Evaluation of community-based rehabilitation (CBR) services at Cambodian development mission for disability (CDMD)

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May 2010

Centre for Eye Research Australia

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Table of Contents

Executive Summary 1

Background 3

Methods 5

Findings 7

1. Service delivery system 7

1.1. Available services and their utilisation 7

Identification 7

Rehabilitation 7

Empowerment 10

1.2. Quality of services 14

1.3. Limitations 14

2. Program Management 15

2.1. Coverage 15

2.2. Human Resources 16

2.3. Infrastructure 18

2.4. Financial Sustainability 19

3. Networks 19

3.1. Linkages 19

3.2. Referrals 19

3.3. Advocacy 20

3.4. Involvement of Family and Community 21

4. Outcomes of CBR services 22

Conclusion 23

Acknowledgements 26

References 27

Annex 1 28

Annex 2 32

Executive Summary

The Community-based rehabilitation (CBR) services for people with blindness and low vision were first initiated in 1993 by Cambodian Development Mission for Disability (CDMD), formerly called Rehabilitation for Blind Cambodians (RBC). In 2007 RBC was registered as CDMD, a local NGO of Cambodia and has a partnership with CBM. CDMD is in the process of upgrading its services with the changing concepts of CBR globally from a medical to a rights-based model and also following the new guidelines of the World Health Organisation (WHO). As a part of this, CDMD has initiated an evaluation of its services with the help of Centre for Eye Research Australia (CERA).

The aim of this evaluation was to understand the strengths and limitations, and determine strategies for improvement in four components: service delivery system, program management, networks and outcomes of CDMD's CBR. This evaluation was conducted between October and November 2009. The study was officially approved by the Royal Victorian Eye and Ear Hospital – Human Research Ethics Committee, Melbourne and the Ministry of Social Affairs, Veterans and Youth Rehabilitation (MoSVY), Cambodia.

Data were collected through a series of interviews with key stakeholders of the CBR program, reviewing of records and through direct observation of CBR activities of CDMD. The key stakeholders (n = 148) included clients enrolled in the CBR and their family members, CBR staff, government officials, eye care practitioners and other NGOs working with disability related issues in Cambodia.

The key findings of this report are:

1. **Service delivery system:** The strengths of the service delivery system are its holistic approach and a systematic follow-up system to improve the quality of life of clients. All five components of the CBR matrix - health, education, livelihood, social and empowerment are addressed by CDMD which provides a continuity of care to their clients enabling them to live independently in society. The CDMD's CBR program addresses the social barriers of disability such as exclusion by involving family and neighbours in the rehabilitation of the clients and also involving local authorities in community meetings.

   Systematic internal monitoring protocols are in place to assess the work of fieldworkers and review plans. Case Review Committee (CRC) meetings are conducted twice a month to discuss client-related issues and loans provided through revolving funds. The supervisors also visit the fieldworkers regularly to monitor their work and clients.

   The limitations of the services are: not all field workers are confident to provide early intervention services to children less than 5 years of age; poor access to information and resources for CBR workers to identify the people with vision impairment; negative attitudes of some clients and their family members to receive rehabilitation;

and insufficient funds for loans that are provided as a part of economic rehabilitation of some of the clients.

2. **Program management:** Structured organising and management systems and committed staff are the positive aspects of the CDMD's CBR program. However, the coverage of services and CBR personnel are poor (<10%) in both Phnom Penh and Takeo areas due to limited resources. Financial sustainability of the program is another issue as CDMD is funded only by one organisation, CBM and no cost recovery systems are in place.

3. **Networks:** In their multi-sectoral approach to CBR, CDMD has good linkages with organisations such as government, Disability Action Council (DAC), Cambodia Disabled Persons Organisation (CDPO), and other disability related non-government organisations (NGOs). Clients of the CBR program are referred to other services for medical, educational and vocational rehabilitation. Compliance is good with the referral services.

   Advocacy and awareness programs are conducted by the CDMD's CBR program in communities and schools. CDMD collaborates with CDPO and DAC to advocate for rights of people with disabilities. However, stronger collaborations between CDPO and CDMD are needed to strengthen the CBR services and also to empower the clients. Collaboration with the government is essential for effective CBR services as it helps with support through policy, legislation and ensures strengthening of referral services.

4. **Outcomes:** CDMD's systematic follow-up and record-keeping systems make it easy to review their clients' progress and outcomes in various aspects of CBR program. The fieldworkers regularly check the progress of the clients and the details are entered in the respective client's folder. However, for this study the data related to progress of the clients could not be retrieved from records due to limited time and resources.

   In this evaluation, 35 (81%) clients and 52 (88%) family members responded that their needs were met with CBR. The remaining participants felt the loans provided for economic rehabilitation were not enough. Nonetheless, all the participants responded that they were very satisfied with the services provided.

Conclusion

The major strength of the CDMD's CBR services is that it is one of the few programs to address all components of the WHO CBR guidelines and provide holistic care that considers functional, education, livelihood, social and empowerment of its clients. Good program management and networking with various sectors are assets of CDMD's CBR services.

With the advent of the new Development Committee (CDC) the coverage of the services could be improved. However, training to the staff and the community volunteers is essential, especially in managing children with disabilities.

Background

Community-based rehabilitation (CBR) was introduced in 1978 by the World Health Organisation (WHO) to accomplish the goal – "Health for All."[1] CBR is a service delivery method to improve the coverage of rehabilitation services to people with disabilities (PWDs) using local resources.[2] Initial models of CBR were based on the principles of primary health care focussing mainly on the medical interventions. Over the decades, the concepts of CBR have been changing to improve lives of PWDs by not only focussing on medical issues but also addressing the wider social context.[3] As a result, CBR was redefined in 2004[4] as

> "*a strategy for rehabilitation, equalisation of opportunities, poverty reduction and social inclusion of people with disabilities. CBR is implemented through the combined efforts of people with disabilities themselves, their families, organisations and communities, and the relevant government and non-governmental health, education, vocational, social and other services."*

In response to the conceptual changes, the WHO initiated development of a document on new guidelines for CBR. The guidelines are outlined in the form of a 'CBR Matrix' which constitutes five key components of 'universal well-being': health, education, livelihood, social and empowerment. These components are underlined by basic principles: participation, inclusion, sustainability and self advocacy.[5]

National and regional CBR strategies are also being developed. Cambodia's CBR guidelines are due to be released in near future following the release of the WHO document.

Existing CBR programs need to adapt to the new guidelines. A program evaluation is recommended before planning to change program objectives or update services. Evaluating different components of CBR helps to understand where the program currently stands and what changes are needed.

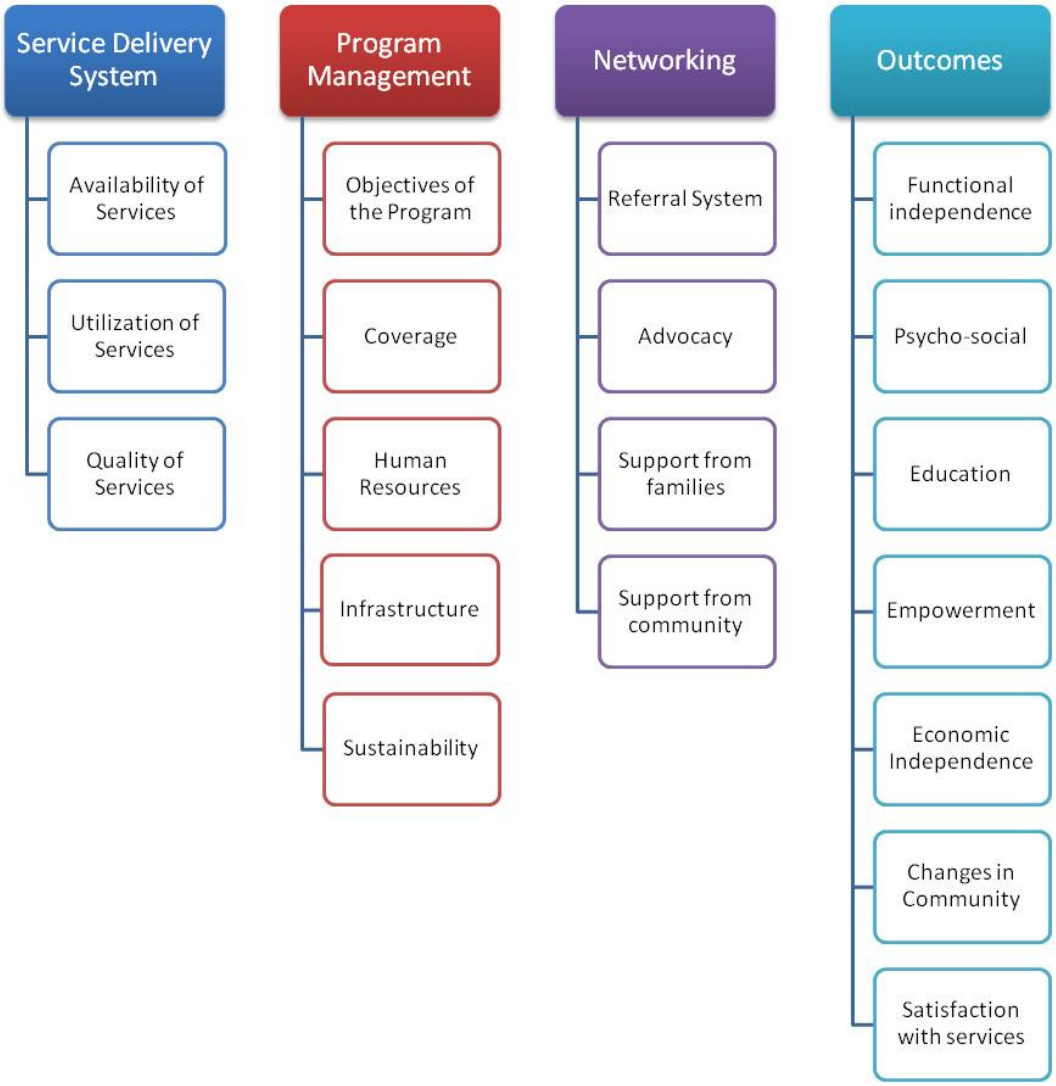
An evaluation framework for vision-related CBR services has been developed at the Centre for Eye Research Australia (CERA) by the author that comprehensively covers evaluation of four aspects of CBR: Service delivery system, Program management, Networks and Outcomes (Figure 1). Indicators for evaluation in the framework were obtained from the existing literature and using the concepts of new CBR guidelines. The framework has been validated in Fiji and is now used to evaluate the CBR services of Cambodian Development Mission for Disability (CDMD).

