West Africa, based in Guinea.

IEF works in collaboration with WHO, PAHO, the Royal Commonwealth Society for the Blind, Helen Keller International, Christoffel Blindenmission, the International Center of Epidemiologic and Preventive Ophthalmology in Baltimore, and the Institute of Ophthalmology/International Centre for Eye Health in London, in addition to the governments of participating countries. Several universities also collaborate in IEF programmes.

3.6 Christoffel Blindenmission (CBM)

Christoffel Blindenmission is an interdenominational Christian organization committed to serving blind and handicapped people throughout the world. Named in honour of Ernst Christoffel, who worked with blind and handicapped people in Turkey and Iran from 1880 to 1955, CBM has grown rapidly in the past 25 years, and has extended to 90 countries in Asia, Africa, Latin America, Europe and Oceania.

CBM operates from Bensheim in the Federal Republic of Germany, and maintains regional offices in Tiruchirapalli, India (for South Asia), Nairobi, Kenya (for Africa), Penang, Malaysia (for East Asia) and Santa Cruz, Bolivia (for Latin America). The services provided by CBM are funded by contributions from individual supporters in Germany, other European countries, Canada and the USA.

CBM serves people of all nationalities, races and religions. Preference is given to comprehensive programmes that reach out and serve the people. Rather than establishing its

own projects, CBM prefers to work with local churches, missions and associations, and encourages its affiliates to work in cooperation with government agencies, so that their services become part of national policy.

Projects to prevent blindness include the medical training of ophthalmologists and paramedical and nursing personnel. Curative programmes are linked to the promotion of eye health, particularly in rural areas.

In India, CBM's mobile eye hospitals serve thousands of villages and in 1982 CBM's missionary doctors restored sight to almost 68 000 blind persons. In Africa, CBM supports the flying eye doctor's service, "Sight by Wings". Two small aircraft carry medical personnel, equipment and medicines daily to remote mission hospitals in East Africa. Last year, over 63 000 people suffering from eye diseases were operated on.

While assisting other organizations at the grassroots level, CBM also plays a vital role on the international scene. It assists research on onchocerciasis and xerophthalmia. In partnership with the Royal Commonwealth Society for the Blind, it is a founder and supportive member of the International Agency for the Prevention of Blindness. CBM is recognized by agencies such IFB, UNHCR, UNICEF, WCWB and WHO.

3.7 Royal Commonwealth Society for the Blind (RCSB)

RCSB has worked with blindness prevention since the early 1950s. It collaborates in national and regional programmes, with the UN and other international agencies in this field, and with the governments of 40 countries through its national partners. RCSB founded and administered IAPB for its first 8 years, and is now giving leadership and support to "Impact".

RCSB spends two-thirds of its total budget on programmes for the prevention of blindness, mainly at the primary level in rural areas, but also in secondary and tertiary services. Its major interventions are in East and Central Africa and in the Asian sub-continent, and it has projects in the Caribbean, West Africa and South-East Asia. Globally, it gives strong support to multidisciplinary training of medical personnel in preventive (community) ophthalmology and of ophthalmic auxiliary personnel in regional centres.

In collaborating within national programmes, RCSB seeks to strengthen the country's national society for the blind by training its executive staff. It will hold a three-month training course in Malawi this year for all administrators of such societies from African English-speaking countries.

The following are examples of RCSB programmes :

- In Bangladesh, RCSB supports an eye camp programme, which is conducted by the Bangladesh National Society for the Blind and which, in 1982, performed 31 000 cataract operations. It provides assistance to a training programme for doctors and paramedical personnel and to a training wing within the Chittagong Eye Infirmary and Training Complex, partnered by FORESIGHT.

- In India, RCSB helps to conduct eye camps, in which, during 1982, over 1 million people were examined, 807 865 treated, and 125 271 cataract operations performed. A countrywide xerophthalmia programme, with the support of union and state governments, is being developed to save the sight of 60 000 children. The education of mothers and village communities in the use of locally available dark green leafy vegetables in a balanced diet for infants is being promoted.

- In Kenya, the programme works with IEF through the Kenya Society for the Blind, and supports 17 mobile units staffed by national clinical officers, as well as training ophthalmic personnel at different levels.

In the formulation of programmes for the prevention of blindness, RCSB continuously seeks to integrate blindness prevention and cure with general health care policy, to coordinate with other programmes and to collaborate with all other agencies in this field.

In formulating its next Five Year Programme, RCSB welcomes the fullest participation and guidance from WHO, both at Headquarters' level and through WHO's Regional Offices, in collaboration with RCSB Regional Officers in six regions.

3.8 General considerations

In the discussions following the description of the activities of the nongovernmental organizations, serveral points emerged, namely:

- The nongovernmental organizations all wish to collaborate with the WHO Programme for the Prevention of Blindness.

- All the nongovernmental organizations are actively pursuing policies to support and expand eye care in the context of primary health care, particularly in rural areas.

- The nongovernmental organizations all expressed their interest and willingness to play an active role in National Committees for the Prevention of Blindness.

- There has been close and constructive collaboration on the part of nongovernmental organizations with the WHO Programme for the Prevention of Blindness in carrying out activities at the national level.

- The collaboration between nongovernmental organizations and the WHO Programme for the Prevention of Blindness may be particularly advantageous in several fields, such as in the production of training material and supply of equipment for National Programmes.

The participants expressed the desirability that opportunities be provided for further consultations with WHO in this connection. Such consultations could be arranged on an *ad hoc* basis, as appropriate and needed.

4. NATIONAL PROGRAMMES FOR THE PREVENTION OF BLINDNESS - An Evaluation of the Present Situation

In reviewing this item, representatives of some selected countries presented current and planned activities in the field of blindness prevention, which were then discussed by the Group.

