

# Cambodia's National Eye Care Programme and VISION 2020: The Right to Sight

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## Introduction

Cambodia has an estimated population of 12 million people, 85% of whom live in rural areas. With a blindness prevalence rate of 1.2%, an estimated 144,000 people are blind. The main causes of blindness are cataract, uncorrected refractive errors / aphakia, glaucoma, corneal scar and pterygium. Of these causes, 80 – 90% are preventable or treatable. There is shortage and maldistribution of health manpower; infrastructures and facilities to tackle the identified eye care problem. The lack of training programmes in the country also compounds this problem.

An estimated 28,800 Cambodians become blind each year, about 19,000 because of cataract alone. Cataract surgical services are available in most of the eye units in the country. However, by 2020, the country's population is projected to grow from 12 million to 19.5 million people. By the same year, with increasing life expectancy, the number of Cambodians over the age of 60 is estimated to increase by 60% to some 2 million people. This brings a further doubling in the amount of cataract surgery that needs to be done.

## National Plan for Eye Care Development

The National Sub-Committee for Prevention of Blindness (PBL) has been formed and a master plan for prevention of blindness and a national plan for eye care systems development is currently being implemented (1995–2001). These plans aim to provide eye care services in each region of Cambodia and to reduce blindness to less than 0.5% prevalence by the year 2005.

Human resource development is considered the top priority in these plans. In addition, the plan also covers the development of facilities / materials, sourcing of financial resources, management and specific control of locally endemic diseases for the different levels of eye care. The Ministry of Health, provincial and district health authorities and the National Sub-Committee for PBL, with assistance from INGOs, will play an important role in the implementation of the plans.

The national plan for prevention of blindness is now in the second phase of its implementation (1997–2001), which includes the training of doctors and nurses as Basic Eye Doctors and Basic Eye Nurses, overseas training of Ophthalmologists and Ophthalmic Nurses, provincial training of Primary Eye Care Workers, and Optometrist Technicians. A national primary eye care programme is being implemented in 4 provinces.



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## VISION 2020: The Right to Sight

In October 1999, the Ministry of Health of the Royal Government of the Kingdom of Cambodia signed the global declaration of support for VISION 2020. Cambodia became the second country in Asia after China to sign this declaration in the Western Pacific Region. There is still the need, however, to mobilise a strong long-term political and professional commitment to eliminate avoidable blindness in Cambodia.

## Disease Control

The main eye diseases being focused on within VISION 2020 are cataract, trachoma, childhood blindness, refractive errors and low vision and onchocerciasis (which is not present in Cambodia).

## Cataract

Cataract in Cambodia accounts for 65% of blindness and 75% of visual impairment. Current estimates show that the backlog of cataract blindness is 80,000 with an annual incidence of over 19,500. Though the number of cataract operations (cataract surgical rate) performed in Cambodia has increased from 500 (60/million/year) in 1992 to 6000 (500/million/year) in 1999, this number is still about 30% of the annual incidence and the backlog of cataract blindness is increasing in magnitude. In order to address this problem, the delivery of cataract surgical services has to increase by 3–5 times the current output.

Preliminary results from cataract blindness prevalence surveys (1999) conducted

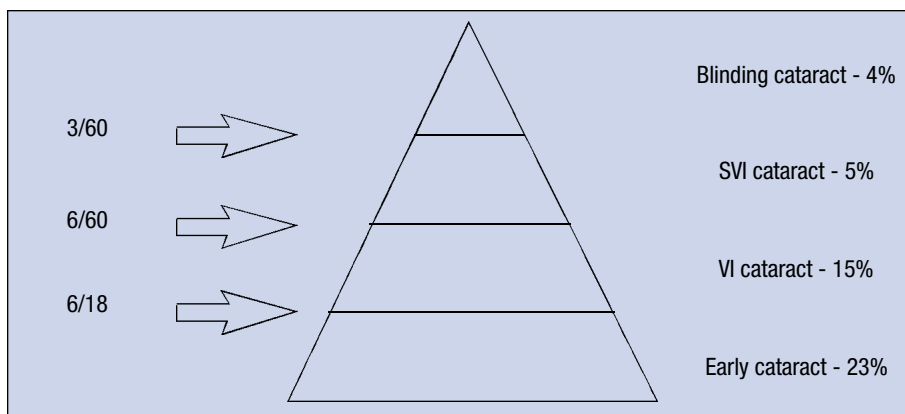


Rural Cambodia

Photo: Murray McGavin

on persons 50 years and older in Siem Reap province showed a blindness prevalence rate of 2.6%. The prevalence of cataract blindness was 1.96%. The cataract surgical coverage for eyes was 10.4% for VA<3/60, 2.6% for VA< 6/60 and 1% for VA<6/18. The overall cataract surgical rate for persons was 0.8%.

Based on the results from the survey, a cataract triangle was developed and is shown below.



