Is Community-based Rehabilitation inclusive?
An intersectionality analysis of the impact of CBR on the well-being of children and the youth in Karnataka

Mario Biggeri[*], Caterina Arciprete[†], Vincenzo Mauro[‡]

1 Introduction

Childhood is a critical period: critical not only for individual children's development, but for achieving social justice and for the prosperities of the societies (Woodhead et al. 2014). Programs designed to children (from very young children to youth) are found to influence actual and future dimensions such as well-being, obesity/stunting, mental health, heart disease, competence in literacy and numeracy, criminality and economic participation (Marmot and Wadsworth, 1997; Blau and Currie, 2006; Boocock, 1995; Engle et al., 2007; Heckman and Masterov, 2007; Camilli et al. 2010; Nores and Barnett, 2010; Barnett, 2011; Sayre et al. 2015). More broadly, programs targeting the youth can help them to fulfill their full potential, to flourish and to take control over their lives (The Marmot Report, 2010). Thus, tackling childhood deprivations is critical for creating the bases for equality of opportunities and for reducing intergenerational transmission of poverty (Irvin et al. 2007; Biggeri and Mehrotra, 2011; Conti and Heckman, 2012; Brunori et al. 2013; Sayre et al. 2015).

Among the children and the youth worldwide, children and youth with disabilities in developing countries are the most disadvantaged facing poor access to resources and services and societal and self-stigma (WHO and WB, 2011). Due to intersection between physical or mental impairments, poverty, societal barriers, religious and cultural beliefs and practices, they are likely to be segregated, isolated and denied the opportunity to have access to education and to participate to social life (Huper et al. 2014; Trani et al. 2011b; Ehrmann et al. 1995). Therefore, there is an economic, equity and ethical argument for investing in the well-being of boys and girls with disabilities (Heckman, 2006; Stabile and Allin, 2012; WHO 2012; Harris-White, 1996). As stated in the article 26 of the Convention of the Right of Persons with Disabilities (CRPD) such an investment should be at the earliest possible stage and should enable them to attain maximum independence and participation (CRPD, 2006).

Community-based Rehabilitation (CBR) is considered an effective approach in low and middle income countries[1] of promoting the rights and opportunities of person with disabilities (ILO et al. 2004; Hartley et al 2009; WHO, 2010; Mauro et al; 2014) including their participation in the community

---

[*] Department of Economics and Management, University of Florence

[†] ARCO - Action Research for Co-Development

[‡] Department of Economics and Management,University of Florence

[1] Around hundred countries are currently implementing CBR programs (WHO, 2010; WHO and WB, 2011).

(Sharma, 2007; Biggeri et al. 2013). Nowadays, CBR programs are adopted in many countries and impact evaluations certifying CBR's positive impact on the persons with disabilities have mushroomed in the last decade (see Grandisson et al. 2014 for a review). However, while there are increasing evidences over the impact of CBR on persons with disabilities, there is very limited research on the impact of CBR interventions on children with disabilities well-being using control-case studies (Alavi and Kuper 2010; WHO and WB, 2011) and even less quantitative research on how the impact is mediated by gender, ethnic group, class, age, and other salient identities. This would clarify the level of inclusiveness of the CBR and could hold very relevant policy implications. In India, the shift from professional, institutional carers to CBR programs has been exemplary (Murthy, 1991; O'Keefe, 2009) and vital to address the social problem of the high and increasing[2] number of persons with disabilities who are segmented in a large territory especially in rural areas (Census, 2011). In this large country, social identities, such as caste and gender permeate every aspect of the life of the individuals. Thus, an inquiry over the impact of a CBR program in India would not give a full picture without trying to answer the following questions: is the impact of CBR positive also in the case of well-beings of children and youths? Is CBR's impact diversified according to gender, caste and severity of disability? For instance, is CBR effective in tackling the deprivations of girls from low caste? Is CBR effective in reducing the social distance among the most disadvantaged and the least deprived?

The capability approach offers a general theoretical framework for disability studies that encompasses the social model and the CRPD (see also Burchardt, 2004; Terzi, 2005; Mitra, 2006; Trani et al. 2011a, Trani et al. 2011b; Barbuto et al. 2011), while the intersectionality perspective (as described in paper 1 and paper 2 of the thesis) offers an expansion of the social model by accounting for the impact of social identities on the capability deprivation.

The aim of this paper is to try to contribute to explore these questions and, in particular, the impact of CBR program on the well-being of children and youth with disabilities with different identities from a capability approach and intersectional perspective.

The case study analysed here uses the data from a large scale CBR program in two districts of Karnataka State in India collected in 2009/2012. The research was part of a larger research project directed by Sunil Deepak as a joint research initiative between WHO and AIFO. A multilevel analysis accounting for village effects is adopted (Mauro et al. 2015; Francavilla et al., 2013).

The paper is divided into ten sections. In the second section of the paper, the interpretative framework is introduced. In the third section the relation between gender, disability and caste in India is analysed. In the fourth section CBR programs are discussed. Section 5 introduces the case study; Section 6 describes the empirical strategy; Section 7 presents the results of the impact evaluation, while section 8 presents the findings on inclusiveness. Final remarks are given at the end.

---

[2] India Census 2011 shows an increase in the percentage of persons with disabilities from 2001.

2 Interpretative Framework

According to the capability approach (CA), children are much more than future adults as they are already social actors before they become adults (Biggeri et al. 2011a, 2011b; Hart et al. 2014). In other words, the CA considers children as individuals itself, but, nonetheless, it recognises that the capabilities experienced during childhood crucially affects children's capabilities as adults. As stated by Sen (1999b:4) the "... capabilities that adults enjoy are deeply conditional on their experience as children". Furthermore, deprivation of basic capabilities during childhood not only reduces the well-being of those suffering from them, but may have larger societal implications (Klasen, 2001).

Applying the CA to children is not easy (Sen, 1997) as it requires a dramatic shift in the way children are perceived: considering children as subjects of capabilities means that we consider them endowed with agency and autonomy, able to express (according to their maturity and age - Lansdown, 2005) their points of view, values and priorities aspiration (Biggeri et al. 2011a; Hart et al., 2014). Thus, from the point of view of this approach, programs targeting children and youth should provide opportunities, emotional support, safety and encouragement. In this way, the CA captures the multidimensional nature of child development and the interconnectedness of children's capabilities (Dixon and Nussbaum, 2006; Di Tommaso, 2007; Wolff and de-Shalit, 2007; Addabbo et al. 2014).

Children have evolving capabilities (Ballet et al. 2011). The notion of "evolving capabilities" recognizes that the opportunity to exercise self-determination and autonomy evolves continuously and it is critical in the process of capability expansion beginning from childhood. Their ability to convert resources into capabilities depends on individual and social conversion factors (Sen, 1985; 2009), which act mainly through the education system (Otto and Ziegler, 2011), and on their parents' or caregivers' capabilities and agency. This process is dynamic with important feedback loops that are going to determine life trajectories.