4.1 The African Region

Ghana

With a population of 12 million, Ghana has an estimated number of 100 000 blind persons. The prevalence of blindness is highest in the northern dry savanna zone, where onchocerciasis, trachoma, cataract and malnutrition/measles-related conditions are the major causes. Cataract and glaucoma dominate the picture in the south.

Ghana has a dual approach to blindness prevention - the integration of primary eye care into primary health care, and the development of vertical, specific interventions. Primary health care is being widely established and primary health care workers have been trained in basic eye care and the promotion of eye health. Further work and surveys on disorders requiring specific interventions are being planned.

A national focal point has been identified and a National Committee for the Prevention of Blindness has been formed. A referral structure exists in virtually all parts of the country - from primary health care workers, health posts and traditional birth attendants to Health Centres manned by superintendents or medical assistants; from these to District Hospitals, manned by medical officers; and from these to Central or Regional Hospitals with ophthalmologists assisted by ophthalmic-trained nurses and optometrists.

With the support of WHO, Ghana organized a workshop for the development of a National Programme for the Prevention of Blindness in July 1982, which was also attended by participants from Gambia, Nigeria and Sierra Leone.

Constraints to the rapid development of the PBL programme in Ghana include the inadequacy and uneven distribution of the existing health facilities, a lack of manpower with the necessary managerial skills, poor communications and lack of transport, and the insufficient and irregular supply of drugs and other essential supplies. Progress is also being hampered by the stagnation of the economy.

Malawi

Malawi has an estimated population of 6 million with an annual growth rate of 2.9%, and the average population density is 59 persons per square kilometre.

The estimated blindness rate is 0.8%, and the main causes of visual impairment and blindness are cataract (40%), trachoma and ocular infections (15%), nutritional deficiency/measles (15%), and degenerative/inflammatory diseases of the eye (15%), with glaucoma (8%), trauma (4%), and onchocerciasis (2%) accounting for the rest. Over 70% of the blindness is either preventable or curable, if eye health care services and eye health education were able to reach the remotest parts of the country.

There are three ophthalmologists and 25 ophthalmic auxiliaries available to cover the entire population.

The Prevention of Blindness Committee, a sub-committee of the Malawi Council for the Handicapped, acts as a national focal point for the coordination of the prevention of blindness activities. The Committee comprises representatives from the Ministry of Health, the International Eye Foundation and service clubs.

The National Programme for the Prevention of Blindness was formulated in 1982. Initially, well-controlled surveys will be carried out to determine the prevalence and causes of blindness and to distinguish which are preventable and which are curable. Subsequently, a National Programme for the Control of Blindness and Treatment of Eye Diseases will be developed. This will include the expansion and strengthening of the infrastructure for the delivery of eye care countrywide, with the utilization of ophthalmic auxiliaries and primary health care workers. It will therefore be necessary to expand the training programme for ophthalmic auxiliaries at the existing Lilongwe School for Health Sciences.

The plan of action for 1982-1987 emphasizes the training of more ophthalmic auxiliaries, the control of nutritional deficiency, measles and trachoma in the Lower Shire Valley, the clearance of the backlog of cataract cases through using ophthalmic auxiliaries and the control of onchocerciasis in Thyolo district.

The blindness prevention programme is integrated into the general basic health services, and is being implemented according to the national strategy of Health for All by the Year 2000.

Mali

Operation "Yeelen" (meaning "light"), was initiated under a cooperative agreement between the Government of Mali, the Organization for Coordination and Cooperation in the Control of Endemic Diseases (OCCGE) and the Organization for the Prevention of Blindness (OPC).

The "Yeelen" programme, which became operational in 1980, has since its inception relied on regional centres with mobile units. These centres are staffed either by an ophthalmologist - there are four national physicians presently being trained at the African Institute for Tropical Ophthalmology (IOTA) - or by an ophthalmic nurse. Until a full-time ophthalmologist is available, IOTA has assumed the responsiblity of providing the necessary surgical expertise at the regional centre level.

The main goals of Operation "Yeelen" are :

- To follow up the establishment of a National Programme for the Prevention of Blindness and to assure the activities of the five regional centres.

- To train an adequate number of ophthalmic personnel.

- To carry out epidemiological surveys for programme planning and evaluation.

During the past two and a half years of the programme field examinations have been carried out in a total of 893 villages. As a result, the number of examinations increased from 10 900 in 1980 to 259 000 in 1982, and the number of surgical operations from 194 to 3205. These results illustrate the dynamic and effective nature of Operation "Yeelen".

In order to pursue this work, it has become necessary to have the guidance of a National Committee for the Prevention of Blindness, which has met to define and expand prevention of blindness activities. This Committee will gradually assume the previous responsibilities of OPC to assure the continuity of the National Programme.

4.2 The Region of the Americas

Bolivia

The overall prevalence of blindness and eye diseases in Bolivia is not yet known although some information is available for the lowlands. The most common eye disorders are cataract, glaucoma, corneal ulcer, pterygium, trauma and nutritional blindness; trachoma is not found in the high plains.

Mining is the country's main industry and ocular trauma is therefore frequently encountered. No detailed information is as yet available however, but a systematic reporting system is at present being initiated.

Prevention of blindness activities have been included in the social security and welfare sectors for some time, and an intensive programme on eye health in schools has been established in some urban communities.

National resources for eye health care are minimal. There are few ophthalmologists available, and these are hospital-based in large cities.

Under the new administration, primary health care has become the main strategy for the health services. The health authorities have agreed on the inclusion of primary eye care in primary health care, and the eye specialists have become anxious to initiate prevention of blindness activities with a primary eye care approach. Hence, a National Committee was formed late last year, and a national seminar is due to take place soon.