The CBR services for people with blindness and low vision were first initiated in 1993 by CDMD, formerly called Rehabilitation for Blind Cambodians (RBC). It was under the administration of Maryknoll, Catholic Missionary Order, a non-government organisation (NGO) based in New York. RBC was later handed over to Caritas Cambodia along with the administration of the Daughters of Charity from Thailand until end of 2006. In 2007 RBC was registered as CDMD, a local NGO of Cambodia and has a partnership with CBM.

CDMD is upgrading its services with the changing concepts of disability and has initiated an evaluation of its services with the help of CERA. This report presents the results of the

evaluation conducted between October and November 2009. The evaluation was to understand the strengths and limitations and determine strategies for improvement in four components of CBR in the framework (Figure 1). The study was officially approved by the Royal Victorian Eye and Ear Hospital – Human Research Ethics Committee, Melbourne and the Ministry of Social Affairs, Veterans and Youth Rehabilitation (MoSVY), Cambodia.

Figure 1. CERA's evaluation framework for vision-related CBR services



Methods

Data were collected through a series of interviews with key stakeholders of the CBR program, reviewing of records and through direct observation of CBR activities of CDMD. The data were validated by triangulation,[6] i.e. information was collected from different sources to get different perspectives and then it was then compared to one another.

Key stakeholders included:

1. **Clients** (n = 43) enrolled in the CBR services and aged 18 years and over were interviewed. They are grouped into two age categories: 18-50 and over 50 years.

2. **Family members** or the primary care-givers (n = 59) of clients were interviewed. In case of clients aged up to 17 years, their primary care-givers were interviewed.

Selection of the sample was by convenience and clients and their family members were included in the study from 4 provinces (Phnom Penh, Kandal, Takeo and Kampot) where CDMD's CBR activities take place (Table 1). Kampong Speu province was not included for interviews due to time constraints. Of the total sample 3 clients and 7 family members had physical, hearing, speech, intellectual impairments, cerebral palsy, or epilepsy. Of the total sample, 17 (40%) clients and 51 (86%) family members were female.

Table 1. Sample distribution of clients and family members in 4 provinces

	Provinces				
Age Category (years)	**Kandal**	**Phnom Penh**	**Takeo**	**Kampot**	**Total**
Client					
18-50	10	3	7	4	**24**
>50	6	3	7	3	**19**
Total	**16**	**6**	**14**	**7**	**43**
Family					
0-17	6	3	6	3	**18**
18-50	9	3	6	6	**24**
>50	5	3	6	3	**17**
Total	**20**	**9**	**18**	**12**	**59**

3. **CBR staff** (n = 14) including CDMD Director, CDMD's government and technical liaison officer, CBR Coordinator, Supervisors of Phnom Penh and Takeo areas, and fieldworkers (4 out of 8 fieldworkers from Phnom Penh area and 5 out of 10 in Takeo area) were interviewed.

4. **Government officials** (n = 6) from MoSVY, Provincial Social Affairs, Veterans and Youth Rehabilitation (PoSVY) of Kandal, Phnom Penh, Takeo and Kampot, and Prevention of Blindness Unit (PBU) of Ministry of Health who collaborate with CBR activities were interviewed.

5. **Eye care practitioners** (n = 7) including 2 Basic Eye Doctors, 1 Ophthalmologist, 2 refractionists at Provincial Hospitals and 2 Optometry practitioners from the Cambodian Optometric Association and a Vision Centre of the International Centre for Eyecare Education (ICEE).

6. **Other stakeholders** (n = 17) included other NGOs who work with disability related issues and collaborate with CDMD such as Krousar Thmey School for the Blind, Cambodian Disabled People's Organisation (CDPO), Association of the Blind Cambodia (ABC), Veterans International, Youth Development for Education and Employment (YODIFEE), National Centre of Disabled Persons (NCDP), Disability Action Council (DAC) and others.

Figure 2. Interviewing a client and a family member

Questionnaires were designed for each group mentioned above and they were mostly open-ended questions. The questionnaires and consent forms were translated into Khmer. All the interviews were conducted with the help of a translator. The nature of the study was explained to the participants and confidentiality was assured. Written informed consent was obtained from all participants. The responses of the participants were unprompted and they were encouraged to share their views and personal experiences honestly. The CBR staff were not involved during the interviews to avoid response bias. A schedule for the visits and appointments were made before visiting the participants (Annex 1).

All the responses were recorded in writing during the interview and were later entered in MS Word in separate documents for each participant. To protect individual confidentiality and anonymity, participants' names were not used and each transcript was coded.

Data from all the participants were coded into pre-determined sections of four components of the framework using NViVO 8 software for qualitative analysis. The responses were then coded into themes to identify the strengths and limitations and determine strategies for planning.

Findings

1. Service delivery system

In this section the services available in CDMD's CBR program, their utility, strengths and limitations are discussed. The services are provided in 5 provinces: Kandal, Phnom Penh, Takeo, Kampot and Kampong Speu.

1.1. Available services and their utilisation

CDMD's CBR services include identification of people with vision or other impairments for referrals, functional, educational, economic, social rehabilitation and empowerment of PWDs. These services are discussed below. The statistics presented in this report are for 2008 and first three quarters of 2009, i.e. up to September, as this evaluation was conducted during the last quarter of 2009.

Identification

Fieldworkers conduct surveys in the villages to identify people with vision impairment as well as other impairments such as hare-lip, cleft palate, hearing and other ear problems, intellectual and physical impairments. A standard survey format is used by all the fieldworkers. Local authorities such as commune council and village heads, key personnel in the villages such as religious leaders or monks in pagodas, bankers, staff at health centres, schools, youth groups and other NGOs are contacted for the survey.

People identified with vision or other impairments in the community, are referred to appropriate centres such as eye units, or services related to other impairments for medical consultations. Fieldworkers regularly follow-up the clients who are advised to use glasses or undergo any treatment to ensure compliance.

Rehabilitation

The strengths of the service delivery system are the holistic approach and systematic follow-up system designed to improve the quality of life of clients. The services do not stop with medical interventions or functional rehabilitation. All the five components in the CBR matrix - health, education, livelihood, social and empowerment are addressed by CDMD by providing a continuity of care for the clients to be able to live independently in society.

Once the clients are diagnosed with vision or other impairments by the clinicians, they are enrolled into CDMD's CBR program. The fieldworkers counsel the clients and their family members about the impairment and explain about the rehabilitation services available so that

they can make informed choices. An individual rehabilitation plan is made after assessing the needs by interviewing the clients and their family members. In some cases neighbours are involved in the needs assessment. From our evaluation findings, 38 out of 43 (88%) clients responded that they are involved in making their own rehabilitation plans. The remaining 5 clients said that either their family had decided for them or felt the CBR worker knows better.

Providing opportunities to the clients and family to make informed choices of the services is one of the positive aspects of the CDMD's CBR program. In this way, clients are helped to participate and efforts are made to empower them from the beginning of the program. This also builds a sense of ownership to the clients in their own program.