Conversion factors at individual, family, and community level produce material and immaterial barriers to the opportunity to functioning. Among the conversion factors, gender and disability influence the opportunities to function in a complex way since childhood (Addabbo, 2012; Addabbo et al. 2014). In particular, children and youth with disabilities need specific types and amounts of inputs and conversion factors (including policies, resources, changes in social norms or infrastructure) to achieve the same levels of well-being of children without disabilities (Sen, 1992; Mitra, 2006; Trani et al., 2011b; CRPD, Art. 7). The CA is able to capture the "production function of wellbeing" and how it is influenced by inputs or means to achieve and by individual, social and environmental conversion factors. Following Sen (1985) and Kuklys (2005) the level of potential wellbeing Qi can be represented by the following expression [1]:

$$Q_i(X)_i = \{b_i | b_i = f(c(x_i | z_i, z_s, z_e\}$$

Where:

Q_i is the capability set comprising all potential functioning an individual can achieve

$(X)_i$ is a vector of market and non-market goods and services

b is a vector of states of being and doing (functionings)

c is a function that maps commodities into characteristics

f_i is a conversion factors function that maps commodities into functionings

z_i are personal conversion factors

z_s are social conversion factors

z_e are environmental conversion factors

Therefore, the individual wellbeing can be captured by the vector (b) of activities and states of beings [2]:

$$b = f[c(X|z_i, z_s, z_e))]$$

and depends to the means to achieve X available to that person (e.g. income, ...), to the societal and environmental conversion factors at the local level z_e and z_e and to the individual conversion factors z_i (Sen,1985).

This functional relationship albeit applied to standard of living rather than to capability set has been explored by Zaidi and Burchardt (2015). Figure 1 below describes the relation between income and standard of living[3] of two households that are equal in every aspect (x, z_e, z_s), except one household contains a member with disability (i.e. they differ only by z_e).

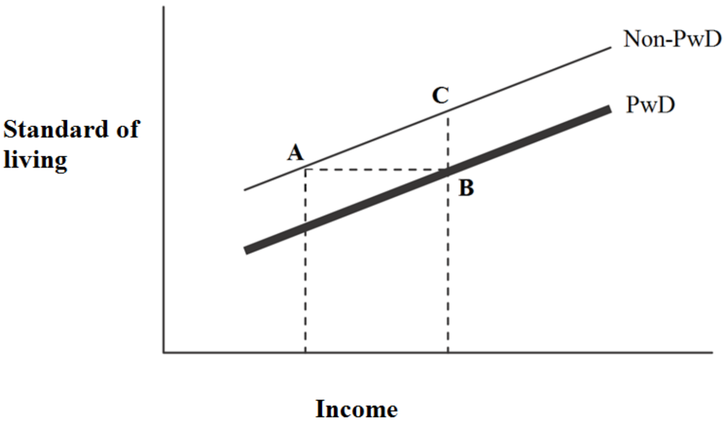

Figure 1: Standard of Living, Income and Disability. *Source: Zaidi and Burchardt (2005:95)*

In figure 1 the standard of living is assumed to rise with income for both the households, however, given the same income, household with greater needs (one containing a member with disability) has

---

[3] The standard of living can be defined as the level of material comfort experienced by an individual or a household. It means that income is not enough to measure one's standard of living as (i) different people may have different abilities to convert income into living standards and (ii) the standard of living is influenced by other factors such as access to public goods (Zaidi and Burchardt, 2005; see also Clark, 2009).

lower standard of living. Conversely, the same standard of living can be achieved by the household with greater needs if it also has a higher income. The difference between these two levels of standard of living gives an estimate of the extra costs of disability[4] (Zaidi and Burchardt, 2005).

Zaidi and Buchardt (2005), by identifying and accounting for extra costs of disability get closer to the operationalization of Sen's capability approach, however, there are some additional elements that are relevant to include when analyzing the wellbeing of boys and girls with disabilities.

First, we need to assume that wellbeing is multidimensional (Sen, 1999; Menon et al. 2014); then, we need to account that the "conversion function" might differ not only by individuals, but also by dimensions, thus each dimension must be considered separately [5]. Finally, we need to account for the fact that disability is only one marker, but other markers of identity (such as gender and caste) can likewise be important to qualify and quantify the extra-needs at the individual level (Biggeri et al. 2016, forthcoming).

Thus, drawing on Zaidi and Burchardt's framework and on Sen (1985) and Kuklys (2005) formalization, we introduce the following elements. First, we shift the unit of evaluation from the household standard of living to the individual wellbeing; second, we consider as outcome the multidimensional wellbeing but we consider each dimension of wellbeing separately; third, we assume that the child is characterized by multiple identities (gender, having a disability or not, caste) each influencing the conversion function. In order to understand how multiple identities shape the conversion functions, we draw on intersectional studies (see paper 1 and paper 2 of the thesis). These studies first posit that the dimensions of social stratifications (such as gender and disability) are mutually defining and thus should be analysed in intersecting rather than in additive terms (Mullings and Schulz, 2006).

Thus, we cannot look at disability regardless of gender and vice versa. Further, this approach shows that the condition of those that belong to two or more disadvantaged groups (such as being a girl and having a disability) should not be ex ante interpreted as a double burden but this should always be object of close scrutiny.

We depict below the relation between means to achieve and wellbeing for one dimension for three individuals: a boy without disability, a girls without disability and a girl with disability, controlling for all the other characteristics. First, we show the representation that follows the standard approach to gender and disability (Addlakha, 2008) based on the assumption that the intersection between two disadvantaged identities gives rise to a double loss.

---

[4] Zaidi and Buchardt (2005) estimate the extra-costs of living that people and their household incur as a result of their disability using the equivalence scale approach. However, as recognized by the authors, "it does not reflect any loss in subjective wellbeing as a direct result of bing disabled. The estimates also do not include opportunity costs - loss of personal earnings, or earnings foregone by friends and relatives in providing unpaid care; household income level is treated as exogenous" (Zaidi and Burchardt, 2005:94)

[5] by calculating the aggregate measure of wellbeing (being it "standard of living" or "capability set") we are implicitly assuming that the conversion function is constant for each dimension, however, this might not always be the case . For example , having a disability is likely to negatively influences some dimension such as being respected by the community, but not others (such as being loved and cared by the family)

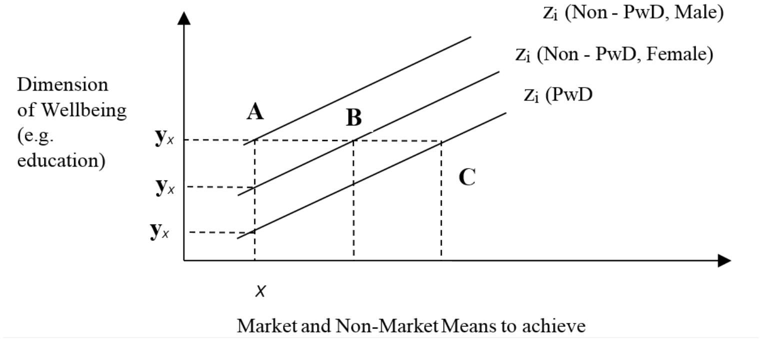

Figure 2: Well-being, Means to Achieve, Conversion Factors: Standard Intersectional Approach. *Source: Author's Elaboration*

Figure 2 above shows three parallel straight lines. The upper one indicates the functional form for the able bodied boy, the central line represents the functional form for the able bodied girl, and the lowest one represents the functional form for the girl with disability. The figure shows that individuals with same means to achieve but different individual characteristics enjoy different level of wellbeing. In this case, to achieve the same level of wellbeing (y), a boy with disability needs (B-A) additional resources, while a woman with disability, need (B-A) multiplied for 2 additional resources.
Figure 3 below shows the functional form according to the intersectional approach.

