

**The HDCA's Health & Disability Thematic group**  
12th June 2012

**Invites You to a  
Webinar on:**

**Impact of Community-Based Rehabilitation Programs on  
the Capabilities of Persons with Disabilities:  
Results from India and Uganda**

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Tuesday June 12, 2012, 3pm to 4pm GMT (10am to 11 am EDT), Italy 4pm to 5pm



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# **The objectives of this seminar are two**

- 1) To present IE research on CBR in India and Uganda
- 2) To present qualitative and quantitative impact evaluation methodologies for CBR

# Structure of the presentation

1. Brief introduction to impact evaluation
2. Background: disability models and CBR programs  
Community Based Rehabilitation (CBR)
3. Case study: impact evaluation of a CBR program on PwD in Mandya and Ramanagaram Districts (Karnataka, India)
4. Case study: impact evaluation of a CBR program on PwD in West-Nile (Uganda)
5. General conclusions

# 1. Brief introduction to impact evaluation

- **Two main objectives of IE (standard distinction)**
  - Measuring the impact → quantitative methods
  - Understanding the process → qualitative methods

## Definition of a Mixed-Method based study

*“a study qualifies as adopting a mixed methods approach if qualitative data collection and analysis are explicitly included in the study design”* (White, 2008)

- Integration of methodologies
- confirming/reinforcing, refuting, enriching, explaining the findings
- Merging findings
- **Bridging by closing the distance**

# Brief introduction to impact evaluation

Why IE?

Evidence-Based Policy Making

Provide robust and credible evidence on performance and if program achieved its desired outcomes - overall info

Cause and effect questions → examines outcomes and tries to assess what difference the intervention makes in outcomes

Counterfactual → comparison group

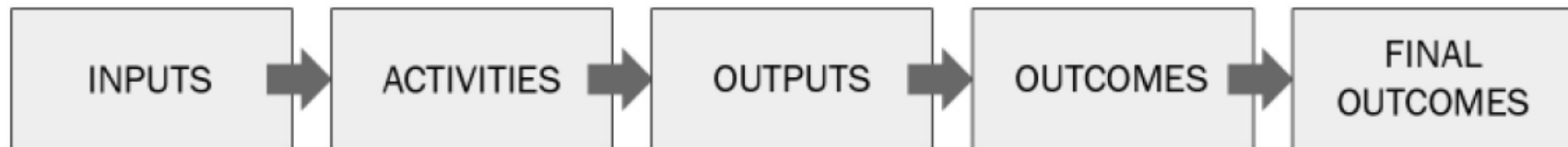
Different modalities of IE: prospective vs retrospective

How to formulate evaluation questions and hypotheses that are useful for policy?

# IE - IMPACT EVALUATION – theory of change

How to formulate evaluation questions and hypotheses that are useful for policy?

This is based on a theory of change, which is a description of how an intervention is supposed to deliver the desired results. It describes the causal logic → cause-and-effect and can be modelled through logic models, logical frameworks and outcome models and with results chains



or by using theoretical models

in our exercise → CBR matrix, the CA and the HR

# **Basic Questions**

**Evaluating the effect of a policy supporting people with disabilities (PWDs)**

- ✓ **WHAT** do we want to measure?
- ✓ **WHO** are the people we want to measure these effects on?
- ✓ **HOW** can we identify the causal effect of the policy defined above?

**The three questions can be considered and defined in a Causal Inference approach**

# Causal Inference and Counterfactuals

*What is the impact or causal effect of a program  $P$  on an outcome of interest  $Y$ ?*

$$\alpha = (Y | P = 1) - (Y | P = 0)$$

basic impact evaluation formula

the causal impact ( $\alpha$ ) of a program ( $P$ ) on an outcome ( $Y$ ) is the difference between the outcome ( $Y$ ) with the program (in other words, when  $P = 1$ ) and the same outcome ( $Y$ ) without the program (that is, when  $P = 0$ )

→ Same individual with and without participation in a program. We can think of this as *what would have happened* if a participant had not participated in the program

→ the second term of the formula ( $Y | P = 0$ ) cannot be directly observed for program participants



A valid **comparison group** follows three conditions:

- a) treatment group and the comparison group must be identical in the absence of the program
- b) the treatment and comparison groups should react to the program in the same way
- c) the treatment and comparison groups cannot be differentially exposed to other interventions during the evaluation period

# **An IE procedure based on mixed methods should**

- be replicable
- be really enforceable
- allow to create a continuous relation between quantitative and qualitative methods**
- allow to triangulate findings achieved through qualitative and quantitative methods**