The clients are classified into three groups for the convenience of service provision and reporting by CDMD. The groups are:

I. Newly identified: Recently diagnosed clients with vision or other impairments are categorised in this group. In 2008 and 2009 there were 176 and 160 newly identified cases, respectively (Figure 5a). On average each fieldworker identified 8 (range 2-15) and 10 (0 to 16) new clients in 2008 and 2009, respectively. The number of children (15%) identified is significantly lower than adults in both age-groups 16-50 years (37%) and >50 years (48%).

II. Working: Clients who are undergoing rehabilitation are categorised in this group and this is further classified into 'Working Active' and 'Working Follow-up' groups. 'Working Active' group includes clients undergoing training for daily living skills or orientation and mobility. The clients are trained twice a week for a period of up to 8 months until they are confident to manage independently. Once the adult clients are independent in functional skills they are provided vocational training in the areas of their interest such as farming, animal husbandry (cow, pig and chicken), weaving, mat-making and managing a grocery store. Family members of the clients and if necessary, neighbours are involved in training the clients in functional or vocational skills. In 2008 and 2009 there were 101 and 109 clients in the 'Active' group (Figure 5b). There are no significant differences in the numbers of male (53%) and female (47%) clients.

Once the clients are independent to manage themselves, interest-free loans are provided to the clients for income generation through CDMD. These clients are grouped under 'Working Follow-up.' All follow-up clients are visited regularly, at least once a month, by the fieldworker until the loan is repaid or the client is independent. During the visits fieldworkers check the farming, animal husbandry or other business and help them as necessary. There were 538 and 474 clients in the 'Working Follow-up' group in 2008 and first three quarters of 2009, respectively (Figure 5c). Number of clients followed-up in 16-50 years age group (63%) was significantly higher than children (10%) or >50 (27%) years age group.

The case is 'closed' once the client is independent functionally and economically and also the loan is fully paid. Closed cases are followed-up at 3 months, 6 months and 1 year or when necessary. The clients are allowed to contact the fieldworkers if they need any further help. There were 42 and 145 clients in 2008 and 2009, respectively (Figure 5d). Number of clients

followed-up in 16-50 years age group (66%) was significantly higher than children (10%) or >50 (25%) years age group.

In case of children, they are referred to either Krousar Thmey School for the Blind in Phnom Penh or to regular schools locally after training them to be functionally independent. CDMD encourages inclusive education programs by supporting children with vision impairment to enrol in regular schools. Children referred to the school for the blind are helped with accommodation and food by CDMD through donations from an international NGO – Friend for All Children, as most children do not have transport or funding to go to schools. Fieldworkers regularly meet the teachers to be kept aware of their clients' progress. They also discuss the clients' problems with the teachers in regular schools and ensure the students are taken care of. Children with low vision are referred to COA or ICEE Vision Centre for low vision services. Low vision devices are provided in both centres at subsidised rates.

Figure 3. A client raising ducks with the help of loans provided from CDMD

III. Waiting: The clients on waiting list are classified into two groups: 'Waiting Suitable' and 'Waiting Follow-up.' Clients who wish to enrol into CBR but could not be intervened immediately are grouped under 'Waiting Suitable.' As per the policy of CDMD, each fieldworker should have maximum of 8 clients under training. Depending on the fieldworkers' availability clients on waiting list are provided services within 2 weeks to 6 months period. There were 89 and 40 clients on waiting list in 2008 and by the end of first three quarters in 2009, respectively (Figure 2e). There was no difference between males (54%) and females (46%) among this group. However, waiting list in Takeo (84%) is significantly higher than Phnom Penh area (16%).

Those who are unwilling to enrol in the CBR program are grouped under 'Waiting Follow-up.' This group is followed-up once in 3 months by the fieldworker in that area to counsel and motivate them for enrolling into CBR. In 2008 and 2009, 142 and 168 clients were in this group, respectively (Figure 2f). Again, the numbers are significantly higher in Takeo (88%) than in Phnom Penh area (12%).

Importantly, there are no statistically significant differences in number of enrolments between males and females in any of the above groups.

Another strong aspect that adds to the success of CDMD's CBR is a systematic follow-up protocol. Following-up the clients for a while after finishing the program is very much needed to ensure the improvements that have been obtained are sustainable. Follow-up also helps to measure the outcomes of the program.

Some clients leave the program without completing the CBR program. In 2008 there were 28 (13 females) dropouts and in first three quarters of 2009 there were 23 (10 females) clients. The reasons found for dropouts or refusals to enrol were negative attitudes of the family, lack of interest or motivation of the clients, availability of good help at home and lack of acceptance of their condition.

In addition to functional, economic and educational rehabilitation, CDMD's CBR includes social rehabilitation to encourage the clients to participate in family and community activities. The fieldworkers also organise play activities for children with vision impairment with normally sighted children to improve their social skills and reduce discrimination in the community. They also arrange and conduct marriages for some clients. The CBR program is trying to address the social barriers of disability such as exclusion by involving family and neighbours in making individual rehabilitation plans and training of the clients and also involving local authorities in community meetings.

Empowerment

Poverty and disability are linked together in a vicious circle of a cause and effect paradox. Poverty is the root cause of disabilities and it further limits access to basic health services including rehabilitation.[7] CBR is now considered as a socio-economic strategy to alleviate poverty.[5] The CDMD's CBR program is addressing this issue by providing a holistic approach to PWDs and providing them opportunities for education, income generation, participation in the community and empowerment.

To empower PWDs, self-help groups (SHG) are formed in the areas where a significant number of PWDs live. The group members are trained in saving money and micro-financing. The SHGs are supported by grants from CDMD to start. Each member of the group contributes a certain amount of money every month in addition to the interest paid for their previous loans. This income is used to provide new loans to the members in the group. Three leaders are trained in each group as chief, secretary and cashier. The group members are also introduced to local authorities and service providers such as health centres, pagodas, schools and others so that they can approach them themselves to solve their issues related to health, family and income. Fieldworkers assist the group in management until they are independent.

Before initiating a SHG, community meetings are conducted where key personnel such as local authorities, commune council members, religious leaders, teachers and others are invited. The invitees talk about issues related to disability and its prevention so that the awareness is created in the community. Similar meetings are conducted at regular schools

where children are admitted so that teachers and other students understand disability and help them.

Quotes below are from a client and a family member to show the changes in the community following the SHG formation.

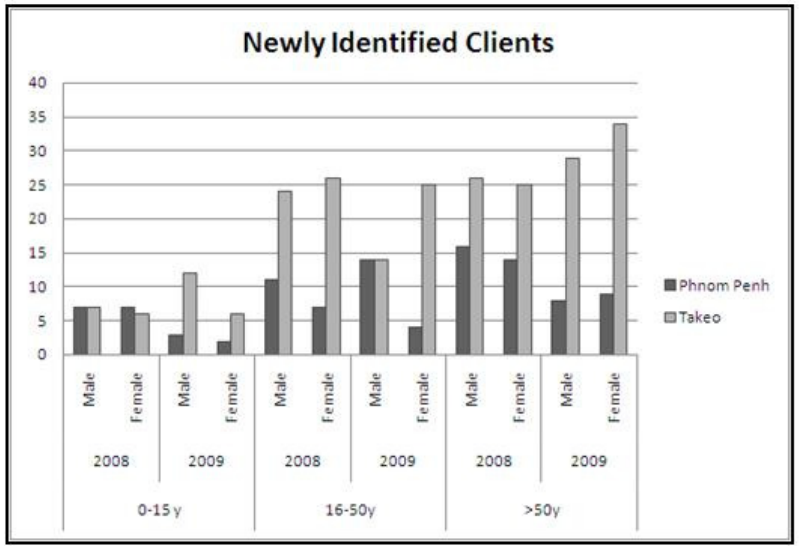
"Earlier neighbours used to show discrimination towards me and my family. We were always ignored. After forming the self-help group they invite us to the social events."

"Before the self-help group formed people always ignored him. Even in Pagoda nobody included him. Now after the self-help group is formed people include us in the society. Earlier our name was not included in the community list by the local authority. Now they consider us."