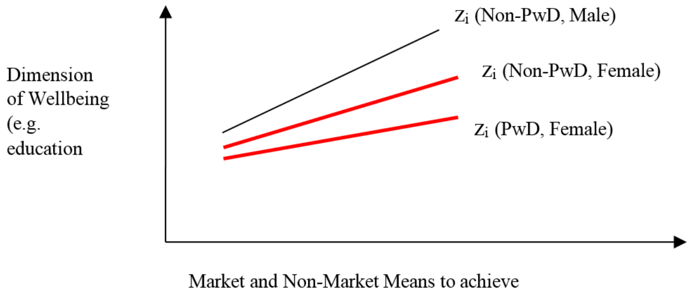

Figure 3: Well-being, Means to Achieve, Conversion Factors: Non Standard Intersectional Approach. *Source: Author's Elaboration*

Figure 3 assumes that being a girl with disability implies a reduction of wellbeing, but does not entails a double loss, thus the lines are not parallel. Drawing on the literature on intersectionality (see paper 1 and paper 2 of the thesis) we assume that the functional form of the woman with disability is flatter, meaning that the differences exacerbates as the level of means to achieve is higher. We also assume that the function form is not constant across dimension, thus while in some dimensions gender and disability alter substantially the functional form, in some others (such as in the opportunity to live in a clean environment) disability and gender do not influence massively the capabilities. Finally, we assume that the functional form is not constant throughout age, with gender becoming particularly salient during adolescence, and disability being salient in childhood and decreasing its salience in adulthood.

3 Gender, Caste, Disability in India

In the last decades, the conceptualization of disability as object of medical intervention and rehabilitation was gradually abandoned in favour of the "social model of disability". This model locates disability in the social and economic structure of the society rather than in the body of the individual (Addlakha, 2008; Shakespeare and Watson, 2002; Oliver, 1996; Nagi, 1991). As a consequence, policies must prioritize the abolishment of the barriers that cause these people to be disadvantaged. Nowadays, the social model of disability together with the International Classification of Functionings (ICF) are very well acknowledged both in academic studies and in the Convention on the Rights of the Person with Disabilities (UNCRPD, 2006). The capability approach to disability (Terzi, 2005; Mitra, 2006; Trani et al. 2011b; Biggeri et al. 2011c) is compatible with both the social model of disability, ICF, and human rights approach. With respect to these, the CA has the advantage to include choice and personal goals (Mitra, 2014).

It is important to point out that the social meaning of disability is still dependent on attitudes based on "traditions" varying from culture to culture, from rural to urban areas, from communities to communities with persons with disabilities experiencing very different level of material and immaterial barriers.

In India, the social meaning of disability differs substantially by community, religion, rural and urban areas, cohort and so forth. In terms of religion, in Hindu scriptures human sufferings can be understood through the theory of Karma, that is if one has committed misdeeds in the previous births, one has to inevitably bear the consequences. Belief in the theory of Karma has very often led to a ready acceptance of disability, with little effort in the direction of improving the life conditions (Dalal, 2002). However, in India a multitude of culture and tradition coexist and the other predominant view is the notion that God inflicts suffering on good people to test their strengths (Dalal, 2002). In this case, persons with disabilities are treated with love and care.

The definition of disability varies also across urban and rural areas where in the former people are more likely to rely on the western understanding and in the second people tend to see impairments in terms of religious punishment (or reward) (Lang, 2001).

Finally, the notion of disability also varies across communities. The Erb and Harris-White (1996) study, for example, found that in rural India the ability of a person to be engaged in gainful employment determined whether an individual was deemed to be disabled or not. Having said this, persons with disabilities do not represent a homogenous group: they are clearly stratified in terms of severity of disability, gender, caste, religion, location, class (O'Keefe, 2009; Harris White, 1996; Mehrotra, 2006; Pal, 2010). Very little work is available on the intersection between class, caste, gender and disability. In terms of the intersection between class and disability, disability is clearly both a cause and a consequence of poverty (Braithwaite and Mont, 2008, Barron and Ncube, 2010, Yeo and More, 2013).

Class and disability reinforce each other: poverty can cause disability through malnutrition, exposure to disabling disease, inaccessibility of health care system, while disability increases vulnerability and poverty by making it difficult for persons with disabilities to be employed. Obviously, this depends on the relation between the type of disability and the type of work. For example, physical disabilities can be extremely disruptive in predominant rural areas where individuals are largely engaged as agricultural labour in unskilled jobs. Generally, disability pertaining to men is responsible for a much greater degree of economic loss as compared to disability of women, who often do not engage in external economic activity in the first place (Chowdhury, 2006).

In terms of caste, due to the high level of overlap between caste and class, the percentage of persons with disabilities among the scheduled castes and the scheduled tribes is higher than it is in other castes and in these communities economic hardships are mainly found to be working against the survival of the girl child with disability (Mehrotra, 2008).

The intersection between disability and gender is quite complex, and it is not much investigated. While Dalit women, women workers, have been widely recognized as marginalised groups, women with disabilities are only now being recognised as a distinct marginal category (Addlakha, 2008).

The complex interplay between disability and gender starts from the recognition of the disability itself. Indeed, in order to be socially recognized as disabled, women need to have a higher level of severity of disability. The reason is that women tend to perform domestic duties regardless of the disability, thus being the notion of disability strictly connected with the capability to work, women consider themselves to be disabled at a later stage of impairment compared to men (Erb and Harris-White 1996; Lang, 2001; Chowdhury, 2006). This partly explains why in many surveys (including Census, 2011) men with disabilities tend to outnumber women with disabilities.

Having said this, women with disabilities are characterised by high level of marginalization and isolation. Indeed, their plight is worse than that of men with disabilities and of non -disabled women (Addlakha, 2008). In the social hierarchy it is not unlikely that – given the same social class - a man with disabilities is on higher position than a girl without disability. Not surprisingly, mentally impaired men are assigned tasks that usually pertain to the women. Thus, a male with reduced mental faculty is supposed to be able to perform the tasks of a woman (Mehrotra, 2008).

Disability affects women more acutely because of the impact on two main aspects which are critical for social reputation in India: marriage and employment. As it was said before, being employed is a critical factor because it determines whether they are recognized as disabled or not. In Indian context, especially in rural areas, employment is mediated by gender and caste/class and also by religious ideologies. In upper caste families, women are expected to be engaged in domestic work, whereas in poor Dalit families women have always worked outside. Women with disabilities are found to remain domestic active, regardless of the disability. Women with moderate disabilities are no exception here as they continue to work, especially Dalit women. Main reason is that, especially for poor and low caste the capacity to work is a key factor for marriage, thus a disabled girl is initiated into all of a woman's traditional responsibilities, to the maximum extent possible (Mehrotra, 2013).

Women with disabilities have much lower chance to work than men with disabilities and if they work, they are likely to earn less than their counterparts. Moreover, since the breadwinner is usually the man, younger earning members are likely to spend their wages on the treatments of the “superior breadwinner”, that is patriarch (Chowdhury, 2006).