## **2. Background: disability models and CBR programs**

- Theoretical issue and theory of change
  - Immaterial aspects of Well-being (stigma)
  - community dimension
  - Time dimension
  - theoretical challenge
- **CBR manual, CBR Matrix (WHO et al. 2010)**
- **Capability Approach (Sen, 1999)**
- **CRPD (2006)**
- **Opportunity based theoretical framework**

# Measuring Disabilities

- **A continuum between no-disability and disability – mild, moderate, severe, profound**
- **Context specific disability**
- **Can be temporary, permanent, progressive**
- **Can be associated with a disease**
- **Disabling barriers of disease can be disabilities**

- **Disability: Different models**
  - **Traditional - outside human control, mainly negative**
  - **Medical – something wrong/abnormal/incorrect with the person**
  - **Social – the way society & community is organised, it creates barriers and creates disabilities**
  - **Human rights – all should have the equal opportunities and rights**
  - **Capability approach**

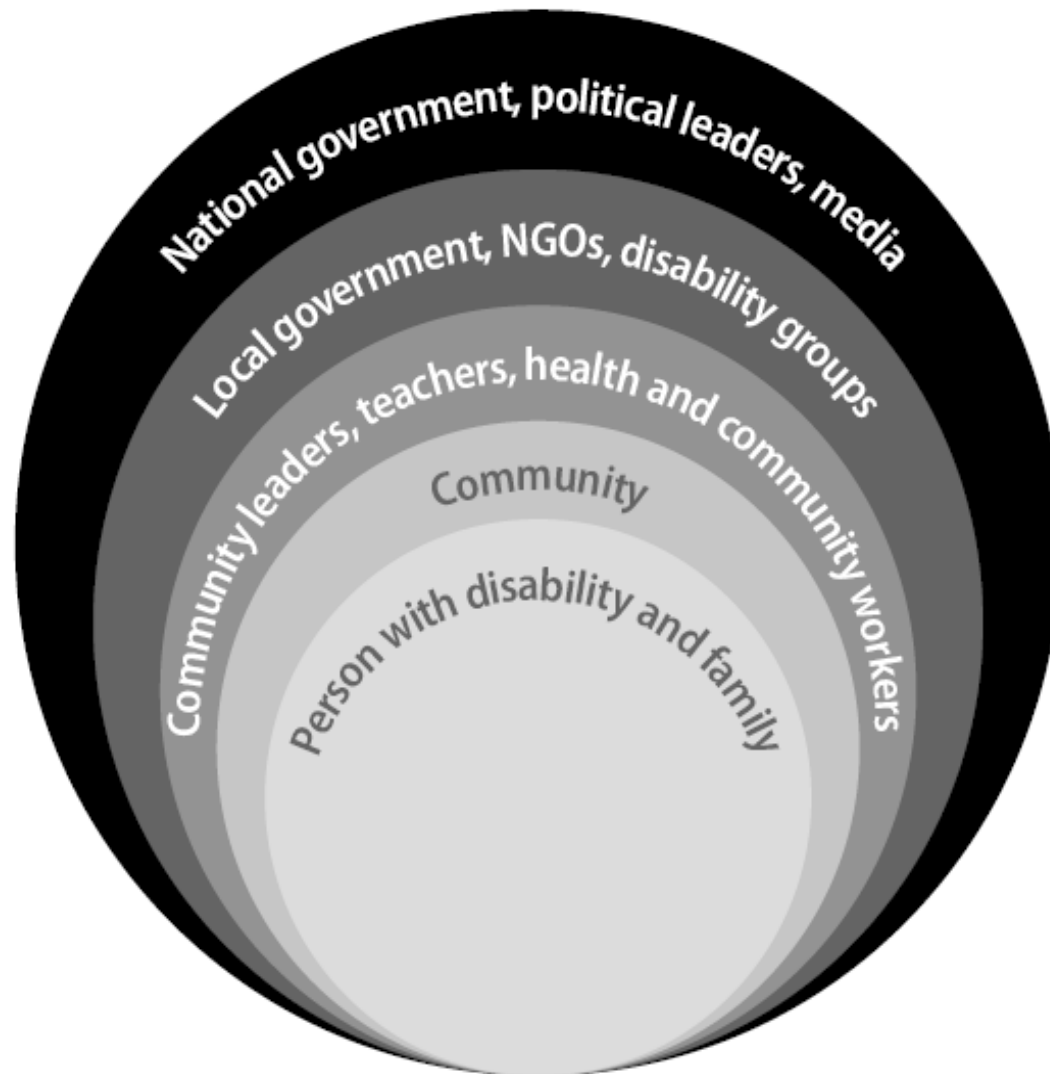
# CBR Programs

- CBR programs are considered fundamental to improve the wellbeing of people with disabilities, and for fostering their participation in the community and society at large (Cornielje, 2009; Sharma, 2007).