Figure 4. Self-help group meeting (right) and Community meeting (left)

Figure 5. Number of clients in different groups in 2008 and first three quarters of 2009

a



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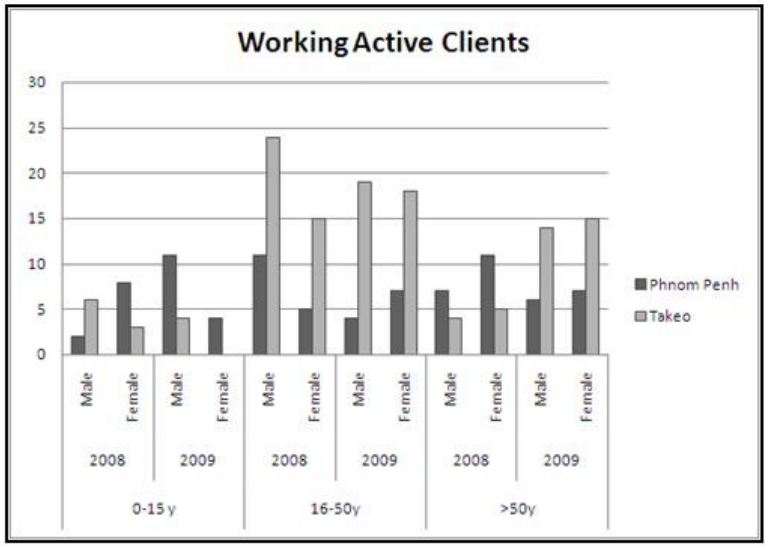

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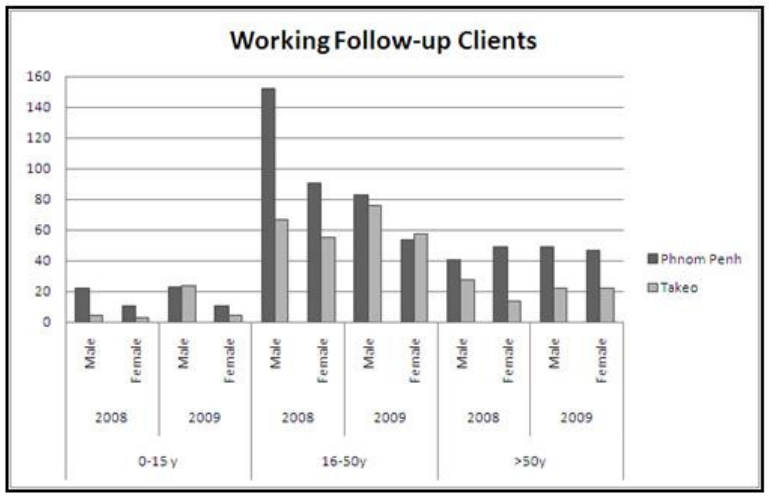

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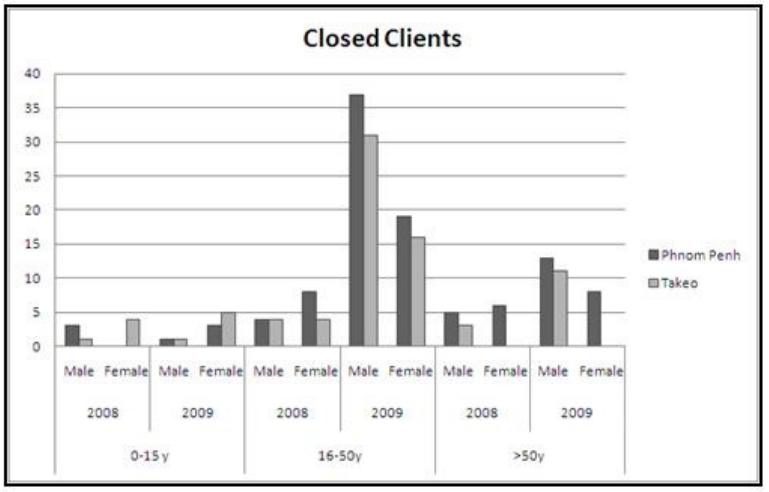

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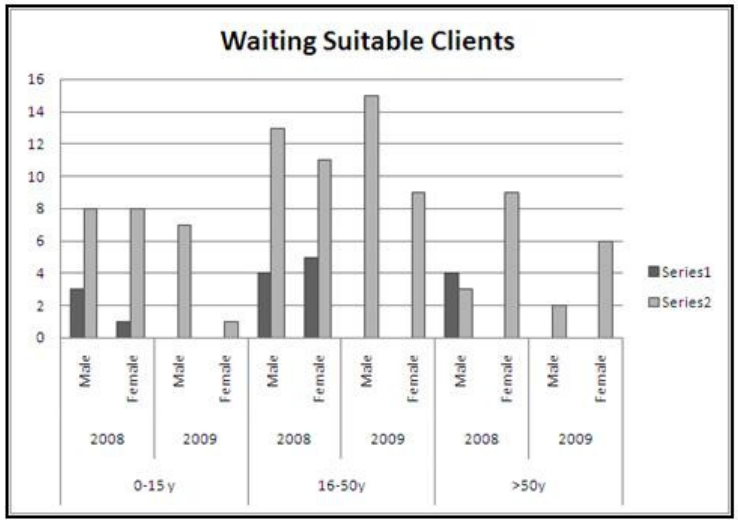
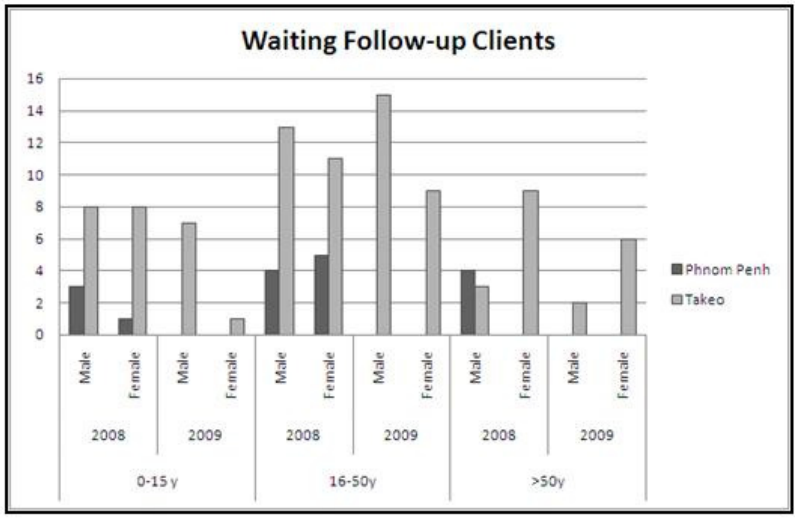

Waiting Suitable Clients
16
14
12
10
8
6
4
2
0
Male
Female
2008
2009
0-15 y
16-50y
>50y
Series1
Series2

f


Waiting Follow-up Clients
16
14
12
10
8
6
4
2
0
Male
Female
2008
2009
0-15 y
16-50y
>50y
Phnom Penh
Takeo

1.2. Quality of services

Systematic internal monitoring protocols are in place to assess the work of fieldworkers and review the plans. Each fieldworker has monthly and annual targets to accomplish. All the fieldworkers attend Case Review Committee (CRC) meetings twice a month with their respective Supervisors. The coordinator joins the meetings most times. At the CRC meetings the fieldworkers discuss client-related issues, loans provided through revolving funds, and share and discuss with others in the group to solve any problems. Supervisors, the Coordinator and Director meet once in a month for administration meetings. Quarterly and annual reports are sent to CBM on client statistics.

The supervisors also visit the fieldworkers regularly to monitor their work and clients. They review rehabilitation plans of the clients every 3 months. The supervisors asses the clients before providing loans to see how they are performing and the sum of the loan that needs to be approved.

1.3. Limitations

However, some shortcomings were also identified in the program. On observation it was found that early intervention services are not provided by all the fieldworkers. Although there was a training program conducted on early intervention in 2009 for the fieldworkers, not all are confident or have enough knowledge to provide the services. Training programs by experts and on-the-job training with clients may help to improve the skills of the fieldworkers.

Other weaknesses come from barriers to service delivery. The barriers from service providers' point of view are listed below:

- **Negative attitudes:** Some of the clients and family members believe that it is 'karma' to lose vision and nothing can be done about it. Some are not motivated to be rehabilitated either because they are shy to get trained or feel that they have help from their family and training is not necessary. Some also have a false belief that they might lose their vision further if they undergo medical treatment.
- **Time:** Some clients and their family members are busy with their work and may not have time to spend on training.
- **Transport:** Travelling on motor bikes and boats to visit the clients in the rainy season is very difficult. Some places are not secure to travel. Some of the fieldworkers find it very difficult to travel long distances on bikes.
- **Poor information resources:** Some of the local authorities or village heads do not have data about PWDs living in their area. This makes it difficult to identify the people with vision and other problems. Sometimes village heads do not cooperate with the fieldworkers.

- **Loans:** Sometimes the clients' business may not run well as the animals die or people do not come to buy from the clients' stores due to discrimination. Also, loans may not be sufficient to the clients or there may be delays in issuing the loans.

- **Corruption:** Some staff at the health centres demand money from the clients although the services are meant to be free of charge. Some clients are afraid to go back to the health centres as the staff are rude if they have not been paid.

However, no clients or family members reported any negative issues about the services. They appreciated the efforts of the fieldworkers who travel far to visit them. Although some of them mentioned that loans provided were insufficient, they understood the organisation has budget constraints and cannot help more than what they are doing now. They were happy that at least somebody came to help them.

2. Program Management

In this section, findings of the program management system, its strengths and limitations in terms of human resources, infrastructure, coverage and financial sustainability are described.