Owing to the present lack of manpower and other constraints, the activities in the initial phase will be restricted to mobile services, in order to strengthen the insufficient intermediate level and for training purposes. Comprehensive mobile services will be initiated in identified areas on a pilot basis. The tertiary centre will be reinforced to assist in manpower development.

Brazil

The goal of the recently elaborated National Plan for Ocular Health is to include eye care in primary health care, by training workers at all levels of health services. Five regional meetings will be held to discuss the National Plan with the State Health Secretaries and to prepare material for training purposes.

Many of the interventions for primary eye care will be carried out through other programmes dealing with maternal and child health, nutrition, and vaccinations.

It has been requested that training in eye care be included at all levels of health education, so that general practitioners, paediatricians, nurses, social workers, health educators, and auxiliary personnel, receive such training during their normal work.

Training is carried out at three levels :

(1) Primary health care level : Health workers are trained to diagnose and treat simple cases, and to refer all others to a higher level.

(2) Secondary level : General practitioners, paediatricians, and others are trained to treat eye problems at this level and to refer more complicated cases.

(3) It is planned to train Residents in Ophthalmology to function within the referral system.

4.3 The Eastern Mediterranean Region

Pakistan

Pakistan has a population of 89 million, and an estimated blindness rate of 2%. The main causes of blindness are cataract and communicable eye diseases, particularly trachoma. Eye camps have been conducted in Pakistan for years, but this has not been sufficient to cope with the growing problem of blindness.

Primary health care is being effectively implemented in rural areas of Pakistan, and this lends itself to the provision of essential eye care at the primary level using auxiliary personnel. More specialized services could be available at the district level. A National Organization for the Prevention and Cure of Blindness has been formed under the auspices of the Ministry of Health, and work is in progress for the formulation of an overall national plan, including both preventive and curative activities. Several categories of personnel at the primary level, such as lady health visitors and medical technicians, could be involved in the delivery of eye care, together with ophthalmic staff in district hospitals. The need for extensive use of eye camps in Pakistan is likely to remain, but simultaneously the permanent eye health services need to be strengthened. Much work on a voluntary basis is already being done for the prevention of blindness in Pakistan, but the formulation of a National Programme would facilitate the efficient utilization of the resources available.

Tunisia

The National Programme for the Prevention of Blindness in Tunisia is based on epidemiological studies carried out in rural areas of the central and southern parts of the country. The results of a recent survey showed that the overall prevalence of blindness was 3.9%. Cataract, corneal opacities and atrophy of the globe contributed to blindness in 80% of cases, and glaucoma was the cause in 16%.

The executive agency of the National Programme is the Institute of Ophthalmology in Tunis, which directs and coordinates all activities in collaboration with the basic health services. The programme includes several complementary actions :

- The strengthening of the referral level (regional hospitals) with regard to improved equipment and an increased number of ophthalmologists.

- The introduction of primary eye care into primary health care, in rural dispensaries, outpatient consultations, and in school and occupational health.

- Training involving various categories of personnel :

(a) Training of health workers ("agents sanitaires") in primary eye care, to enable them to carry out simple preventive and curative procedures to identify the main causes of blindness, particularly lid deformities.

(b) Appropriate training of teachers and others working in schools who should be able to identify visual defects and measure visual acuity.

(c) Training and/or refresher courses for general physicians.

(d) Training of larger numbers of ophthalmic specialists so that at least ten ophthalmologists qualify per year.

- Specific interventions against trachoma and cataract include :

(a) The long-term control of visual loss due to trachoma and bacterial conjunctivitis based on a programme of intermittent local antibiotic treatment; a mobile team doing surgical corrections of lid deformities in rural areas; and a programme of training in primary eye care at all levels:

(b) The surgical treatment of cataract, carried out in the ophthalmic departments of regional hospitals by an ophthalmologist and backed up by a team of eye surgeons from the university hospital departments in Tunis, Sousse and Sfax.

4.4 The South-East Asia Region

Bangladesh

There is a pressing need for reliable statistics concerning blindness in Bangladesh, where it is thought that there are about 1 million blind. Keratomalacia, ocular infections, cataract, glaucoma and retinopathies are common.

To prevent blindness due to xerophthalmia, high potency Vitamin A capsules (200 000 I.U.) have been distributed to children from 0 to 6 years of age every six months since 1973.

An Eye Institute with 130 beds has been established in Chittagong to treat curable eye diseases and serve as a training centre for ophthalmologists and ophthalmic paramedical personnel, with emphasis on community ophthalmology. The Bangladesh National Society for the Blind, the Lions Clubs of Bangladesh, the Ophthalmological Society of Bangladesh, the Rotary Clubs, Apex Clubs, Islamia Eye Hospital and Ex-Chittagong Collegians Association conducted 254 eye camps in 1982; they treated almost 232 000 patients with eye diseases and performed 31 330 cataract operations and 203 glaucoma operations.

In 1982, about 47 708 cataract operations were performed on hospitalized patients in the 1056 beds available for eye disease cases in Bangladesh. There are 70 eye specialists practising mainly in the cities; 20 more could be trained in a year.

India

The most important causes of blindness and visual handicap in India are cataract (55%) and corneal opacities (26.5%), with glaucoma, fundus and optic nerve lesions accounting for the remaining 18.5%. Nutritional factors and infections including trachoma are responsible for the corneal opacities. It is estimated that at least 5 million persons are blind from cataract and this poses the major problem.

A National Programme for Control of Blindness in India was launched in 1976. The programme provides for the extension of eye care services to the people, adopting an eye camp approach, the establishment of a permanent eye care infrastructure at various levels, and the intensification of eye health education as components of primary health care.