A woman’s future is still deeply dependent on marriage agreements. Men with disabilities are more likely to be married than women with disabilities (Lang, 2001; Pal, 2010; World Bank, 2007; WHO, 2011, Mehrotra, 2013). Women with disabilities are more likely to remain unmarried or to marry a disabled man, a widower, a lower caste man, a lower class man (Mehrotra, 2008). Chowdhury (2006) finds that marriage is perceived in different way by man and women with disabilities. While women are worried that they are be unable to cope with the responsibilities of the marriage, especially regarding childbirth, men are much more confident that they can find a woman that would take care of him. Indeed, due to gender roles in the couple, a woman with a physical impairment is considered as “useless”, helpless, unable to care for her family, and unable to contribute to family’s economy (Thomas and Thomas, 2003). This explains why the dowry for women with disabilities as well as the rate of abandonment and divorce of women with disabilities is substantially higher than in other cases.

Finally, the impact of disability changes across ages. In childhood, they might encounter difficulties in being accepted within their families and are likely to experience further isolation, both in lower and upper class/caste families (Lang, 2001). Children with disabilities are more likely to be out of school. Only few of them complete primary education. This clearly has an impact on present and future opportunities. Indeed, being excluded from education results in their inability to access some significant opportunities for further development and for involvement in other income generating activities (Singal et al. 2011; Singal and Jeffrey, 2009), and being isolated and often ostracized, children with disabilities internalize such perceptions undermining their potentialities and self-esteem (Addlakha, 2008).

When they grow up, adolescent girls are the most vulnerable ones, because they are socialised in traditional gender roles and all the possible responsibilities. According to Mehrotra (2008: 46) “No special care is extended in terms of their specific physical/mental disability. Rural society does not perceive disabled people as people with any special requirements. This is truer in the case of women. Their traditional gender roles as worker and reproducer are strictly enforced, as in the case of any non-disabled woman”. After the marriage she is put to work (this being the most demanding phase of her life) and the conditions of living only improve when the family expands and she can count on the help from sons, daughters, daughters-in-law and grand-children.

4 The Community-Based Rehabilitation Programs

In the last two decades, Community-Based Rehabilitation (CBR) has been promoted as the most viable and practical solution for the massive problem of disability in India (Dalal, 2002; O’Keefe, 2009). CBR programs are based on the principles of the UNCRPD as well as on individual and social empowerment that embrace self-advocacy and sustainability (WHO et al., 2011). The CBR strategy "promotes the rights of people with disabilities to live as equal citizens within the community, to enjoy health and well-being, to participate fully in educational, social, cultural, religious, economic and political activities" (WHO et al. 2011, p.4).

CBR programs recognize that persons with disabilities "have a higher likelihood of experiencing poverty because of the institutional, environmental and attitudinal discrimination faced, from birth or the moment of disablement onward" (Yeo and More, 2013: 572).

CBR programs are usually designed following the WHO guidelines (WHO et al., 2011) and taking into account both the context and the funds available as well as the priorities in the communities. All the actions are expected to have an impact on the multiple dimensions that compose the quality of life of persons with disabilities. All the aspects are linked to CRPD and to human capabilities (Sen, 1999; Nussbaum, 2003; Mitra, 2006; Deepak, Biggeri, Mauro, Kumar, and Griffo, 2013). For instance, the possibility of 'appearing in public without shame' is one of the most relevant capabilities according to Sen (1984; 2000).

The matrix below gives an overall visual representation of CBR, indicating the topic areas which can make up a CBR strategy.

CBR programs envisage a social environment in which a community shows awareness and sensitivity to the special needs of its disabled members and feels responsible to bring about the desired changes (Dalal, 2002). Thus, by participating to collective actions individuals have an influence on the capability set of the community as a whole (Trani et al 2011b).

The CBR approach assumes that persons with disabilities are able to work together and that developing community support and participation in the rehabilitation process is essential for effective rehabilitation. To achieve this, community and CBR workers need a good understanding of the community and its potential (WHO, 2007).

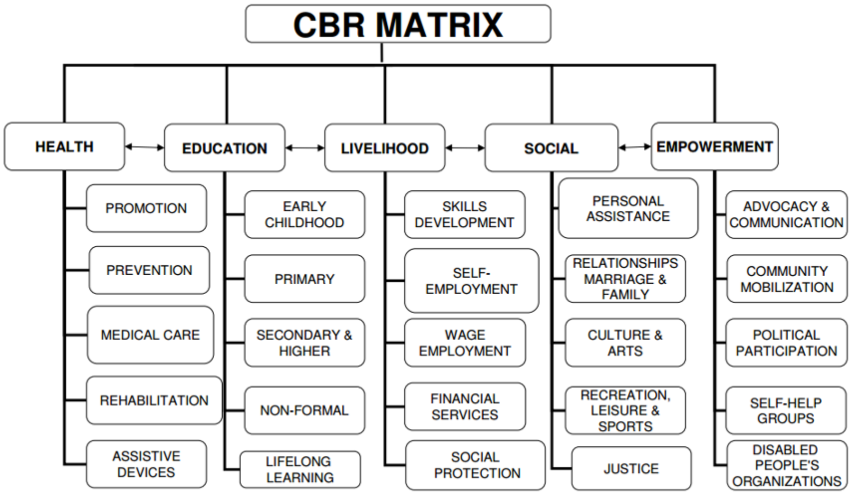

Figure 4: CBR Matrix. *Source: WHO, ILO, UNESCO, and IDDC, 2011*

As it was discussed in the last section, religion, family, and caste continue to pervade every sphere of life and many of the disadvantages faced by women with disabilities are related to the traditional social and cultural beliefs and practices. Thus, whether CBR succeeds in being gender inclusive depends on its capacity to address some of the complex cultural, economic and social factors, especially those that are related to expectations from traditional gender roles (Thomas and Thomas, 2003). So far, evidences show that this is not always the case. CBR programs are rarely built on cultural strengths of the community (Dalal, 2002) and they do not usually comprehend strategies that are tailored to address the unique disadvantage women face (Thomas and Thomas, 2003).

5 The Case Study

Our case study is a CBR program supported by the Italian Association Amici di Raoul Follereau (AIFO) in the State of Karnataka (India). This programme started in 1997 and, by 2010, had reached a total of 2,045 villages in the districts of Mandya and Ramanagaram, including approximately 22,000 persons with disabilities.

This program is administered in the Mandya and Ramanagaram districts by two partner organizations: MOB (Maria Olivia Bonaldo), and SRMAB (Sri Raman Maharishi Academy for Blind). The CBR activities include: home visits, health awareness, therapy services, referral services, aid/appliance support, assistance for benefits (pension and allowances), assistance for school, educational benefits, non-formal education, school based awareness, support for inclusive education, sports/cultural events, celebration events, legal support, support for marriage, promoting in community events, assistance for social activities, support for loans, support for income activities, support for job, advice for savings, the promotion of Self-Help Groups (SHGs), the promotion of persons with disabilities organization, and the promotion of HR activities (amongst other things).

Biggeri et al. 2012 and Mauro et al. 2015 have explored the impact of this program on the well-being of persons with disabilities. They found that the program has a positive impact on the treated. However, the authors did not evaluate the impact of the CBR activities on the well-being of people with specific characteristics in terms of the nature of their disability, gender, age and caste. By building on their work, this paper attempts to expand the knowledge about the impact of the CBR program, first of all by investigating whether the program is effective in improving the conditions of children and the youth and secondly by investigating whether the program is inclusive in terms of gender, caste and severity of disability.