CDMD is registered as a local NGO in Cambodia and the CBR activities are funded by CBM. The objectives of CBR are developed in agreement with the funding organisation. The CBR program was started to provide services to PWDs due to impaired vision. Lately, the strategies have been changed to include people with other disabilities. As reviewed from the reports, the goal of the CBR program is "to empower PWDs by providing equal opportunities to participate fully in family, community and society that are barrier-free." A strategic planning document for 3 years (2010 to 2012) has been prepared and was presented to the major stakeholders including government officials, other NGOs and to invited clients and their family members.

2.1. Coverage

Coverage was calculated by dividing the total number of people who received CBR services by the total number of people with vision impairment. Prevalence of vision impairment (low vision and blindness i.e., best corrected visual acuity <6/18 in better eye) in adults aged ≥50 years was calculated from the estimates of the rapid assessment for avoidable blindness (RAAB) in Cambodia[8] and population census of 2008.[9] After excluding the numbers of people with vision impairment due to refractive errors and cataract, the estimated prevalence of vision impairment in adults aged ≥50 years was 16.8%. Prevalence of vision impairment in children (aged 0-15 years) was estimated as 0.3-0.4% for Cambodia using under 5 mortality rates.[10] As the prevalence of vision impairment was not available for 14-49 years age group, it was assumed that it could be similar to that of children.

From these prevalence estimates, coverage of CBR services for adults by CDMD was estimated for 2008 and 2009 as shown in Table 2. Calculating coverage for children in Phnom Penh area is shown here as an example:

Total number of children in Phnom Penh area (Phnom Penh and Kandal provinces) from the population census for 2008 = 873806

Considering 0.3% as the prevalence of vision impairment in children, estimated number children with vision impairment in Phnom Penh area in 2008 = 873806 x 0.3/100 = 2621

Number of children with vision impairment enrolled for CDMD's CBR in Phnom Penh area in 2008 = 64

Coverage of CBR services for children in Phnom Penh area in 2008 = 64/2621 x 100 = **2.4%**

Number of children with vision impairment enrolled for CDMD's CBR in Phnom Penh area in 2009 = 63

Coverage of CBR services for children in Phnom Penh area in 2009 = 63/2621 x 100 = **2.4%**

The coverage for children was significantly higher than adults. However, these estimates could be an underestimation as the prevalence was calculated at province level and not for the individual districts. The same methods of prevalence estimates could be used to obtain estimates at district level. More information on these calculations is given in Annex 2.

Table 2. Coverage of CBR services in 2008 and 2009

	2008		**2009**	
	Children (0-15y)	**Adults (>15y)**	**Children (0-15y)**	**Adults (>15y)**
Phnom Penh	2.4%	0.8%	2.4%	0.7%
Takeo	5.9%	1.4%	6.5%	1.7%

The CDMD's CBR services are limited to only a few areas due to limitations in finance and resources. CDMD is planning for a new approach called a Community Development Committee (CDC) to improve the coverage of the services in their target areas and also improve participation of local communities in CBR. This approach is planned to start in 2010 by involving key personnel in the community such as local authorities, religious heads and others as volunteers.

2.2. Human Resources

The staff includes the Director of CDMD, a CBR Coordinator, 2 Supervisors for Phnom Penh and Takeo areas, 18 fieldworkers (8 in Phnom Penh and 10 in Takeo areas), a Technical and Government Liaison officer and 2 administrative staff. The management includes five Board members who are responsible for the governance and policies. The Board is not involved in day-to-day administration of CDMD but is accountable to the donors and government. CDMD shows its encouragement to PWDs by appointing three PWDs in the office as staff.

The CBR Coordinator is responsible for monitoring the programs, reporting to the management committee, budgets, follow-up of SHGs, managing revolving funds and networks with NGOs and government. The field supervisors are responsible for monitoring fieldworkers, follow-up of clients, statistics and reports, and manage connections with stakeholders in their respective areas. The field workers' role is to conduct surveys to identify PWDs, referrals, follow-up, rehabilitation, form SHGs and collaborate with local authorities and health centres. Each fieldworker is responsible for one to four districts.

On average each fieldworker managed 108 (range 64-161) clients in a year. Using the prevalence estimates of low vision and blindness for Cambodia, the ratio of CBR fieldworkers to population with vision impairment was calculated. An example for calculating ratio of CBR workers for children in Phnom Penh area is shown below:

The number of children with vision impairment in Phnom Penh area (Phnom Penh and Kandal provinces) in 2008 = 2621

Number of CBR workers in Phnom Penh area = 9 ~ rounded to 10 for convenience

Ratio of CBR workers to children with vision impairment = 10:2621 = 1:260

Similarly, the ratio is estimated to be 1:6000 for adults in Phnom Penh. In Takeo area the ratio was 1:150 for children and 1:3300 for adults. Further information on calculations is given in Annex 2. Again, these estimates could be an underestimation as the prevalence used to calculate was at provincial level.

All the fieldworkers are initially trained for 6 weeks on-the-job before letting them manage clients independently. The Coordinator and Supervisors were once fieldworkers and hence understand the grass root level issues on the field. Continuing education programs are conducted 2-4 times a year for all the fieldworkers and supervisors. However, the staff felt that they need more training in some areas such as eye diseases, managing other disabilities, Braille, English language and early intervention. Recently joined fieldworkers said they are not confident in orientation and mobility and they need further training in it.

The major strength related to human resources is committed staff. The number of working years at CDMD ranged between 2 and 16 years, most of them working for more than 5 years. Some of the staff reported that the salary is low and not paid appropriately for the amount of work they do. However, all the staff said that they are happy with their job and understand the efforts made by the management to get funds. The following quote from the participants illustrates that:

"Although salary is less I enjoy my work as I'm helping PWDs."

"We have been working here for so long in this organisation and we are emotionally attached to it. We like the job and the staff are friends to each other. We can't leave this place….

….Management tries to encourage staff by explaining them the problems with funds. The Management tries to keep the old staff even if the budget has been cut off from the funding organisation. Director is trying to obtain funds from other sources."

The management felt that the salary packages are comparable with other international NGOs and that same salary structure is maintained even after the organisation has become a local NGO. Also, it was reported that the staff are always encouraged and given priority when there is a vacant position and outsiders are considered only when nobody meets the required criteria.

The clients appreciated the staff's work and felt that they were very warm and friendly with them. Some quotes are listed below:

"He (fieldworker) is very friendly. Always encourages me and values me like others."

"They are very good. They treat me like their mother."

"They have good heart. They treat me like their own family member"

"They visit to check me regularly….Earlier I used to feel lonely. Now I have the fieldworker and SHG members as my friends."

The quote below is from a staff member at a referral centre:

"The staff is very good to work with. They are very patient and stay till their clients finish the consultation. Sometimes there could be delays with consultations. But still, they wait here. They have very good attitude. They even help the doctors (who come from other countries) with translation. They are always on time. They always give information on time in case any client is unable to make it for the consultation. They are very systematic and organised."

2.3. Infrastructure

The office of CDMD is located in a Pagoda's property in Phnom Penh. In the Phnom Penh area desk space is provided for the Coordinator and the Supervisor which is in the same room where CRC meetings are conducted. They have to share one computer to do the statistics and other reporting and this may cause delays in work sometimes. Fieldworkers who come from other areas reported that they do not have accommodation when they come to attend meetings in the Phnom Penh office.

CDMD has its office in Takeo that has good working space for the Supervisor for that area and has a separate meeting room. A computer is provided for the Supervisor. Rooms for accommodation are also available at Takeo for fieldworkers when they come for meetings. The Takeo office does not have a phone and the staff use their personal mobile phones for communication. All the client records are maintained in the offices of the respective areas.

All the CBR staff commute using their own motor bikes to visit clients. Staff can obtain loans from the organisation to buy their bikes. In some areas they need to use boats or ferries to

cross rivers. They are provided with a transport allowance every month. However, it was reported by some staff that the allowance is not enough, especially, for those who travel in 3-4 districts. It was also reported that due to budget constraints an allowance to travel by boats and ferries is not provided anymore and it is difficult for the fieldworkers to manage.

2.4. Financial Sustainability

The CBR services are currently supported by only one organisation, CBM. It was reported that with the global economic crisis, funds have been reduced by 25-30% and CDMD is looking for other donors to cover the reduced funding. The Management also realises that it is risky to depend only on one donor as CDMD cannot function if CBM withdraws its support as there is no cost recovery system in place.

3. Networks

The needs of PWDs are multi-dimensional and to address all the key-domains of 'universal well-being' the CBR needs to practice a multi-sectoral approach.[11] Networking with government, DPOs, PWDs, their families and the communities in which they live is needed for this kind of approach. This section reports the findings of linkages, referrals, advocacy and involvement of family and community in the CDMD's CBR.