  - Inclusive development and
  - Equalization of Opportunities
- CBR programmes are also considered to be the most cost-effective approach to improve the wellbeing of people with disabilities, in comparison with care in hospitals or rehabilitation centres (Mitchell, 1999).
- About the most important areas for measuring impact of CBR projects on their lives: Accessing assistive devices; changes in self-confidence; people call them by their names; greater participation in family discussions and decisions; ability to influence and change services to make them accessible such as shifting of certain government services to ground floor in a building; discussing problems in self-help groups and start to save money;

# CBR literature

- Alavi and Kuper (2010) identify a total of 51 studies evaluating the impact of rehabilitation for people with disabilities in Africa, Asia and Latin America (only two of these studies evaluating CBR programmes or services used a comparison group)
- Considering that this is a worldwide survey of researches and methods, the literature can be considered still limited especially from an overall impact point of view.

# Different stakeholders of a CBR programme

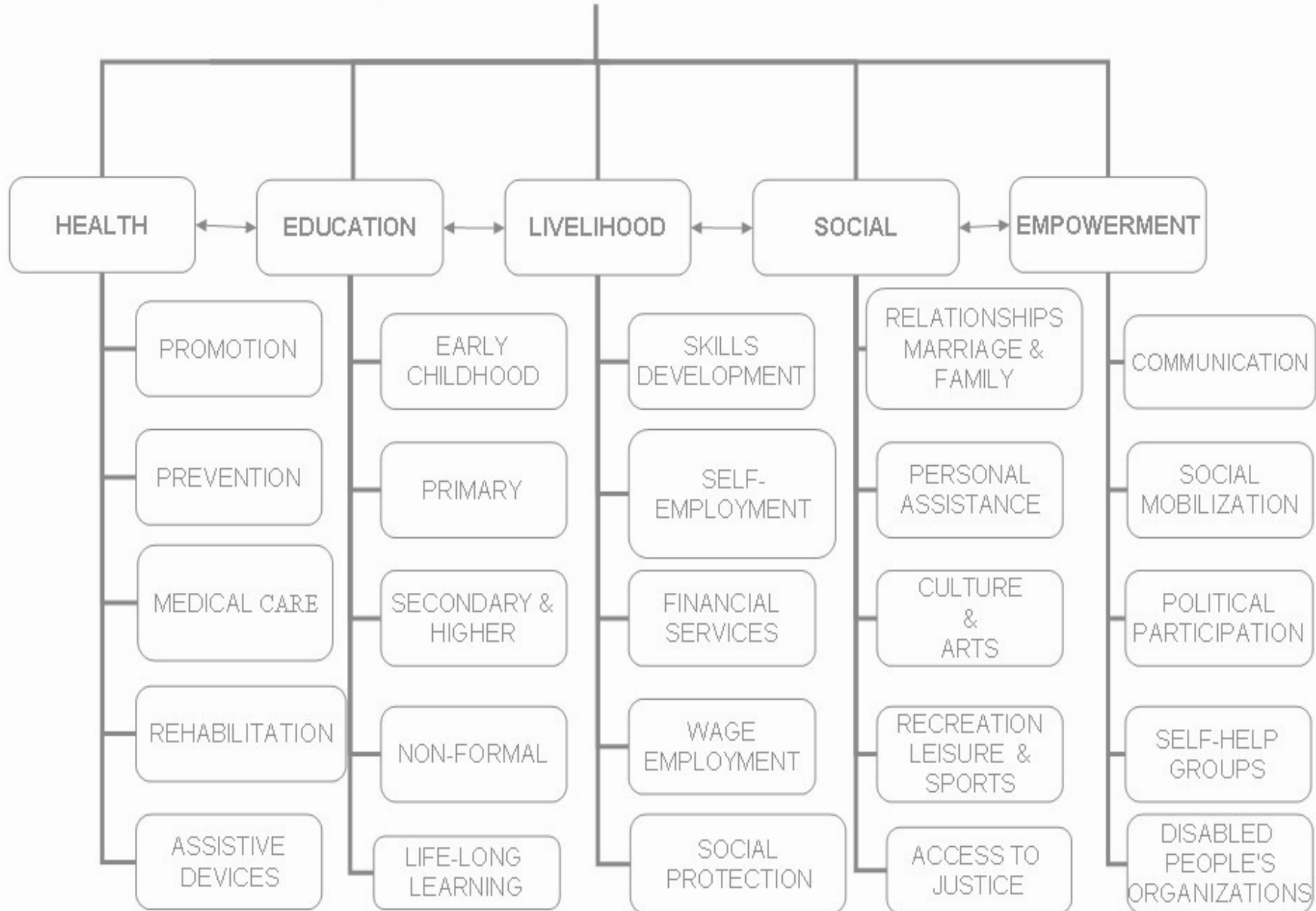


Source: WHO (2010a, p. 42)