6 The data and estimation method

The research was part of a larger research programme directed by Sunil Deepak as a joint work between AIFO and WHO/DAR [6].

---

[6] The research programme lasted three years with Mario Biggeri as scientific director of the quantitative research. The research was approved by the Ethical Committee of AIFO and complied with AIFO's ethical guidelines. Ethical

In terms of survey design, questions were designed in order to capture the level of opportunity deprivation suffered by people with disabilities, rather than capturing the lack of achievements. For example, they were asked about their opportunity to participate to political life rather than whether they voted at the political elections or not. The core idea was that persons with disabilities and persons without disability differ in their opportunities to achieve what they value, and it is the deprivation of the opportunity that should be the target of the policies.

In terms of data analysis, following the CRPD and the CA a multidimensional understanding of well-being was adopted accounting for the fact that individuals – including children – value different aspects, ranging from having economic capacity, to participate to the activities of the communities.

6.1 Sample

The analysis is based on a stratified random sample of villages of the districts covered by the intervention (Mandya and Ramanagaram). As almost no communities refused CBR, the intervention covered nearly all the villages of the two districts so that selection bias at the village level is expected to be negligible. For control purposes, a few villages with similar characteristics were randomly sampled from a neighboring district (Mysore) not covered by the CBR program.

Persons with disabilities were selected using a one-stage cluster sample design with villages as primary sampling units. Villages were stratified according to three variables: the geographical area at sub-district level (taluk), the size of the village (above or below 1,000 inhabitants), and the starting year of the CBR program (in covered areas only).

The survey was administered between December 2009 and March 2010. Data was collected from 265 villages, including 237 villages covered by the CBR program and 28 villages located in control areas. In control areas all persons with disabilities were interviewed. In the villages covered by the program, only beneficiaries were interviewed, except for 17 villages where all persons with disabilities were surveyed with the aim of estimating the coverage of the program (Biggeri, et al., 2012).

Further data collection was conducted in 2015. Indeed, in the survey administered between December 2009 and March 2010 the Scientific Advisory Committee decided that it was better not to collect information on caste due to the sensitive nature of these topic. Therefore, caste was not properly included in Mauro et al. (2014; 2015). In 2015, a further data collection was conducted with the aim of identifying the caste of the respondents. This led to the identification of caste for the 85%of respondents. An imputation was made for the residual 15% by taking into consideration the following variables for year 2002: level of education, household size, parental education; size of the land owned; quality of the house; whether there was a toilet in the house or not, distance to the nearest source of water and access to food resources.

As the aim of the paper is to investigate the impact of CBR on child and youth deprivations, the subsample only includes those that were from 6 to 23 years old in 2002, thus they are from 13 to 30 at

---

clearance was also received from UCL's Ethics Committee in November, 2009 which strictly followed the UK's Economic and Social Research Council's "Research Ethics Framework" as well as the internal guidelines of UCL's.

the moment of the interview in 2009 (December) and 2010 (January to May 2010). The total number of the sample includes 593 boys and girls with disabilities. Among them, 410 belong to the treatment group and 183 belong to the control group. Total number of villages is 248.

6.2 Outcomes Variables

In line with the capability approach, the CRPD and the CBR Matrix, final outcomes are evaluated under different dimensions. The main domains/dimensions of well-being and well-becoming have been identified by drawing on the CBR guidelines and matrix, and on the research carried out through Focus Group Discussions (FGDs) (Nussbaum 2003; Robeyns 2003; Biggeri, et al. 2006; Biggeri and Mehrotra, 2011; Biggeri and Libanora, 2011; Biggeri et al., 2011). Drawing on that pool of dimensions, the choice was to restrict the number by taking into account only those dimensions that can be reasonably applied to children and the youth. Finally, the dimension of marriage and employment were added, being them extremely sensitive to gender and disability as the literature review surveyed above has illustrated. The introduction of the outcome "opportunity to get married" represents a novelty to previous research (Mauro et al., 2014; 2015). Finally, following Mauro et al. (2015) an aggregate index was created by taking an un-weighted average of the eight dimension-specific variables, and assigning values between 0 and 3 to the levels of the Likert scale.

	Capabilities Dimension	**CRPD Articles**	**CBR Matrix**
1	To have good health	**10, 15, 16, 17, 22, 25, 28, 30**	Health
2	To express own views and participate in family decisions	**3, 19, 29, 30**	Social
3	To be free from community prejudice and self-prejudice	**3**	CA Not in CBR Matrix
4	To express own views and participate in community decisions	**19, 29, 30**	Empowerment
5	To spend leisure time with friends	**30**	Social
6	To have access to resources (a job or other income source)	**4**	Livelihood
7	To get married	**23**	Social

Table 1: Dimensions of outcome variables selected for the analysis according to the theoretical framework

Outcomes were measured at the time of the interview and through retrospective questions relating to 2002. In this paper, the impact of the program is analyzed over the span of the time that goes from 2002 to 2006 (medium term) and from 2002 to 2009 (long term) on the seven dimensions defined in Table 2.

As baseline, only persons who experienced specific deprivations at the beginning of the program (2002), that is, persons with disabilities not achieving the maximum score on the scale (those scoring the maximum are regarded as 'non-deprived') are considered. The share of deprived persons with disabilities varies across the dimensions considered. The improvement of a deprived person with disabilities in a given dimension is measured through the change in the outcome: specifically, for each unit, a binary variable taking a value of 1 if the person with disabilities experienced an improvement and 0 otherwise is defined. This approach does not rely on the magnitude of the improvement, thus limiting potential bias from: (i) low reliability associated with the scoring of subjective variables based on recalling retrospective information; (ii) variations in responses due to the way that different respondents perceive and interpret the Likert scale[7]. It must also be stressed that while dimensions 1-5 are measured in terms of capabilities (opportunities) and thus they are subjective, dimensions 6-7 are measured in terms of functionings and thus they are objective. Finally, according to the outcome the sample was restricted in order to include only the individuals that given their age can reasonably enjoy the opportunity. Thus, when it comes to measure the outcomes "expression in the community" and "control over resources", only children between 12 years old and 24 years old were considered; while with regard to marriage, all the individuals who are above 15 years old were considered.

6.3 Control variables

The impact is estimated through a multilevel model including covariates at both individual and village level. The covariates have been selected according to previous empirical analyses (Mauro et al., 2014; 2015) and statistical significance. Compared to Mauro et al. 2014; 2015, the control variable "Other Caste" was introduced. The variable "Other Caste" is dichotomous taking the value 1 if the boy/girl belongs to upper castes and taking the value 0 if the boy/girl belong to Scheduled Caste, Scheduled Tribes and Backward Castes. We are aware that this distinction might hinder strong differences within each of this group, but it represents a common procedure in categorizing castes in economic applied studies, when data suffer from limitation.