3.1. Linkages

A Memorandum of Understanding (MoU) has been signed between CDMD and MoSVY as it is in case of any NGO working in Cambodia. However, CDMD reports directly to District Social Affairs, Veterans and Youth Rehabilitation (DoSVY) and Commune Councils of respective districts and communes. During the interviews from this study, the Directors of PoSVY felt that a MoU also needs to be prepared between their departments and CDMD as they work more closely with district authorities than MoSVY.

CDMD works with clinical centres such as Takeo Eye Hospital, Eye units of Municipal hospitals, District and Provincial health centres and eye units, Vision Centre of ICEE and COA for eye care services. It also has linkages with several NGOs working with other disabilities mainly for referral services such as Jesuit Services – Ear Programme and Vocational Skills Centre and Maryknoll-Aids Program and Deaf Development Programs to clients with hearing and ear problems; Caritas Child and Adolescent Mental Health (CCAMH) to refer clients with intellectual impairments; vocational centres such as YODIFEE, NCDP and ABC; and with local regular schools and special schools such as Krousar Thmey School for the Blind and LaValla School.

For advocacy and policy making CDMD collaborates with organisations such as Disability Action Council (DAC) and Cambodia Disabled Persons Organisation (CDPO).

3.2. Referrals

Referrals are made for vision problems and also other impairments such as cleft palate, hare-lip, hearing and ear problems, intellectual and physical impairments, and others to the

respective referral centres for medical, educational and vocational rehabilitation. CDMD used to provide transportation for their clients to the referrals centres to ensure compliance. However, recently due to financial limitations transportation is no longer provided.

The positive aspect of the referral system is that the fieldworkers follow-up the clients referred to other services regularly to ensure compliance and also later with the treatment provided. Overall compliance with referrals was good and it was 64% in 2008 and 76% in 2009. This calculation included all types of referrals for the individuals screened by CDMD. Although data on compliance only for people with vision impairment could not be extracted, it could be similar to overall compliance. There was no significant difference between compliance of adults and children with referrals.

Some of the NGOs refer their clients with vision problems to CDMD either to help them to have an eye examination or for CBR.

The problems identified for compliance with referrals from both service providers' and clients' perspectives are:

- Referral centres are too far for the clients
- Difficult to pay for transportation
- Nobody to accompany the clients
- Cannot pay for the services
- Some clients are busy with work and do not want to go to referral centres
- False beliefs that they might become totally blind after surgery
- Lack of knowledge of staff and field supervisors to refer the clients to right places
- Negative attitudes of staff at some referral centres

3.3. Advocacy

Protecting the rights of PWDs and changing community attitudes is an important aspect of the CBR services. Recently, legislation on the rights of PWDs which is a Cambodian version of the United Nation's Convention on the Rights of persons with Disabilities has been approved by the Government of Cambodia. It is in the process of implementation now. It has been developed as a result of advocacy programs, mainly, by CDPO. CDMD collaborates with CDPO and DAC to advocate on disability rights issues and the legislation. CDMD is also collaborating with the government along with other NGOs to develop CBR guidelines for Cambodia.

As mentioned previously, community meetings and school meetings are conducted to improve awareness about disabilities and change the attitudes of the community towards PWDs. Local authorities and key personnel in the community are invited to these meetings to

talk about disability related issues. This not only makes an impact on the community to understand the issues but also gives a sense of responsibility to the leaders for the PWDs in their community.

The only DPO in Cambodia is CDPO which has its main office in Phnom Penh and activities in several provinces. However, none of the clients interviewed in the study were members of DPOs. The WHO recommends CBR programs should have strong collaboration with DPOs who are the voice of PWDs. This is important for advocacy and working for rights of PWDs. The DPOs can work with government and other sectors to promote co-ordination that is required for successful CBR program. Similarly, the CBR can help DPOs to increase their memberships in the community.

3.4. Involvement of Family and Community

Family is usually the first caring for a PWD[12] and it is important to include the family members or at least the primary care-giver in all aspects of rehabilitation. Involvement of neighbours or other community members in rehabilitation is also important to have better acceptance of PWDs in society. Research has shown that including family members had a positive impact on their family relationships and acceptance of the disability as they noticed improvement in several aspects of PWDs.[13]

In this study, 21 out of 59 families interviewed were involved in making rehabilitation plans and also in the rehabilitation of the clients. In some cases neighbours were also involved in training of the clients. The remaining families were not included for reasons listed here:

- the clients could make their own decisions and the family's involvement was not needed,
- family members were busy at work or
- family members felt the fieldworker knows better.

Culturally, the majority of Cambodians are followers of Theravada Buddhism that preaches disability is a result of sin in a past life (concept of 'karma'). A PWD is considered as a misfortune. In such a community it is not surprising to see discrimination of PWDs. However, in this evaluation it was found that the attitudes have been changing towards the PWDs after they are trained by the CBR.

"Some people used to discriminate as they don't know about PWDs. Now they are friends with me."

"Always discriminated me and never valued me. Now people changed after I'm independent."

"There was discrimination earlier but now after the formation of the SHG people treat us well."

Apart from having a Memorandum of Understanding signed between the Government (MoSVY) and CDMD, no other support is provided. Government involvement is essential for effective CBR services as it helps with support through policy and legislation and also ensures strengthening of referral services. Hopefully, with the new approach of CBR (CDC) there could be a sense of ownership by the community leaders on the rehabilitation programs for PWDs. Also, the National CBR committee of Cambodia is preparing guidelines for CBR services in Cambodia that could further help is strengthening the support of the government to CBR services.

4. Outcomes of CBR services

With a systematic follow-up and record-keeping it is easy for CDMD's CBR program to review their clients' progress and outcomes in various aspects of rehabilitation. A check list of activities is used to assess each client before rehabilitation and an individual rehabilitation plan is designed according to the clients' needs. After completing the rehabilitation training, the fieldworkers reassess the clients using the checklist to record their progress. However, the data from the checklist is not entered in the computers so it was not possible to include these results in this evaluation.

The fieldworkers regularly check the progress of the children who attend schools. Similarly they also follow-up the clients provided with economic rehabilitation. All the details on the progress are entered in the respective client's folder. Data could not be obtained to assess how many children attended schools after the CBR. All the clients and family members interviewed acknowledged that the fieldworkers come regularly to check and talk with them if they need further help.

Thirty five (81 %) clients and 52 (88%) family members responded that their needs were met with CBR. The remaining interviewees felt the loans provided were not enough. Some quotes are given below:

"…. met my needs. I'm independent now. But the business is not running well as people come here to borrow from the store and pay back very slowly."

"Services helped me very much. I have completely changed and became independent because of the rehabilitation."

"I'm able to go to Pagoda myself and independent with self-help skills. The living status has been improved with the loans."

"We are helped financially when we were in need. That was very useful and the business could run. I can walk better with mobility cane."

"I didn't have food to eat before CBR helped me. Now I have a house and enough food."

"Not enough money. I would like to have my own business. I have only one cow from the loan."

"It has helped us when we were suffering with no money. Although the money is not enough we feel it was of some help."

When asked about the satisfaction with the services, all participants responded they are very happy with the services provided and thankful to the organisation.

"I'm very satisfied with the services, especially with loans. I felt alone due to blindness. They helped me to live back in the society."

"Thanks to the organisation for providing the services. I got self- confidence and now I make money. The organisation works for inclusion of PWDs in the society. They show us faith that we can perform like anybody else."

"I'm very happy that they came to help us. I'm hopeful about my children's future."

"I'm very much satisfied. Thanks to the organisations for helping him (son). He is smiling and happy. He has his own money now and less dependent on family."

"I'm very happy with the services. It helped to reduce the discrimination in the society."

It is interesting to note that most of the clients responded only about the financial help provided and did not talk about functional independence unless asked specifically. This emphasised that economic rehabilitation is the most important aspect from the clients' perspective. Those who responded that the services did not meet their needs to the full extent also responded that they are very satisfied with whatever services provided so far. As one of the clients said (quote below), it is difficult to satisfy everybody's needs with limited resources.

"We have many needs and all of them cannot be met. I'm satisfied with what I have"

High positive response by the participants about satisfaction and the services could be a cultural issue of being very humble and polite. Also, the clients might have felt insecure (in spite of assuring them of confidentiality) to say anything negative as they may not get whatever services they are getting now in future. However, despite the author's language barrier, it was easy to understand the emotions of the participants in their tone when they talked about how happy they were with the services.

Conclusion

This report presents the findings of the evaluation of the CBR services for people with vision impairment by CDMD in four components of the CERA's framework – services, program management, networks and outcomes of CBR. The strengths and limitations of each component are discussed in different sections.

The major strength of the CDMD's CBR services is that it is one of the few programs to address all components of the WHO CBR matrix and provide a holistic care to improve the quality of life of the clients. The services do not stop with medical and functional

rehabilitation and the clients are rehabilitated and empowered to live independently in the community. Good program management and networking with various sectors are the assets for successful CBR services.

The shortcomings of the program are managing children with vision impairment or other disabilities, limited coverage and financial sustainability.