The pace of programme implementation accelerated when prevention of blindness was included in the Prime Minister's "20-point Programme for Socioeconomic Development". A reorientation of some of the priorities in programme implementation, with increased emphasis on paramedical/ophthalmic assistant training, was adopted following an interim review of the programme by a Working Committee.

The administration of the programme has been decentralized and at State level administrative units with ophthalmic advisers have been established. The cataract outreach programme has been facilitated by the decentralization of the purchase of indigenous equipment and drugs at the State level. The programme has recognized the role played by the nongovernmental organizations in this activity, and assistance from the NGOs has been enhanced and formalities for sanctioning such assistance have been streamlined.

Apart from the training of paramedical personnel, which is being strengthened, postgraduate training of doctors, leading to a Masters degree, is available in 80 institutions, and a Diploma Course in 100 centres. A total of 5000 eye specialists are in training each year.

The WHO Collaborating Centre for the Prevention of Blindness in New Delhi serves as the apex institution for the National Programme, and as a regional centre for training. It is proposed to commence a Diploma Course in Community Ophthalmology, which could serve the needs of the Region.

In a large country like India, the monitoring and eventually the evaluation of the programme pose a formidable problem, and steps are being taken to build into the programme a more effective reporting system at all levels.

Thailand

During the first phase from 1978 to 1982, prevention of blindness activities in Thailand were organized by the Ophthalmic Department of the Ministry of Public Health. Efforts focused on manpower development and the strengthening of provincial hospitals with specialized eye care services, including cataract and glaucoma surgery.

The number of rural eye clinics had increased from 22 to 42 by the end of 1982. The total number of cataract operations is estimated at around 20 000 per year, and the elimination of the backlog of 80 000 cases has now become an attainable target in the fairly near future.

Since 1982, activities have progressed to the second phase, following a national policy to integrate primary eye care into primary health care in Thailand. A National Committee has been established, and a national plan is now being worked out by the Ophthalmic Department, which has become the official action body.

Since the network of 42 rural eye clinics where specialized eye care is being offered covers more than half the entire country, primary eye care has been extended to a lower level. A programme has been worked out for implementation in 12 provinces which have been identified as model areas.

It is expected that a National Institute of Public Health Ophthalmology will be established at Korat Regional Hospital, and will play a role as national coordinating centre for prevention of blindness activities. It will act as a centre for training, services and research related to prevention of blindness activities.

The training of refractionists and a low-cost spectacles project are considered as urgent in the promotion of primary eye care. Community-based rehabilitation of the blind is also being given high priority, and it is hoped that the voluntary sector will develop feasible pilot projects.

The activities undertaken by the Ophthalmic Department in the field of manpower development have been evaluated, and the results are soon expected to be available.

4.5 The Western Pacific Region

China

Prevention of blindness activities have been carried out in China for many years, seemingly with quite successful results, despite the absence of an overall evaluation. In order to coordinate and plan uniform action at the national level, a pilot project on blindness prevention was initiated by the Beijing Institute of Ophthalmology, in collaboration with the WHO Programme for the Prevention of Blindness. The pilot project has been carried out in Huai Rou County, north of Beijing, where a survey on blinding disorders has been made, the local population treated where necessary and personnel trained in eye care. The preliminary results of more than 10 000 eye examinations show a blindness rate of 0.49%, with cataract and corneal opacities constituting the main causes of visual loss.

A training course in epidemiology for Chinese ophthalmologists was conducted in Beijing in May 1982, and, following this, similar pilot surveys on blindness are being initiated in many other provinces or municipalities. It is, therefore, envisaged that prevention of blindness activities in China will be considerably expanded in the near future, with emphasis on the collection of epidemiological data on blindness, together with the provision of eye care at the primary and first referral levels. The training of various categories of personnel in eye care will be emphasized, together with campaigns for public information on blindness and preventive measures.

During 1983, it is tentatively planned to conduct a course on public health and community aspects of ophthalmology for Chinese ophthalmologists, along the same lines as the first course on epidemiology in 1982.

Fiji

Fiji is a small independant nation with a well-developed health infrastructure consisting of 4 divisional hospitals, 18 sub-divisional hospitals, 44 health centres and 88 nursing stations. Health centres and nursing stations form the primary level of health care, with sub-divisional hospitals representing the secondary level and divisional hospitals the tertiary level.

The blind register which has been maintained since 1960 at the central divisonal hospital - Colonial War Memorial Hospital - has 512 registered blind people. The main causes of blindness are set out in the table below, and it will be noted how the pattern of causes has changed since 1970 :

1960-1969		1970-1982	
Trachoma	18.7%	Glaucoma	20.0%
Glaucoma	14.1%	Optic atrophy	14.6%
Corneal opacities	13.4%	Congential disorders	14.2%
Injuries	10.3%	Retinal diseases	8.7%
Optic atrophy	9.2%	Corneal opacities	7.9%
Congenital disorders	8.5%	Trachoma	7.5%

Trachoma has long been a problem, and work has been done to establish its prevalence. Some five studies have been carried out which have showed a gradual decline from 33% in 1955, 20% in 1974, 16.7% in 1976, to 6.3% in 1981. The earlier plan to deal separately with trachoma has been replaced by a primary eye care project as a basis for prevention of blindness activities.

In consultation with WHO, an outline of a National Programme for the Prevention of Blindness has been prepared, to strengthen the primary and secondary levels of eye care and establish a referral system.

5. ANALYSIS OF SPECIFIC PROBLEMS AND IDENTIFICATION OF APPROACHES TO THEIR SOLUTION IN THE PLANNING AND IMPLEMENTATION OF NATIONAL PROGRAMMES IN THE LIGHT OF EXPERIENCE GAINED

In reviewing the National Programmes for the Prevention of Blindness, specific attention was paid to the various ways in which the following key requirements are being met :

- data collection and planning;
- managerial structure and coordination;
- manpower development and training;
- mobilization of resources.