# CBR MATRIX

(WHO et al. 2010)



**“CBR programmes are not expected to implement every component and element of the CBR matrix.** Instead the matrix has been designed to allow programs to select options which best meet their local needs, priorities and resources. In addition to implementing specific activities for people with disabilities, CBR programs will need to develop partnerships and alliances with other sectors not covered by CBR programs to ensure that people with disabilities and their family members are able to access the benefits of these sectors” (WHO 2010)

### **3. Case study: impact evaluation of a CBR program on PwD in Mandya and Ramanagaram Districts (Karnataka, India)**

- Desk review

1. Quantitative based on standard information collection instruments including questionnaire, participation scale
2. Qualitative
3. Emancipatory – research decided and conducted by persons with disabilities

## **CBR programmes in Mandya and Ramanagaram districts - Karnataka State, India – AIFO**

The CBR project managed by SRMAB (Sri Raman Maharishi Academy for Blind) called Malavalli Project was initiated in 1997 in 25 villages, now reaches to about 1300 villages spread over 5 *taluks* (sub-districts) with around 11,000 persons with disabilities belonging to all the different groups of disabilities.

The CBR project managed by MOB (Maria Olivia Bonaldo) called Mandya Project was initiated in 1998 in 4 villages, now reaches to 1200 villages spread over 4 sub-districts and reaches about 10,000 persons with disabilities belonging to all the different groups of disabilities.

# Sampling scheme

3 variables chosen for stratification of first stage units:

- ✓ Size of the Village (more/less than 1,000 units)
- ✓ Geographical position
- ✓ Year the CBR started

# **Questionnaire for the Outcome variables**

**Most of the outcome variables (section 4) will be measured at various fixed moments in time (e.g. 2002 – 2006 – 2009)**

**This can seem time-consuming (and probably it is!) but it is very important for at least two purposes:**

- 1) For the relative comparison approach**
- 2) It allows to use the same unit as treated or control depending on the instant considered**

## Impact evaluation through propensity score matching

In this research we assume that people joining and not joining the program can be systematically different, but that we can control for this effect using a set of variables available for both groups. This assumption (namely “unconfoundedness”) requires that all variables (covariates) that could influence both outcome and the probability of participating in the CBR are observed.

Rosenbaum and **Rubin** (1983) developed the “**propensity score**” methodology. The propensity score is defined as the probability of a unit (e.g., a PwD) being assigned to a treatment (e.g. be part of the CBR program) →**the conditional probability, for a PwD, of joining the program**

# Impact evaluation through propensity score matching

## **Vector of observed covariates:**

Age

Gender

Household size

Type of disability

Level of disability

Caste

Level of wealth

## **Vector of observed covariates for community:**

Secondary school, distance to main road, hospital or clinic, size of the village, asphalted road



# Summary table of quantitative results using PSM

Dimension	Question	Variable (Objective Subjective)	2 YEARS	4 YEARS	7 YEARS
Health	9.2	Specialist visit	Not usable	Not usable	Not usable
Health	9.4	Aid appliance	Positive and sign.	Positive and sign.	Positive and sign.
Education	10.1	Education	Not usable, few data	Not usable, few data	Not usable, few data
Education	11.1	Job Training	Positive and sign.	Positive and sign.	significant
Livelihood	11.2	Paid Job	Positive and sign.	Positive and sign.	Positive and sign.
Livelihood	11.4	Pension and allowances	Positive and sign.	Positive and sign.	Positive and sign.
Livelihood	11.5	Loan	Not usable	Not usable	Not usable
Social Inclusion	12.2	Marriage	NO effect	NO effect	NO effect
Health	13.2	Disability Cert.	Positive and sign.	Positive and sign.	Positive and sign.
Livelihood	13.2	Disab id	Positive and sign.	Positive and sign.	Positive and sign.
Immaterial WB	12.1	Friends	Positive and sign.	Positive and sign.	Positive and sign.
Immaterial WB	14.1	Going out without shame	Positive and sign.	Positive and sign.	Positive and sign.
Immaterial WB	14.2	Respected	Positive and sign.	Positive and sign.	Positive and sign.
Empowerment	14.3	Participation in Community	Positive and sign.	Positive and sign.	Positive and sign.
Empowerment	14.4	Participation in Family	Positive and sign.	Positive and sign.	Positive and sign.
Personal practical autonomy	14.5	Clean&Tidy	Positive and sign.	Positive and sign.	Positive and sign.
Immaterial WB	14.6	Leisure	Positive and sign.	Positive and sign.	Positive and sign.
Immaterial WB	14.7	QoL Satisf. Life	Positive and sign.	Positive and sign.	Positive and sign.
Immaterial WB	14.8	QoL Satisf. Health	Positive and sign.	Positive and sign.	Positive and sign.