Following recommendations could be useful in improving the services of CDMD's CBR program:

1. Limited coverage of the services is due to inadequate CBR personnel and funds. This could probably be addressed with the new CDC approach by CDMD where community volunteers are trained in CBR. Collaborating with other CBR services in respective areas and good training of the staff is important to achieve and maintain the quality services.

   Since CDC is a new approach, it is recommended that more time is allocated to planning the initial strategies before implementing multiple training sessions to the staff. This observation is based upon the evidence of health promotion theory that suggests careful designing of the methodology is important to ensure that trainees understand and implement the learning they receive.

2. Planning of a curriculum to train the existing staff and the community volunteers, especially in managing children with disabilities is essential. The curriculum designed for CDC should also be focussing on this. Careful outlining of the curriculum is needed for the community volunteers.

3. Some questions were raised about the reimbursement of transportation costs. It is recommended that an internal review of costs/total miles travelled by each field worker be tracked to estimate the mileage travelled daily for one month. This estimation might help address the issue of transportation costs. This will also help provide an evidence-base for a better informed decision.

4. Collaboration with government and the National CBR committee, local communities including community members, local authorities and religious leaders for CBR workers, assistive devices, travel and other resources will help in long-term sustainability of the program. A collaborative working group might provide the opportunity for further dialogue and exchange of ideas.

5. Collaborations with the DPOs should be made more formal for the CBR program. Encouraging the self-help groups and other clients to be members of DPOs will be useful in empowering the clients. However, it is anticipated that this is a slow process and will take time.

6. A system to monitor outcomes and impact of the services is needed. In the current system, most of the quarterly and annual reports present numbers of clients enrolled in

different services, which makes it difficult to evaluate the services. Instead, reporting percentages and proportions will be more informative. For example, proportion of clients rehabilitated out of total number of clients identified for a given quarter or year will be more informative than only presenting number of clients. This will allow making comparisons between different quarters or years and also having a better understanding of the services to set targets for next year.

7. A database is needed at CDMD to maintain their client statistics. This will reduce the manual workload on the staff while preparing the quarterly and annual reports. CBM Australia has indicated they are willing to assist in this process. However, engaging a local company to set up the database would provide better accessibility for technical assistance.

8. Publications of CDMD's work in peer-reviewed journals will be useful to promote and improve the services. Collaboration with research institutes is recommended. Because of working partnership with CBM Australia, CERA is willing to assist in this process to develop suitable manuscripts. This would be done in consensus between CDMD, CBM Australia and CERA.

9. CDMD is trying to implement the new WHO CBR guidelines in the CDC approach. Since it is a new approach it needs further validation. Documenting the process of learning and implementation of the CDC approach is highly recommended as it is being developed and tested. This is expected to provide a great learning opportunity that can be shared with others.

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Annex 1

Schedule and list of interviews

Number	Date of interview	List of Interviewees	Place
1	16.10.2009	Basic Eye Doctor, Phnom Penh Municipal Referral Hospital	Phnom Penh
2	16.10.2009	Refractionist, Phnom Penh Municipal Referral Hospital	Phnom Penh
3	16.10.2009	Cambodian Optometric Association	Phnom Penh
4	16.10.2009	CDMD-CBR field worker	
5	16.10.2009	CDMD-CBR field worker	
6	19.10.2009	Basic Eye Doctor, Thakmao Eye Unit	Thakmao, Kandal
7	19.10.2009	Pediatrician, Centre for Child and Adolescent Mental Health (CCAMH)	Kandal
8	19.10.2009	Executive Director, YODIFEE	Thakmao, Kandal
9	19.10.2009	Refractionist, vision centre, ICEE	Kandal
10	19.10.2009	CDMD-Field Supervisor	
11	20.10.2009	Country Manager, IRIS	Phnom Penh
12	20.10.2009	Program Manager, Veterans International	Phnom Penh
13	20.10.2009	Senior Program Officer, Disability Action Council (DAC)	Phnom Penh
14	20.10.2009	Director, Rehabilitation Department, MoSVY	Phnom Penh
15	20.10.2009	Program Manager, Maryknoll Deaf Development Program	Phnom Penh
16	21.10.2009	Director-PoSVY, Kandal	Kandal
17	21.10.2009	Director, Krousar Thmey School for the Blind	Phnom Penh
18	21.10.2009	CDMD-Technical and government liaison officer	
19	22.10.2009	Psar Deum Tkov Health Centre	Phnom Penh
20	22.10.2009	IRS Manager, National Centre of Disabled Persons (NCDP)	Phnom Penh
21	22.10.2009	Midwife, Nyema counseling and vocational centre for vulnerable women and children	Phnom Penh
22	22.10.2009	Project Coordinator, JS Ban Teay Preab	Phnom Penh
23	23.10.2009	Client	Kandal
24	23.10.2009	Family Member	Kandal
25	23.10.2009	Client	Kandal
26	23.10.2009	Family Member	Kandal
27	23.10.2009	Client	Kandal
28	23.10.2009	Family Member	Kandal
29	23.10.2009	Family Member	Kandal
30	23.10.2009	Client	Kandal
31	23.10.2009	Family Member	Kandal
32	26.10.2009	Family Member	Kandal
33	26.10.2009	Family Member	Kandal
34	26.10.2009	Client	Kandal
35	26.10.2009	Family Member	Kandal
36	26.10.2009	Client	Kandal
37	26.10.2009	Family Member	Kandal

38	26.10.2009	Client	Kandal
39	26.10.2009	Family Member	Kandal
40	26.10.2009	Client	Kandal
41	26.10.2009	Family Member	Kandal
42	26.10.2009	Family Member	Kandal
43	27.10.2009	Client	Kandal
44	27.10.2009	Family Member	Kandal
45	27.10.2009	Family Member	Kandal
46	27.10.2009	Client	Kandal
47	27.10.2009	Family Member	Kandal
48	27.10.2009	Client	Kandal
49	27.10.2009	Family Member	Kandal
50	27.10.2009	Client	Kandal
51	27.10.2009	Family Member	Kandal
52	28.10.2009	Client	Kandal
53	28.10.2009	Family Member	Kandal
54	28.10.2009	Client	Kandal
55	28.10.2009	Family Member	Kandal
56	28.10.2009	Client	Kandal
57	28.10.2009	Family Member	Kandal
58	28.10.2009	Client	Kandal
59	28.10.2009	Client	Phnom Penh
60	28.10.2009	Family Member	Phnom Penh
61	30.10.2009	Client	Phnom Penh
62	30.10.2009	Family Member	Phnom Penh
63	30.10.2009	Family Member	Phnom Penh
64	30.10.2009	Client	Phnom Penh
65	30.10.2009	Client	Phnom Penh
66	30.10.2009	Family Member	Phnom Penh
67	30.10.2009	Family Member	Phnom Penh
68	30.10.2009	Family Member	Phnom Penh
69	30.10.2009	Family Member	Phnom Penh
70	30.10.2009	Client	Phnom Penh
71	30.10.2009	Family Member	Phnom Penh
72	30.10.2009	Family Member	Phnom Penh
73	30.10.2009	Client	Phnom Penh
74	04.11.2009	CDMD-Field Supervisor	
75	04.11.2009	CDMD-CBR field worker	
76	04.11.2009	CDMD-CBR field worker	
77	04.11.2009	CDMD-CBR field worker	
78	05.11.2009	Director-PoSVY, Takeo	Takeo
79	05.11.2009	Coordinator, OBG	Takeo
80	05.11.2009	Client	Takeo
81	05.11.2009	Family Member	Takeo
82	05.11.2009	Client	Takeo
83	05.11.2009	Family Member	Takeo
84	05.11.2009	Client	Takeo
85	05.11.2009	Family Member	Takeo
86	06.11.2009	Family Member	Kampot
87	06.11.2009	Client	Kampot
88	06.11.2009	Family Member	Kampot