All the individual covariates (later denoted with $X_{i,j}$ are measured in 2002. The village-level covariates (later denoted withZ_j) are measured in 2009, but it has been considered plausible to assume them being static over 7 years. The village has been considered small, when below 500 people

---

[7] See Mauro, Biggeri and Grilli (2015) for details

Variables	Name	Obs	Mean	Std. Dev.	Min	Max
Individual Level						
CBR treated	Dtrattati	593	0.693086	0.4616028	0	1
Age in 2002	eta02	593	1.490.388	5.439.396	6	23
Gender	gender	593	0.4721754	0.4996467	0	1
Upper Caste	OC2	593	0.6205734	0.485654	0	1
HH Illiteracy	HH_illit	593	0.46543	0.4992246	0	1
HH Size	hhsize	593	4.504.216	1.397.536	2	8
Mental Disability	hhsize	593	0.2580101	0.437909	0	1
Heavy Disability	Dheavydi b	593	0.3220911	0.4676722	0	1
Education (in years)	edu02	593	3.866.779	4.091.949	0	14
Pension	pens2002	589	0.4312394	0.4956704	0	1
Size of Land owned	guntat09	593	1.753.794	5.639.217	0	360
Quality of the House	goodown	593	0.6863406	0.4643714	0	1
Community Level						
Share of individuals in the village living in a house with a toilet.	mean_toil	593	0.2631096	0.2086232	0	1
Share of individuals in the village scoring 1 in housing quality	mean_goodown	593	0.696068	0.2200298	0	1
Big village	big	593	0.4317032	0.4957317	0	1
Small village	small	593	0.1551433	0.3623469	0	1
Distance from the nearest hospital	hosp	593	3.775.717	2.482.768	0	9
Presence of a Middle School	Dmiddle	593	0.6323777	0.4825648	0	1
Distance from a main road (Km)	road	593	1.524.452	2.004.174	0	8
Type of the road entering the village	tarmud	593	0.8819562	0.3229324	0	1
Presence of SHG	Dvshgdpo	593	0.7790894	0.4152106	0	1

Table 2: Descriptive Statistics of Control Variables

6.4 The Statistical Model

Following Mauro et al. (2015), the effect of the CBR program on the probability of improving the lives of deprived children and youth with disabilities is estimated by means of a random effects logit model, controlling for both individual- and village-level covariates. A random effects model explicitly accounts for the multilevel structure of the data, thus the inferential results are adjusted for the within-cluster correlation (Snijders and Bosker, 2012; Rabe-Hesketh and Skrondal, 2012). In the present application, clusters are villages, which are indexed by j=1,. . . ,J, whereas persons with disabilities within village j are indexed by i=1,. . . nj. The random effects logit model adopted here is specified as follows [3]:

$$logit[P(Y_{i,j} = 1|T_{i,j}X_{i,j}Z_{i,j}u_j) = \beta_T T_{i,j} + \beta_X X_{i,j} + \beta_Z Z_j + u_j$$

$$u_j \sim N(0, \sigma^{2)}$$

The response variable $Y_{i,j}$ is the binary indicator for improvement on the dimension (1 if the person experienced an improvement, 0 otherwise). The model includes vectors of individual-level covariates $X_{i,j}$ as well as village-level covariates Z_j. The individual-level binary indicator Tij represent the type of treatment: specifically, Tij=1 indicates that person i of village j joined the program and Tij=0 and that person i of village j who did not join the program. In this model, caste, gender and severity of disability are considered as individual conversion factors denoted as zi in models (1) and (2) (see section 2).

In the model the random effects $u_j \sim N(0, \sigma^{2)}$ summarize unobserved factors at village level affecting individual outcomes, thus the standard deviation σ measures between-village variations in response that are not accounted for by a simple logistic regression. The exogeneity of the random effects is checked through the Hausman test (e.g. Rabe-Hesketh and Skrondal, 2012) comparing the estimates from model with those obtained from the fixed effects version (conditional logit model). Performing the test separately for the seven response variables yields p-values well above the1% threshold, so there is no evidence of violation of the exogeneity assumption. The multilevel model was fitted for each of the response variables defined in Table 1. To test that the multilevel analysis explained a larger share of variance than a non-multilevel mode, for each response variable we started fitting the model with no covariates (null model), then we added the individual-level covariates, and finally the village-level covariates (full model). Estimates were obtained via maximum likelihood with adaptive Gaussian quadrature (Rabe-Hesketh and Skrondal, 2012) using Stata 12 (Stata Corp, 2011). The standard deviation σ of the random effects uj summarizes the unobserved heterogeneity at village level[8] .

7 Results

7.1 Impact Evaluation

In this section the results of the model are presented to see whether the program had an impact in the medium and long term on the aggregate variable and then on the single dimensions of wellbeing. Table 3 below shows the average marginal effect of being treated on each of the outcome first in the medium term and then in the long term.

	Health	**Family Consid**	**Free From Prejudice**	**Expr Community**	**Leisure**	**Control Over Resources**	**Marriage**
After 4 years	—	—				—	—
Tij (Treatment effect)	0.361***	0.197***	0.305***	0.281***	0.229***	0.433***	0.355***
After 7 years							
Tij (Treatment effect)	0.404***	0.18***	0.269***	0.319***	0.247***	0.206***	0.368***
Obs.	n=440	n=354	n=330	n=268	n=477	n=390	n=811

Table 3: Average marginal effects for deprived persons with disabilities after 4 years and 7 years

Table above shows that the treatment effect after four years and after seven years is positive and significant for all the dimensions and it varies according to the dimension analyzed. After for years, the estimated average marginal effect is 36.1% for achieving a good health; 19.7% for expressing their own views and participating in family decisions, 30.5% for feeling respected by the community, 28.1% for expressing their own views and participating in the community decisions, 22.9% for spending leisure

---

[8] For the aggregate index after seven years, the estimate of σ decreases from 0.71 in the null model to 0.39 in the model with individual covariates, and to 0.36 in the full model (which is still significant as the p-value of the likelihood ratio test is <0.01).

time with friends, 43.3% for having access to resources and 35.5% for getting married.

After seven years, the estimated average marginal effect is, 40.4% for achieving a good health; 18% for expressing their own views and participating in family decisions, 26.9% for feeling respected by the community, 31.9% for expressing their own views and participating in the community decisions, 24.7% for spending leisure time with friends, 20.8% for having access to resources and 36.8% for getting married.

Overall, the impact of the treatment is always significant and positive in the medium and long term. In some dimensions the impact increases in the long term (health, expressing in the community; leisure and marriage) while in the others it decreases. In any case, the impact it is preserved.

Table 4 below shows the impact of the treatment on the aggregate outcome over the two spans of time. The treatment is significant and positive in both the models. The control variables are seldom significant due to the limited number of the observations (for a discussion on the characteristics of these control variables within this model, refer to Mauro et al. 2015.