5.1 Data collection and planning

In reviewing the general promotion and development of National Programmes for the Prevention of Blindness, the participants discussed the issue of how enough priority could be generated at the national level. The lack of reliable and convincing data on blindness is one obvious obstacle, which should not, however, be considered insurmountable. The

collection of data on blindness should always be promoted within National Programmes, to facilitate proper monitoring and evaluation at a later stage. However, blindness surveys may be carried out initially on a pilot basis, and gradually expanded according to national needs and resources, making full use of the data collected for programme planning.

It is usually preferable that blindness surveys be linked, wherever possible, to the provision of certain therapeutic services to the population concerned and that use be made of the survey to train personnel at the local level. It is also important that the methods for conducting blindness surveys at the lowest possible cost and in an efficient manner be developed further. It may be useful, for early stages of programme planning, to identify indicators that reflect the prevalence of avoidable blindness.

The Group noted that there is little available information on the economic benefits of blindness prevention activities. Data on the economic aspects of blindness prevention should include the actual expenditure and the results of the programmes (e.g., cost-effectiveness estimates for the number of cases of blindness avoided). It is more difficult to make estimates of economic benefits, because of the difficulties in developing countries in assigning a value to the lost economic activity of a person who goes blind. It was felt that more data and examples of economic benefit must be collected, and that every opportunity to achieve this should be taken by National Blindness Prevention Programmes or other related projects.

5.2 Managerial structure and coordination

The Group reiterated the need for the designation of national personnel at the central level of each country's health administration as a focal point for the Prevention of Blindness Programme. The establishment of National Committees for the Prevention of Blindness has proved to be useful in most countries, particularly for the promotion and guidance of a National Programme. However, it is important that such committees are broad-based, allowing not only for the input of the Ministry of Health, but also for those of Education and Planning, as well as community sectors and nongovernmental organizations.

The Group stressed the need for the establishment of national managerial structures capable of coordinating the multisectoral interventions needed in prevention of blindness programmes. A national intersectoral group should include, *inter alia*, those responsible for primary health care, maternal and child health, nutrition, and the planning and strengthening of health services, to allow for proper coordination of activities. Such a group should be involved in the planning, implementation and evaluation of the National Programme, preferably constituting a part of, or complementary to, a National Committee for the Prevention of Blindness. The coordination of programme activities should be maintained at all levels, and with all sectors concerned in the health services systems. Furthermore, attention should be paid to the integration of blindness prevention within the general health services, to facilitate the availability of manpower at all levels. In this context, it seems that the primary health care approach to the prevention of blindness has rapidly gained full acceptance in most countries, but problems still persist with regard to the build-up and utilization of an adequate referral system for more complicated cases of ocular disease.

5.3 Manpower development and training

The Group, reviewing the overall development of National Programmes for the Prevention of Blindness, noted that the availability of suitably trained manpower is of critical importance, and seems to be a common constraint to further action. The concept of utilizing various cadres of personnel for eye care at different levels has gained wide acceptance in recent years, but in many countries there is still a need to emphasize the delegation to auxiliary personnel of numerous tasks related to the prevention of blindness.

Encouraging progress is being made in the training of personnel to deliver essential eye care at the primary level. Similarly, the training and utilization of ophthalmic assistants is rapidly increasing in several countries. In others, general physicians have been given "crash" training programmes in ocular surgery, apparently with good results. With regard to the training of ophthalmologists, the Group felt that more efforts are needed to promote awareness of blindness prevention. The ophthalmic community should be mobilized in this

respect, by including blindness prevention in the curricula of medical schools, and by placing increased emphasis on postgraduate training in public health aspects of ophthalmology, which should be more readily accessible.

The lack of specialized staff is a limiting factor to progress in blindness prevention in several countries, but the effective utilization of such staff needs particular attention, in order to avoid ophthalmologists becoming overloaded with work for which their skills are not really needed.

The Group also considered the complex issue of motivation and compensation of all levels of staff working in National Blindness Prevention Programmes. In many countries, health personnel is expected to derive a substantial part of its income from activities in the private sector, which may give rise to economic implications for those wanting to devote themselves fully to the prevention of blindness. It is, therefore, important that managerial staff and others working in National Programmes are compensated well enough to offset the loss of income from other activities. Furthermore, blindness prevention programmes usually involve travel to remote rural areas, which implies a need for national staff to be away frequently from their permanent location. It is, therefore, desirable that provisions be made to cover temporary housing and other incidental expenses incurred in connection with field work. While funds to cover such costs may be derived from several sources other than governmental, it is desirable that any compensation paid should be in line with recommendations given by the national authorities concerned.

5.4 Mobilization of resources

Progress was seen to have been made in the establishment of National Programmes for the Prevention of Blindness by utilizing one or more of the following resource patterns :

- WHO consultations, preferably with a continuing advisory association.

- Nongovernmental organizations' consultations, as above.

- National resources gathered from national ophthalmic centres, usually together with public health and health services' planning personnel.

- Formation of regional or sub-regional action groups or training centres.

- The broadened development of an initially "vertical" trachoma control programme into a broad programme for the provision of rural eye services through primary health care. Such programmes have usually been initiated with assistance from WHO or nongovernmental organizations, or by means of international academic cooperation.

It is apparent that substantial advantages can be gained by combining the use of several or all of these approaches.

Resources in support of National Blindness Prevention Programmes had originated from a variety of sources that include :

- nongovernmental organizations, working in several countries;
- intergovernmental agreements for technical assistance;
- international organizations, particularly within the UN system;
- local nongovernmental organizations or commercial philanthropy.