Using the above model of the cataract triangle, it is estimated that the backlog of cataract surgery (VA <6/60) for the over 50s in Cambodia is about 108,000. (The over 50s represent 10% of the population.)

Within VISION 2020, appropriate strategies should address barriers to eye care, increase access to cataract surgical services and improve visual outcomes of cataract surgical services in Cambodia.

## Trachoma

The magnitude of the trachoma problem is unknown in Cambodia. Preliminary surveys have shown that the prevalence of TF and TI in children under 10 years is 2.5%. In children under 5 years, the figure is approximately 3.2%. Similar surveys conducted in the northwest of Cambodia found the prevalence of TT to be 0.5% in women over 16 years. In the central region, a 1994 survey found TF to be 18.6% and TI to be 5.7% in children under 16 years and TT to be 4.3% in adults. Although trachoma is not a leading cause of blindness, hospital and eye unit reports indicate that the problem may be more widespread than originally thought. In fact, trachoma is a major cause of blindness among hospital patients. Furthermore, it is suspected that many people with trachoma will never show up at a health facility.

There is currently no official national trachoma control programme in Cambodia. However, many trachoma control activities

are being carried out at all eye care levels. Current control measures are based on the SAFE strategy, integrated within PEC and PHC systems, but require further strengthening and support.

Cambodia is a member of the WHO Alliance for the Global Elimination of Trachoma (GET 2020), which falls under the umbrella of VISION 2020. A rapid assessment of trachoma and its risk factors is planned in 3 provinces with objectives to

determine the occurrence of blinding trachoma, measure its magnitude and the severity of the problem. The findings of this assessment could serve as a base for the establishment of a National Trachoma Control Programme.

## Childhood Blindness

Data on childhood blindness is limited. Surveys in the School for the Blind in Cambodia showed that corneal scarring from vitamin A deficiency, congenital cataract, high refractive errors and degenerative retinal diseases were the common causes of blindness and low vision.

Vitamin A deficiency (VAD) is still a problem of public health significance among Cambodian pre-school aged children and women. Surveys conducted in 1999 by Helen Keller International (HKI) in 5 provinces (Takeo, Kratie, Steung Treng, Siem Reap and Kompong Thom) showed night blindness prevalence rates of 1.8% among children aged 24–59 months and 4.3% and 6.8% among pregnant and non-pregnant mothers respectively. The surveys also showed that the total dietary intake of vitamin A among these groups is far below the recommended daily allowance and that vitamin A capsule distribution only reaches a small proportion of those who need it. Also, hospitals are reporting clinical cases of vitamin A deficiency.

Vitamin A capsule distribution started in

Cambodia in 1994 and was integrated with the national immunization days (NIDs) in 1996 and into the National Expanded Programme for Immunization (EPI) in 1998. Whilst coverage was high with the distribution associated with NIDs, it has become much lower since it became part of the routine EPI.

The national micronutrient survey will determine the prevalence of vitamin A and iron deficiencies among children and mothers. The findings of this survey will assist in improving delivery mechanisms for vitamin A and in developing strategies to improve future programming for vitamin A.

## Congenital Cataract

Data on the prevalence of congenital cataract among Cambodians is unknown. Hospital based data showed that congenital cataract of familial origin is common in Cambodia. Operations for congenital cataract accounted for 2% of all ophthalmic operations within the eye units. Particular concerns are the late presentation of children for surgery and the lack of adequately trained personnel and equipment for paediatric surgery.

Within VISION 2020, in view of the number of years of blindness that ensue, strategies should include strengthening of PEC programmes within existing PHC systems, provision of equipment and training doctors in paediatric ocular surgery, and the establishment of optical and rehabilitative services.

## Refractive Errors and Visual Impairment

Uncorrected refractive errors and aphakia account for about 10% of all causes of blindness in Cambodia. Hospital based statistics showed that uncorrected aphakia and refractive errors were causes of blindness in 6.5% and 0.6% of patients respectively. Statistics from screening camps in rural Cambodia (1999) show that 57% of patients with refractive errors require presbyopic corrections, followed by



*A health centre in the provinces*

Photo: Murray McGavin

myopia (29%), hyperopia (13%) and aphakia (1%).

Vision screening programmes among school children in Battambang province (1997) showed that 1% of school children have refractive errors. Of these, myopia accounted for 70% of the cases. High errors of refraction ( $> \pm 3D$ ) were found in 26% of these children. The other causes of poor vision among school children included corneal scar, cataract and amblyopia.

Survey reports in northwestern Cambodia showed that the prevalence of visual impairment (bilateral) is 3.7%. The main causes of visual impairment include cataract, pterygium, macular degeneration, corneal scarring and uncorrected aphakia and refractive errors. In addition to private shops, only 4 public centres provide refraction and spectacles in Cambodia.