	Aggregate after 4 years			**Aggregate after 7 years**		
	Coeff	Std. Err.	P > z	Coeff.	Std. Err.	P > z
Individual Level						
Treated	2.417.849	0.298408	0	1.681.562	0.256856	0
Age in 2002	-0.0004857	0.018793	0.979	-0.0016389	0.018113	0.928
Female	-0.5676796	0.194304	0.003	-0.2567896	0.188981	0.174
Other Caste	-0.3191554	0.217513	0.142	0.1225763	0.206421	0.553
HH Literacy	-0.0329267	0.199178	0.869	0.3304952	0.196146	0.092
HH size	-0.112473	0.07315	0.124	-0.1009188	0.070278	0.151
Mental Disability	-0.1151615	0.235874	0.625	-0.1422551	0.231263	0.538
Heavy Disability	-0.1581542	0.230526	0.493	-0.1590647	0.2224	0.474
Edu in 2002	0.0112119	0.02852	0.694	0.0446377	0.027675	0.107
Pension in 2002	-0.4570415	0.211509	0.031	-115.994	0.21116	0
Size of Land owned	-0.0014833	0.001746	0.395	-0.0015662	0.001768	0.376
Quality of the House	-0.3604389	0.253532	0.155	-0.1718987	0.235706	0.466
Village Level						
Share Toilet	-0.8224371	0.563967	0.145	-0.8172385	0.536714	0.128
Share HH Quality	0.0260379	0.548482	0.962	-0.062091	0.530791	0.907
Big Village	0.3111015	0.259557	0.231	0.1229498	0.244787	0.615
Small Village	-1.090.179	0.322689	0.001	0.167942	0.322435	0.602
Distance from the nearest hospital	0.0477807	0.045881	0.298	-0.0559872	0.044369	0.207
Presence of a Middle School	-0.7175219	0.255702	0.005	-0.0701167	0.244888	0.775
Distance from a main road (Km)	0.0427037	0.056438	0.449	0.0046151	0.052541	0.93
Type of the road entering the village	0.2760679	0.323258	0.393	0.0350383	0.338614	0.918
Presence of SHG	0.0225384	0.267911	0.933	0.0141448	0.26104	0.957
cons	0.3043979	0.779744	0.696	0.4214213	0.736685	0.567
lnsig2u	-154.637	0.935898		-2.020.642	1.089.994	
sigma_u	0.4615407	0.215977		0.364102	0.198434	
rho	0.0608126	0.053453		0.0387356	0.040586	
Obs.	622			589		

Table 4: Results of the Random-effects logistic regression after 4 and 7 years of treatment

Overall, this results are in line with those found in Mauro *et al.* 2015. Both the analyses confirm the positive and significant role of the CBR in improving substantially the wellbeng of the beneficiaries. In addition, both the analysis find that the CBR is particularly effective in tackling some dimensions such health and community respect, while it seems less effective in improving some other dimensions such as the empowerment of the individuals within their family.

7.2 CBR inclusiveness by intersectionality perspective

In this section, we examine the extent to which this program is inclusive with respect to gender, severity of disability and caste. The inclusion is disentangled by analyzing it according to three aspects of the CBR program: the access or entitlement, impact capacities and equalizer capacities.

The access or the entitlement is measured by the coverage as the capacity of the programs to reach the weakest segment of the population: women, persons with heavy disability and persons belonging to lowest castes.

In order to measure the capacity of the program to reach the weakest segments of the population we performed significance tests. These were performed to identify whether the probability of joining the program could be affected by the observable variables of our interest, namely: gender, caste and severity of disability. Tests were performed in 17 villages where all persons with disabilities were surveyed (both treated and non-treated).

We find that there is no difference in joining the program due to gender (p value = 0.6622); while there is evidence of a higher probability of participation for people belonging to "Other Caste" (p value = 0.0014) and for those experiencing heavy disabilities (p value = 0.0185). This implies that the program is inclusive with respect to gender and severity of disability while apparently it is not inclusive with respect to caste. This can be explained by the fact that the upper caste people selected in the program are the poorest, thus the program selects the poor people belonging to high caste, but it fails to reach the poorest among the lowest caste. Finally, there is evidence of a lower probability of participation for wealthier (wage earnings p value = 0.0151) and older people (p value = 0.0000) (Biggeri et al. 2012)

Impact capacities of a CBR program are reached if everyone benefits from the program, including the poorest segment of the beneficiaries. In order to capture this characteristic, the profiles for 8 individuals, each of them characterized by the same characteristics[9] , except for gender, caste and severity of disability were constructed [10]. The combination between these three characteristics (each of them dichotomous) gives the following eight profiles of interest:

---

[9] This means that all the other control variables are set at the average except mental disability which is set at zero.

[10] In the logit model, the estimated probability P(Yij=1 — Tij, Xij, Zj, uj) was calculated setting an average profile for the individual

Profiles	**Gender**	**Caste**	**Severity of Disabilit**	**Type of Disability**	**Other Control Variables**
Profile (1)	Male	OC	No High Disability	No Mental Disability	Mean Values
Profile (2)	Male	OC	High Disability	No Mental Disability	Mean Values
Profile (3)	Male	Non OC	High Disability	No Mental Disability	Mean Values
Profile (4)	Male	Non OC	No High Disability	No Mental Disability	Mean Values
Profile (5)	Female	OC	No High Disability	No Mental Disability	Mean Values
Profile (6)	Female	OC	High Disability	No Mental Disability	Mean Values
Profile (7)	Female	Non OC	High Disability	No Mental Disability	Mean Values
Profile (8)	Female	Non OC	No High Disability	No Mental Disability	Mean Values

Table 5: Profiles

Then, it is measured whether the impact of the CBR program is positive for the eight typologies of persons indicated above. To do this, it is calculated the estimated probability of improvement for each of the eight profiles on each of the seven dimensions[11].

Dimensions	**Profile (1)**	**Profile (2)**	**Profile (3)**	**Profile (4)**	**Profile (5)**	**Profile (6)**	**Profile (7)**	**Profile (8)**
	M	M	M	M	F	F	F	F
	OC	OC	Non OC	Non OC	OC	OC	Non OC	Non OC
	Non High Dis	High Dis	High Dis	Non High	Non High Dis	High Dis	High Dis	Non High
Health	48.00%	30.00%	31.10%	49.20%	44.20%	26.60%	27.60%	45.40%
Family Consid	28.80%	19.20%	16.40%	26.40%	27.30%	17.30%	14.60%	24.60%
Free From Prejudice	33.20%	27.30%	26.20%	32.50%	32.20%	25.70%	24.60%	31.40%
Express in the Community	56.70%	13.80%	13.40%	56.20%	53.30%	11.60%	11.30%	52.70%
Leisure	26.60%	16.90%	15.10%	24.30%	24.80%	15.50%	13.80%	22.60%
Control over resources	24.70%	21.80%	21.70%	24.60%	19.90%	16.70%	16.60%	19.80%
Marriage	33.50%	26.00%	32.30%	40.10%	16.70%	12.00%	15.90%	21.70%
Average	35.90%	22.20%	22.30%	36.20%	31.20%	17.90%	17.80%	31.20%

Table 6: Net improvement due to Program

Table 8 above shows that the impact is positive and very high for every profile including girls non-OC with heavy disability. Thus, by including everyone the program is inclusive. However, the impact is highly differentiated across typologies of characters. On the average, those that are more likely to see their wellbeing increased due to the program are the boys and the girls without high disability. The difference of the impact by caste is relatively small and it is not homogenous according to dimension. On the average, the impact is higher for the boys than for the girls. Girls with high disability benefit less from the program.

The equalizer capacities are reached if the program has improved the conditions of those who were most deprived at the onset of the program relatively more than the conditions of those who were less deprived. Table 8 below shows the percentage of deprived in the six groups of interests (boys, girls; OC; non OC; with heavy disability; without heavy disability) in 2002.