The Group noted that progress had been made in coordinating these approaches in some National Programmes, but in general further efforts are needed to explore more fully the options for the mobilization of resources for the prevention of blindness. Experience from some countries has shown that significant funding can be obtained within the framework of intergovernmental cooperation, provided that blindness prevention is given sufficient priority in the recipient country. In this context, the important role of nongovernmental organizations in promoting national awareness and commitment for the prevention of blindness was recognized.

CONCLUSIONS AND RECOMMENDATIONS

The Group noted with appreciation the steady progress made by the WHO Programme for the Prevention of Blindness, with increasing activities in a number of countries. The envisaged strengthening of staff for the Programme in the African Region was particularly appreciated, in view of the recommendation made by the Group to that effect in 1982. Although the limited resources in terms of funds and manpower available to the PBL Programme is still a matter of concern, the Group wishes to reiterate the following three recommendations :

1. Each Region should endeavour to make provision for a full-time Adviser for the Prevention of Blindness, as a matter of priority.

The use of short-term consultants may certainly be useful for programme development, but it usually generates and increases the need for coordination and follow-up by more permanent staff. This matter should, therefore, be seriously considered in the Region of the Americas, the Eastern Mediterranean and the Western Pacific Regions, where no full-time posts are as yet available.

2. The setting up of Regional Advisory Groups on the Prevention of Blindness, as has already been implemented in the Region of the Americas, has proved useful in the promotion of programme development. It is, therefore, recommended that the establishment of such Groups be considered in each Region, if the necessary funds or other facilities can be secured for this purpose.

3. The central core staff of the PBL Programme needs to be strengthened further, to cope with a rapidly increasing workload as a result of the growth of activities.

Being aware of the present financial constraints for the PBL Programme, the Group recommends that any possibility for secondment of suitable personnel on a long-term basis be considered in the future, in addition to attempts to secure funds for additional posts.

Other main recommendations are :

4. The Group, in considering the interregional nature of this particular meeting, noted with concern the apparent absence of PBL activities in the European Region. It was pointed out that some countries in that Region are likely to have problems related to causes of avoidable blindness, as well as the provision of eye care to all. The Group, therefore, recommends that further attention be given to this matter, in consultation with the Regional Office for Europe.

5. The Group noted with satisfaction the role that the WHO Collaborating Centres for the Prevention of Blindness were playing in the programme in the areas of training and research. It expressed the desirability of having short training courses which the Collaborating Centres could hold at suitable locations and in which two or more of such centres could participate.

6. The Group appreciated the increasingly important contribution that nongovernmental organizations were making in support of national prevention of blindness activities, and reiterated the need for these activities to be in conformity with the National Programmes. It was stressed that national governments should fully recognize the identity, role and status of the nongovernmental organizations, and involve them actively in national programme planning, formulation and implementation. WHO should facilitate communication to this effect between the governments and nongovernmental organizations concerned.

7. The increasing involvement of several nongovernmental organizations with the PBL Programme has rapidly resulted in a growing number of collaborative activities. The participants recommended, therefore, that, in order to promote further fruitful collaboration in this field, consultative meetings be conducted on an *ad hoc* basis between interested nongovernmental organizations and the PBL Secretariat. Such consultations, which could be coordinated by the International Agency for the Prevention of Blindness concerning the participation of various nongovernmental organizations, should not imply any significant increase in costs for the PBL Programme, but might facilitate future action at various levels.

8. The participants noted that the concept of primary eye care being an integral part of primary health care had gained full acceptance in blindness prevention programmes. The Group therefore urges the adoption of this approach in countries where programmes have, as yet, to be formulated.

9. The training of ophthalmic medical assistants or similar categories of personnel should be further promoted in those countries where they are likely to play a major role in the field of prevention of blindness. Such training lends itself particularly well for development on a TCDC basis.

10. The Group felt the need for a reorientation of the curricula in undergraduate and postgraduate ophthalmic training to make it more relevant to the needs of the country. Such curricula should include epidemiology, biostatistics and community oriented ophthalmology.

11. The Group recommended that governments be encouraged to train an adequate number of ophthalmologists, whose training should include epidemiological and community aspects of ophthalmology.

12. In reviewing the experience gained in several countries, the Group noted that the range of tasks successfully undertaken by ophthalmic assistants and other suitably trained auxiliary personnel has broadened. It commonly includes eyelid surgery and in several underserved areas also cataract surgery. Several assessments have confirmed the high standard of surgical work thus provided. It is therefore recommended that this option be considered as appropriate in the planning and implementation of action against the blinding disorders concerned.

13. In view of the increasing number of National Programmes for the Prevention of Blindness, it is recommended that further attention be paid to the identification of suitable evaluation mechanisms for such programmes. The monitoring and evaluation of intervention schemes, being part of the overall evaluation of general health services, must be geared to local needs and resources. Consideration should be given to the possibility of conducting a Task Force or similar meeting on this subject in the near future, to respond to the ongoing development of the programme.

14. Recent information from several developing countries indicates that ophthalmia neonatorum is an increasing cause of visual loss, sometimes for reasons of lack of prophylactic measures, or difficulties in treating this condition adequately. The Group, therefore, fully endorses the planned working group on this subject, to be organized in collaboration with other WHO programmes concerned.

15. Considering the need to develop information channels in relation to prevention of blindness, it is recommended that certain nongovernmental organizations in official relations with WHO, such as the International Agency for the Prevention of Blindness and the International Federation of Ophthalmological Societies, be requested to promote information campaigns to increase awareness of and mobilize support for blindness prevention, including recent developments in and availability of low vision aids.