# Conclusions (India)

Our results show that CBR programs have an overall positive and significant impact on the health, livelihood, social participation and empowerment of participants with disabilities, especially after four years of CBR activities.

Different impact for different disabilities

Since there are still no universally agreed criteria for the evaluation of CBR programmes (Finkenflugel et al., 2007), we propose a technique based methodologically on propensity score matching and theoretically both on the capability approach (Sen, 1999; Nussbaum, 2000) and CBR matrix (developed by WHO: health, education, work, empowerment and social participation, WHO et al 2010).

In a capability approach perspective, this signifies an increase in opportunities for people with disabilities to conduct the life they value which includes dignity, respect and social participation.

## **4. Case study: impact evaluation of a CBR program on PwD in West-Nile (Uganda)**

*Promoted by the Italian well-known NGO Doctors with Africa CUAMM with ASL 7 Siena*

Funding of orthopedic workshops (labs for production of prothesis and orthesis), and purchase of epilepsy drugs  
Training of physiotherapists and community workers assisting people with disability and carrying out communication campaigns

Role of COMBRID (Friends of Disability, i.e. local NGO)

# L'area dell'intervento



# Good Practices in West-Nile

- **Cuamm Doctors with Africa**
- **COMBRID Friends of Disability Local NGO**

Mobile clinics for epilepsy

**Network of  
CBR workers**

**CBR activities**

**Information**

**Fight stigma**



Uganda, West Nile (2011)

# Qualitative methods to explore the potential outcome variables and causes



## In depth interviews

Elena Como interviews Local expert Patrik Pariyo

Causes and conceptualizing the dimensions of the analysis and ranking



Uganda, West Nile (2011)

**Participatory Rural Appraisal**  
**Focus group discussion (FGD),**  
Local expert Ismael Tuku and Mario Biggeri  
Conceptualizing the dimensions of the analysis and ranking, main issues

# **Structured FGD with baseline and comparison group**

- i) Familiarize the participant with the dimensions**
- ii) familiarize with marking**
- iii) validate the dimensions using a benchmark (column)**
- iv) partial ranking of the dimensions (three most relevant)**
- v) validate different opportunities for different characters**
- vi) significance/attribution to the program by dimensions and by characters**
- vii) validate the whole the exercise by commenting it**

Three persons are necessary:

One facilitator, One to note taking, One to help facilitators

Time: from 2 hours to 4 hours depending on the n dimensions





# Conclusions (Uganda)

Our results show that CBR programs have an overall positive and significant impact on the health, livelihood, social participation and empowerment of participants with disabilities

Different impact for different disabilities:

1. High impact for physical disabilities;
2. High impact for visual disabilities;
3. Very low impact for mental disabilities;
4. High impact for epilepsy.

# 5. General conclusions

## FINDINGS

- CBR results were incredible good in India and Uganda in the area covered by the research
- A mixed methods procedure, bridging between the qualitative and the quantitative, allows to create a positive strong and continuous synergy
- The procedure allows to triangulate findings achieved through qualitative and quantitative methods where qualitative methods have a central role for some dimensions and community aspects
- The results of the mixed methods procedure presented here are quite encouraging and replicable for different issues and enforceable in different contexts

# Thanks for your attention !

INDIA: Thanks to AIFO, AIFO India, SRMAB and MOB NGOs (India)  
We acknowledge that the research in India was sponsored by AIFO through international donors and involved many researchers and institutions without which we could even start to think to conduct this study in India.

We are extremely grateful for the research in India to Sunil Deepak (general coordinator), Vincenzo Mauro (main statistician), Jean-Francois Trani (main trainer), Jayanth Kumar Y. B., Parthipan Ramasamy, Parul Bakhshi and Ramesh Giryappa and to many other persons including first of all the stakeholders but also many international and local institutions

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**A special thanks to all the people with disabilities from rural villages who helped us in the field research!**