Within VISION 2020, affordable refractive services and corrective spectacles should be available within the PHC system through training of personnel, development of facilities for low cost production of spectacles, vision screening programmes in schools and establishment of low vision centres. Currently there are no trained personnel, facilities and equipment for the provision of low vision services in Cambodia. Centres for corneal banking, keratoplasty or lasers are non-existent.

### Human Resource Development

There is acute shortage and maldistribution of ophthalmic personnel, with over 90% of present personnel in the capital, the majority of whom did not have any formal training. The training of eye care personnel is expected to provide a core group of well-trained eye care personnel who can then provide training to other Cambodians.

With the national plan in its 5th year of implementation, a review of the manpower requirements shows that 9 Ophthalmologists, 17 Ophthalmic Nurses, 7 Optometrists, 28 Basic Eye Doctors, 56 Basic Eye Nurses, 45 Optometry Technicians, 132 Ophthalmic Assistants, 230 Primary Eye Care Trainers and 2215 PEC Workers will need to be trained between now and 2005. This excludes two doctors currently undergoing residency training and 3 nurses who had been trained as Ophthalmic Nurses in Thailand. However, the availability of training centres, trainers and financial resources may preclude the achievement of this very worthwhile objective in the development of eye care in Cambodia.

A 2-year training programme to train Basic Eye Doctors and 9 months training for Basic Eye Nurses have been initiated in the country and supported by NGOs (Help-

Age International, Maryknoll/CBM and Mekong Eye Doctors). A total of 12 doctors and 42 nurses have been trained within these training programmes.

An evaluation of these training programmes carried out by Dr Serge Resnikoff of the WHO Programme for Prevention of Blindness and Deafness, in June 1998, concluded that the training was of a high standard and the performance of the candidates was very satisfactory.

Within VISION 2020, emphasis should be placed on the training of mid-level personnel. Efforts should be made to achieve the WHO target for the sub-region for mid-level personnel with the ratio 1:50,000 population. Managers for national prevention of blindness programmes and ophthalmic trainers should also be trained.

### Infrastructures and Appropriate Technology

Currently, it is estimated that only 40% of Cambodians have access to eye care services in 10 provinces of the country. The estimated coverage of eye care services is about 25% and the utilization of eye care services was less than 1% in 1999. The number of eye units had increased from 4 in 1993 to 10 by the end of 1998, with more units being set up in 5 provinces in the year 2000. The total number of eye beds in the country has increased to 200 in 1999.

The national plan for eye care development envisages a network of eye care services in each of the provinces of Cambodia, with the development of 5 regional eye centres, including the national eye centre in Phnom Penh for research, training and policy development.

A national workshop to address the issues of sustainability in eye care programmes was organised in 1999 to identify and address the needs, major constraints and challenges for the development of sustainable eye care services in Cambodia. The workshop recommended that cost recovery systems in the eye units should be strengthened, as part of an overall provincial hospital system with some form of autonomy. The accessibility of public services to poor patients should be enhanced through improvement in quality of services, affordable fees, exemption from payment and adequate information to the community.

An essential drug list for the different levels of eye care has been developed. A standard list of equipment, drugs and suppliers is operational and a 'material and supplies bank' has been set up by the national PBL committee to assist the eye

units in the bulk purchase and procurement of IOLs, sutures, spares and other supplies. This is in addition to that supplied by the Ministry of Health's central medical stores. In cooperation with NGOs, training programmes in equipment maintenance are planned for technicians and end users in the near future.

Experience in the local production of eye drops (Battambang laboratory) have not been satisfactory due to infrequent production, primarily due to lack of personnel and raw materials for production. Functional low cost optical workshops have been set up in 4 provinces, either singly or to support the existing eye units.

Within VISION 2020, targets should be set for services availability, accessibility, utilisation and coverage. Strengthening of cost recovery systems within the eye units will be required. Development of equipment maintenance systems for eye care, including training of Instrument Maintenance Technicians, consolidation of bulk purchasing strategies, establishment of facilities for low cost production of drugs and spectacles will be required.

### Role of NGOs in VISION 2020 in Cambodia

VISION 2020 aims to establish a global partnership for eye health, which is indispensable to the fundamental 'Right to Sight'. Various NGOs have been playing an increasingly important role in blindness prevention in Cambodia. These include Helen Keller International, CBM, Maryknoll, HelpAge International, IRIS, Mekong Eye Doctors, SEVA Foundation and Asian Eye Care. Voluntary organisations such as Rotary International and the Lions SightFirst programme have also been involved.

The common goal is the elimination of avoidable blindness in Cambodia by the year 2020.

### Conclusion

VISION 2020's mission is to eliminate the main causes of blindness – thus, adequately addressing the eye care problems found in Cambodia. However, the implementation of this 'Right to Sight' will require a meaningful partnership and commitment from governments, NGOs, institutions and individuals in achieving these noble objectives. Major efforts will need to be made in the areas of advocacy, resource mobilisation and strengthening national capacities for implementing the main components of VISION 2020.

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