89	06.11.2009	Family Member	Kampot
90	06.11.2009	Director-PoSVY, Kampot	Kampot
91	06.11.2009	Head Nurse, Kampot Eye Unit	Kampot
92	09.11.2009	Client	Kampot
93	09.11.2009	Family Member	Kampot
94	09.11.2009	Family Member	Kampot
95	09.11.2009	Client	Kampot
96	09.11.2009	Family Member	Kampot
97	09.11.2009	Client	Kampot
98	09.11.2009	Family Member	Kampot
99	09.11.2009	Family Member	Kampot
100	09.11.2009	Family Member	Kampot
101	10.11.2009	Client	Takeo
102	10.11.2009	Family Member	Takeo
103	10.11.2009	Client	Takeo
104	10.11.2009	Family Member	Takeo
105	10.11.2009	Family Member	Takeo
106	10.11.2009	Family Member	Takeo
107	10.11.2009	Client	Takeo
108	10.11.2009	Family Member	Takeo
109	10.11.2009	Client	Takeo
110	10.11.2009	Family Member	Takeo
111	11.11.2009	Client	Takeo
112	11.11.2009	Family Member	Takeo
113	11.11.2009	Family Member	Takeo
114	11.11.2009	Client	Takeo
115	11.11.2009	Client	Takeo
116	11.11.2009	Family Member	Takeo
117	11.11.2009	Client	Takeo
118	11.11.2009	Family Member	Takeo
119	11.11.2009	Program Manager, HIB Physical Rehab Centre	Takeo
120	12.11.2009	CDMD-CBR field worker	
121	12.11.2009	CDMD-CBR field worker	
122	12.11.2009	Client	Takeo
123	12.11.2009	Family Member	Takeo
124	12.11.2009	Client	Takeo
125	12.11.2009	Family Member	Takeo
126	12.11.2009	Family Member	Takeo
127	12.11.2009	Family Member	Takeo
128	12.11.2009	Client	Takeo
129	12.11.2009	Family Member	Takeo
130	12.11.2009	Client	Kampot
131	12.11.2009	Family Member	Kampot
132	12.11.2009	Client	Kampot
133	12.11.2009	Family Member	Kampot
134	12.11.2009	Client	Kampot
135	12.11.2009	Family Member	Kampot
136	13.11.2009	Coordinator, Takeo Eye Hospital	Takeo
137	13.11.2009	Refractionist, Takeo Eye Hospital	Takeo
138	13.11.2009	Ophthalmologist, Takeo Eye Hospital	Takeo

139	16.11.2009	Senior Program Officer, Cambodian Disabled People's Organisation (CDPO)	Phnom Penh
140	16.11.2009	Chief-Bureau of Child Welfare, PoSVY	Phnom Penh
141	16.11.2009	Community development staff, Caritas Village Community Development Centre	Phnom Penh
142	17.11.2009	CDMD-CBR field worker	
143	17.11.2009	CDMD-CBR field worker	
144	17.11.2009	Director, Association of Blind in Cambodia	Phnom Penh
145	17.11.2009	Program manager, JS Ear Program	Phnom Penh
146	19.11.2009	Director, CDMD	
147	19.11.2009	CDMD-CBR Coordinator	
148	20.11.2009	Director-Prevention of Blindness	Phnom Penh

Annex 2

Calculation of coverage estimates for CBR services

According to the population estimates for Cambodia in 2008[9]:

Percentage of children (0-14 years) = 33.7%

Percentage of population aged 15-49 years = 53.4%

Percentage of population aged ≥50 years = 12.9%

Table 3. Population estimates by Province

Province	Total	0-14 years (33.7%)	15-49 years (53.4%)	≥50 years (12.9%)
Phnom Penh	1327615	447406	708946	171262
Kandal	1265280	426399	675660	163221
Takeo	844906	284733	451180	108993
Kampot	585850	197431	312844	75575

Coverage of CBR services for Children (aged 0-14 years)

Estimated prevalence of vision impairment (low vision and blindness) in children = **0.3%**

Number of children with vision impairment in Phnom Penh = 0.3% x 447406 = 1342
Number of children with vision impairment in Kandal = 0.3% x 426399 = 1279
Number of children with vision impairment in Phnom Penh area (Phnom Penh and Kandal provinces) = 1342 + 1279 = **2621**

Number of children with vision impairment in Takeo = 0.3% x 284733 = 854
Number of children with vision impairment in Kampot = 0.3% x 197431 = 592
Number of children with vision impairment in Takeo area (Takeo and Kampot provinces) = **1446**

Number of children enrolled in CDMD's CBR in Phnom Penh area in 2008 = 64
Number of children enrolled in CDMD's CBR in Phnom Penh area in 2009 = 63

Number of children enrolled in CDMD's CBR in Takeo area in 2008 = 85
Number of children enrolled in CDMD's CBR in Takeo area in 2009 = 94

Coverage of services in children in Phnom Penh area in 2008 = 64 x 2621/100 = 2.4%
Coverage of services in children in Phnom Penh area in 2009 = 63 x 2621/100 = 2.4%

Coverage of services in children in Takeo area in 2008 = 85 x 1446 = 5.9%
Coverage of services in children in Takeo area in 2009 = 94 x 1446 = 6.5%

Coverage of CBR services for people aged 15-49 years)

Estimated prevalence of vision impairment (low vision and blindness) in people aged 15-49y = **0.3%**

Number of people aged 15-49y with vision impairment in Phnom Penh = 0.3% x 708946 = 2127

Number of people aged 15-49y with vision impairment in Kandal = 0.3% x 675660 = 2027

Number of people aged 15-49y with vision impairment in Phnom Penh area (Phnom Penh and Kandal provinces) = 2127 + 2027 = **4154**

Number of people aged 15-49y with vision impairment in Takeo = 0.3% x 451180 = 1354

Number of people aged 15-49y with vision impairment in Kampot = 0.3% x 312844 = 939

Number of people aged 15-49y with vision impairment in Takeo area (Takeo and Kampot provinces) = 1354 + 939 = **2292**

Number of people aged 15-49y enrolled in CDMD's CBR in Phnom Penh area in 2008 = 304

Number of people aged 15-49y enrolled in CDMD's CBR in Phnom Penh area in 2009 = 235

Number of people aged 15-49y enrolled in CDMD's CBR in Takeo area in 2008 = 306

Number of people aged 15-49y enrolled in CDMD's CBR in Takeo area in 2009 = 354

Coverage of services in people aged 15-49y in Phnom Penh area in 2008 = 304 x 4154/100 = 7.3%

Coverage of services in people aged 15-49y in Phnom Penh area in 2009 = 235 x 4154/100 = 5.7%

Coverage of services in people aged 15-49y in Takeo area in 2008 = 306 x 2292/100 = 13.4%

Coverage of services in people aged 15-49y in Takeo area in 2009 = 354 x 2292/100 = 15.4%

Coverage of CBR services for people aged ≥ 50 years)

Estimated prevalence of vision impairment (low vision and blindness) in people aged ≥50y = **16.8%**

Number of people aged ≥50y with vision impairment in Phnom Penh = 16.8% x 171262 = 28721

Number of people aged ≥50y with vision impairment in Kandal = 16.8% x 163221 = 27372

Number of people aged ≥50y with vision impairment in Phnom Penh area (Phnom Penh and Kandal provinces) = 28721 + 27372 = **56093**

Number of people aged ≥50y with vision impairment in Takeo = 16.8% x 108993 = 18278

Number of people aged ≥50y with vision impairment in Kampot = 16.8% x 75575 = 12674

Number of people aged ≥50y with vision impairment in Takeo area (Takeo and Kampot provinces) = 18278 + 12674 = **30952**

Number of people aged ≥50y enrolled in CDMD's CBR in Phnom Penh area in 2008 = 158

Number of people aged ≥50y enrolled in CDMD's CBR in Phnom Penh area in 2009 = 156

Number of people aged ≥50y enrolled in CDMD's CBR in Takeo area in 2008 = 151

Number of people aged ≥50y enrolled in CDMD's CBR in Takeo area in 2009 = 194

Coverage of services in people aged ≥50y in Phnom Penh area in 2008 = 158 x 56093/100 = 0.3%

Coverage of services in people aged ≥50y in Phnom Penh area in 2009 = 156 x 56093/100 = 0.3%

Coverage of services in people aged ≥50y in Takeo area in 2008 = 151 x 30952/100 = 0.5%
Coverage of services in people aged ≥50y in Takeo area in 2009 = 194 x 30952/100 = 0.6%

Adults ≥15 years

Total number of adults with vision impairment in Phnom Penh area = 60246
Total number of adults with vision impairment in Takeo area = 33244

Number of adults enrolled in CDMD's CBR in Phnom Penh area in 2008 = 462
Number of adults enrolled in CDMD's CBR in Phnom Penh area in 2009 = 391

Number of adults enrolled in CDMD's CBR in Takeo area in 2008 = 457
Number of adults enrolled in CDMD's CBR in Takeo area in 2009 = 548

Coverage of services in adults in Phnom Penh area in 2008 = 462 x 60246/100 = 0.8%
Coverage of services in adults in Phnom Penh area in 2009 = 391 x 60246/100 = 0.7%

Coverage of services in adults in Takeo area in 2008 = 457 x 33244/100 = 1.4%
Coverage of services in adults in Takeo area in 2009 = 548 x 33244/100 = 1.7%

Ratio of CBR workers to population with vision impairment

Number of CBR workers in Phnom Penh area = 9 ~ 10

Number of fieldworkers in Takeo area = 10

Ratio of fieldworker to children with vision impairment in Phnom Penh area for = 1:262

Ratio of fieldworker to adults with vision impairment in Phnom Penh area = 1:6024

Ratio of fieldworker to children with vision impairment in Takeo area = 1:144

Ratio of fieldworker to adults with vision impairment in Takeo area = 1:3324