16. The Group recognized that in the planning of National Programmes for the Prevention of Blindness, it is necessary to estimate future needs in terms of manpower and other resources. It is therefore recommended that suitable indicators be identified to facilitate the planning procedure.

17. "Impact" - The Group noted with appreciation that an international initiative against avoidable disablement would shortly be launched by UNDP, in cooperation with WHO and UNICEF. This comprehensive attack on causes of disablement recognized the prevention of blindness programme as its most convincing model and it was agreed that the two programmes could be mutually supportive.

18. It is recommended that further investigations be made on efficient and easily applicable methods and techniques for field surveys on blindness to be planned and conducted at the lowest possible cost. The elaboration of simple instructions and material for this purpose should be promoted.

19. It is recommended that there should be adequate compensation for managerial and other staff working in National Programmes for the Prevention of Blindness. Programmes must also provide adequate expenses for personnel when they are required to travel and work away from their permanent or regular location. Support for managers and other field staff might be made available from a variety of governmental and nongovernmental sources where necessary.

20. Considering the increasing social and economic consequences of blindness in many developing countries, it is recommended that existing and future data in this field be collected as widely as possible and analysed; this would allow a better understanding of the cost implications of blindness, and the various related preventive and curative intervention schemes.

ANNEX I

AGENDA

Opening of the Meeting

Election of Officers

Statements by UN Organizations

Adoption of Provisional Draft Agenda

1. Review of Programme Activities

   - Regional Activities
   - Global Activities

2. Reports of activities of the WHO Collaborating Centres for the Prevention of Blindness

3. Review of collaboration with Nongovernmental Organizations

4. National Programmes for the Prevention of Blindness - an evaluation of the present situation :

   - the African Region
   - the Region of the Americas
   - the Eastern Mediterranean Region
   - the South-East Asia Region
   - the Western Pacific Region

5. Analysis of specific problems and identification of approaches to their solution in the planning and implementation of national programmes in the light of experience gained :

   - planning and data
   - establishment of national management structure
   - coordination of operations
   - mobilization of resources
   - monitoring and evaluation

6. Any other matters

Conclusions and Recommendations

Date and place of next meeting

Closure of the meeting

ANNEX II

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ANNEX II

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ANNEX III

PRESENTATIONS MADE BY REPRESENTATIVES OF THE INTERNATIONAL ORGANIZATIONS

1. UNITED NATIONS DEVELOPMENT PROGRAMME (UNDP)
   [A summary of remarks made by Sir John Wilson]

   "Impact" - An international initiative against avoidable disablement, promoted by UNDP, UNICEF and WHO in cooperation with the UN Centre for Social Development and Humanitarian Affairs

The potential for control

During the International Year of Disabled Persons, the world community was made aware of the opportunities that exist to intervene effectively against disablement which now afflicts a massive population. To mobilize this potential for positive action, the UN agencies concerned with health and development have joined in launching "Impact", an international initiative against avoidable disablement.

A systematic effort will be made to include, in all relevant health and development programmes, appropriate preventive measures focused particularly on communities which have an exceptionally high prevalence of avoidable disablement. Priority will be accorded to those disabilities which have mass impact and for which there exists an appropriate and cost-effective potential for control.

An adequate technology exists - at acceptable cost - to control disabilities which now limit the productivity and disturb the lives of a significant proportion of the human race.

Disability prevention

Five million children each year are disabled by poliomyelitis, measles, tetanus, whooping cough, diphtheria and tuberculosis. This could be avoided in 10 years, through the WHO Expanded Programme of Immunization, at a cost of US$ 3.00 for each immunized child. Even more disabilities could also be controlled by immunization, for example, against rubella - a prime cause of blindness, deafness and mental impairment.

Disabilities associated with deprivation (a complex of malnutrition, infection and neglect) afflict 20 million people a year. This could be massively prevented through primary health care and nutritional programmes. Blindness from trachoma, still the world's largest cause of preventable visual impairment, could be controlled at a cost of less than US$ 1.00 for each member of the treated community. Infections of the ear are a major cause of hearing impairment and can be cured by inexpensive antibiotics. Vitamin A deficiency blinds 200 000 children annually, but is easily prevented by including green vegetables in children's diets or by fortifying food and by distributing vitamin concentrates.

Surgical techniques have been simplified for mass use in rural areas. Cataract operations, costing US$ 8.00 in village eye camps, can restore sight to 8 million blind Asians. Similar means of providing surgery under field conditions could restore useful limb movement to millions of orthopaedically handicapped children, and could improve the hearing of up to 10 million deaf people. Surgery to arrest damage due to nerve deterioration could save 3 million leprosy patients from disfigurement, disability and blindness.

Disabilities arising from environmental hazards can often be controlled as part of general programmes of agricultural and economic improvement. River blindness in West Africa is being controlled. The protection of drinking water will eliminate many water-borne disabilities. The addition of microscopic quantities of iodine to domestic salt or to public water supplies could prevent mental retardation in an estimated 50 000 children born each year in areas where goitre is endemic.

Other major causes of disablement include road accidents, heart disease, hypertension and stroke, and mental retardation.

Economic justification

The major cost in most health programmes is not the specific treatment but the delivery mechanism and the infrastructure. "Impact" aims not at creating a separate structure or a new "vertical" programme but at adding specific measures of prevention to on-going health and development programmes. The prevention of diseases is already an objective of most health programmes, and to make the preventive component more specific will not add greatly to the total cost. Often, all that is required is a shift of emphasis towards reducing 'morbidity' as distinct from 'mortality' in primary health care programmes.

The advantage of a specific intervention, where required, can be spectacular in relation to its cost. The world is saving a billion dollars a year since the eradication of smallpox. Control of river blindness in West Africa is already justified in the value of improved livestock and agricultural land, without taking account of the benefit of sight to future generations. Food fortification, e.g. the addition of iodine to prevent goitre, or of Vitamin A to prevent xerophthalmia, usually involves such small quantitites as to be a negligible element in manufacturing costs.

In industrialized countries unit costs are higher, but the benefit ratio could be equally dramatic. In the USA the annual cost of death and disablement from road accidents is estimated at US$ 52 billion. Half of this, it is calculated, might be saved through an enforceable car seat belt policy. Also in the USA, it is estimated that the cost of rehabilitation following a stroke is US$ 15 000, yet the maximum cost of controlling hypertension - the main risk factor - is only US$ 90 per annum.

However, as a participant pointed out at the Leeds Castle International Seminar on the Prevention of Disablement, "This is not just a question of cost, but also of value. Prevention is ultimately justified, not on the crude calculation of economic advantage, but in terms of social justice and scientific possibility".

2. INTERNATIONAL LABOUR ORGANISATION (ILO)
(A summary of remarks by Henry W. Brown)

Vocational rehabilitation considerations in the developing countries of Asia and the Pacific

For most countries, the long-range objectives decided upon during the International Year of Disabled Persons were aimed at reducing the risks of disease, congenital defects and traumatic injury, and at the same time expanding resources in medical, social, educational and vocational rehabilitation.

Unfortunately, the current economic recession has resulted in a substantial reduction of funds from international organizations and has forced many governments to delay or eliminate many worthwhile projects.

Despite the present financial constraints, efforts are being made to improve the quality of life for the disabled. Scientists and engineers in the industrialized countries are producing simple devices which allow the disabled to recover some of their lost abilities. Computers now make it possible for the severely handicapped to communicate, to control their surroundings and even to find employment. In Europe and North America, technology is running ahead of the ability of the disabled to make use of it.

Research in rehabilitation is just as relevant to the Third World as it is to the developed countries, but a transfer of technology will achieve nothing because of the vast differences in objectives and priorities. For example, the teletypewriter, a popular communication aid for the deaf in the affluent nations, has no place in a country like Bangladesh, where hearing aids are a priority requirement. What many countries need are low-cost artifical limbs, callipers, crutches, wheelchairs and other supportive aids required by the disabled.

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The solution to providing these services in the rural communities of developing countries requires the adoption of a non-institutionalized approach to the problem of service-delivery. The services that are provided must be within the financial capability of each country, and disabled persons should be rehabilitated within their own communities wherever possible.

The ILO's experience in rural vocational rehabilitation programmes has clearly shown that the nature of the services provided must fit in with the life style of the community.

Perhaps of all categories of disabled persons, the blind, the leprosy patient and the epileptic are the most difficult to place in employment. For too long, routine repetitive work has provided them with a marginal income, but has failed to give them an opportunity to make the maximum use of their potential skills.

The electronic age has produced a whole range of devices designed to make our lives simpler. With the increasing use of computers, there is an ever-increasing need for workers in every area of computer-related work, and disabled persons deserve a share of these job opportunities.

We must be more alert to new machines or new technical aids which enhance the job opportunities for blind persons. Among the many aids which have recently appeared is a special typewriter which can type braille and print characters simultaneously, thus making it possible for the visually handicapped to work with sighted persons on the same project.

Perhaps the most urgent need in rehabilitation is for technical personnel to expand existing services and establish new resources, since present methods of training are far from satisfactory.

The solution to training rehabilitative personnel does not lie in transferring knowledge from the experienced to the inexperienced countries, but rather in localizing or regionalizing rehabilitation training resources. Rehabilitation technology must be relevant to the cultural, social and economic conditions of the country concerned and not transplanted from an entirely different culture.

The establishment of regional and sub-regional rehabilitation staff training facilities in some of the more advanced countries of Asia and the Pacific would help to alleviate the problem.

The ILO has drafted a new recommendation concerning the vocational rehabilitation and employment of disabled persons. This recommendation places special emphasis on community participation in vocational rehabilitation, rural schemes for the disabled, staff training, and the contribution of employers, workers and disabled persons themselves towards the development of services.

Given the financial resources and the support of governments, international organizations and the community, the ILO will continue to play its part in reshaping the lives of the estimated 250 million disabled persons in Asia and the Pacific.

3. UNITED NATIONS CHILDREN'S FUND (UNICEF)
[A summary of remarks made by Miss Keiko Nishino]

One child in ten in the world has a serious impairment. In the developing world, most childhood disabilities result from inadequate nutrition, problems during pregnancy and birth, infections, diseases and accidents, and thus are preventable. UNICEF's main emphasis has, therefore, been on prevention by immunization, Vitamin A supplements and nutrition programmes.

In 1981, UNICEF spent US$14 million in the field of child nutrition. In addition to nutrition programmes, the role of UNICEF in blindness prevention depends on each government's

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request. For example, there is a Trachoma Control Project in Burma with mass screening and application of locally produced tetracycline eye ointment. In Thailand, local protein food production and processing centres are promoted.

In Bangladesh, 75% of pre-schoolage children (aged 0 to 6 years) suffer from moderate to severe malnutrition, with major nutritional deficiencies in the way of calories, protein, Vitamin A and micro-nutrients. About 1.4% of these children have night blindness, and of these about 6500 lose their eyesight annually as a result of Vitamin A deficiency. While Vitamin A deficiency results from cultural practices which are not easily altered, immediate progress is being made by providing high potency Vitamin A capsules to young children and lactating mothers.

In order to achieve the long-term objective of eradicating nutritional blindness in Bangladesh, UNICEF will continue to support applied nutritional education, and will encourage the creation of an information exchange body to coordinate the various programmes for blindness prevention.

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