---

[11] We concentrate our analyses after 7 years to capture the long term effect

	Health	Family Consid	Free From Prejudice	Expr Community	Leisure	Control Over Res	Marriage
Males	71%	55.93%	43.53%	74.23%	76.61%	77.96%	74.15%
Females	75.50%	58.14%	63.33%	81.48%	82.59%	74.34%	74.90%
p value	0.2419	0.5959	0	0.0389	0.0789	0.0593	0.7106
Persons with heavy disability	79.20%	75.20%	59.32%	93.25%	85.39%	69.53%	82.99%
Persons without heavy disability	70.50%	48.57%	50.12%	70.54%	76.74%	78.82%	71.79%
p value	0.0305	0	0.0424	0	0.018	0	0
Other Caste	77.16	61.56	57.97%	80.63%	81.50%	77.13%	76.77%
Non Other Caste	67.12	49.77	45.20%	73.05%	76.25%	75.20%	69.61%
p value	0.0085	0.0058	0.003	0.0351	0.133	0.3293	0.0009

Table 7: Share of Deprived at the onset of the program by gender, severity of disability and caste

Table 8 above shows that at the onset of the program girls were more likely than boys to be deprived in the following dimensions: freedom from prejudice, have a voice in the community, and spending leisure time with friends. In terms of severity of disability, it shows that boys and girls with heavy disability are more likely to be deprived than boys and girls without heavy disability in every dimension. In terms of caste, boys and girls that belong to “other caste” are more likely to be deprived than boys and girls that do not belong to “other caste” in every dimension except spending leisure time with friends where no statistically difference is found To test whether the program was equalizer we run the same model on the seven dimensions introducing three interaction terms between: treatment and being female; treatment and being OC; and treatment and having heavy disability. If the program was equalizer, the interaction term would be positive and significant. If not, it means that the program does not increase relatively more the probability of improvement of the persons who were more deprived before the program started. We find no evidences of positive and significant coefficient for the any of the interaction terms. On the contrary, we find a negative and significant coefficient for persons with heavy disability on the probability to improve in the dimensions of “leisure” and “control over resources”. This means that the programs has a smaller impact on some dimensions of persons with heavy disability. Overall, non evidence of an equalizer impact of the program was found.

8 Final Remarks

The analysis provides five main findings. The first is that the CBR program implemented in Karnataka has a positive effect on the wellbeing of children and youth. The magnitude of this effect is different across dimensions of wellbeing. Joining the program improves particularly health, the ability to express one’s view and the opportunity to participate in community decision making.

The second finding is that the improvement due to the program is found in the medium term and it is preserved or expanded in the long term. Then, this paper investigates whether the program is inclusive.

In terms of coverage, it was found that boys and girls have equal probability to join the program, that persons with heavy disability are over represented among the treated, and that persons belonging to higher caste have higher probability to join the program, but it was also found that high caste people selected in the program are the most deprived. Thus, the program is inclusive with regard to gender, severity of disability and class, because it selects the poorest among the people belonging to high caste. Apparently, the capacity to include the most deprived among the most backward castes, such as tribals, is less strong.

The fourth finding is that the CBR program is inclusive because it increases the wellbeing of everyone including those that were most deprived at the onset of the program.

The final finding is that albeit the program improved the conditions of everyone it did not equalize the opportunities, this meaning that those that were most deprived at the onset of the program are still relatively more deprived than the others.

This paper has some limitations, mainly related to data. Indeed, in terms of sample size, a bigger dataset would have detect more strongly the role of intersectionalities. In terms of variables, the variable “caste” should me much more disaggregated (in jati) in order to give a picture of inequalities due to caste.

This study could be expanded in many ways. One could try to control for different kinds of disability (e.g. mental disability VS physical disability), to see whether the program improves the conditions of everyone regardless of disability. Additionally, one could try to understand the role of age in determining the salience of disability on multidimensional wellbeing. Finally, this paper through the adoption of a multilevel analaysis has taken into consideration the role played by territories, however, this insight could be further expanded. Profiles of territories could be shaped in order to explore how villages with different characteristics impact on the probability of improvement due to the programme.

Overall, this paper confirms the importance of CBR in improving the conditions of children and the youth with disabilities including the girls, poorest and persons with heavy disability and it suggests that in order for the program to be equalizer, the program needs to acknowledge the inequalities stemming from cultural and social factors and engage with them.

References

Addabbo, T., Krishnakumar, J. and Sarti, E. (2012). Does disability discourage? An empirical analysis of the disabled labour force in Italy, Dipartimento di Economia Marco Biagi, Working paper.

Addabbo, T.; Di Tommaso, M. L and Maccagnan, A. (2014). Gender Differences in Italian Children's Capabilities, Feminist Economics, vol. 20(2): 90-121.

Addlakha, R. (2008). Disability, Gender and Society, Sage.

Alavi Y. and Kuper H. (2010). Evaluating the Impact of Rehabilitation in the Lives of People with Disabilities and their Families in Low and Middle Income Countries A Review of Tools, London School of Hygiene and Tropical Medicine - UK, CBM – Germany.

Ballet, J., Biggeri, M. and Comim, F. (2011). Children's agency and the capability approach: A conceptual framework in M. Biggeri, J. Ballet, F. Comim (eds). Children and the capability approach, New York: Palgrave Macmillan.

Barbuto, R., Biggeri, M., and Griffo, G. (2011). Life project, peer counselling and self-help groups as tools to expand capabilities, agency and human rights. ALTER-European Journal of Disability Research Vol. 5(3): 192-205.

Barnett, S.W (2010). Benefits and costs of quality per-school education: evidence based-policy to improve returns'. Paper presented at the 7th OECD ECEC Network meeting.

Barron, T., and Ncube J.M. (2010).Poverty and Disability. London: Leonard Cheshire Disability.

Biggeri, M., Libanora, R., Mariani, S., and Menchini, L., (2006). Children Conceptualizing Their Capabilities: Results of the Survey During the First Children's World Congress on Child Labour. Journal of Human Development, Vol. 7, n. 1, March.

Biggeri, M., Ballet, J. and Comim, F. (eds).(2011a). Children and the capability approach, New York: Palgrave Macmillan.

Biggeri, M., Ballet, J., Comim, F. (2011b). Final remarks and conclusions: the promotion of children's active participation in M. Biggeri, J. Ballet, F. Comim (eds). Children and the capability approach, Palgrave Macmillan.

Biggeri M. and Merhotra, S. (2011). Child Poverty as Capability Deprivation: How to Choose Domains of Child Well-being and Poverty.

Biggeri, M. and Libanora R. (2011). From Valuing to Evaluating: Tools and Procedures to Operationalize the Capability Approach in M. Biggeri, J. Ballet, F. Comim (eds). Children and the capability approach, Palgrave Macmillan.

Biggeri, M., Bellanca, N., Bonfanti, S., and Tanzj, L. (2011c). Rethinking Policies for Persons with Disabilities through the Capability Approach: the Case of The Tuscany Region. ALTER. European Journal of Disability Research, Vol. 5 (3):177–191.

Biggeri M., Deepak S., Mauro V., Trani J.-F., Kumar J. Y. B., Ramasamy P., Bakhshi P. and Giriyappa R. (2012). Impact of Community-Based Rehabilitation (CBR).Programs for Persons with Disability in Mandya District (Karnataka, India). AIFO Health Cooperation Volume 18, India, Bangalore.

Biggeri M., Deepak S., Mauro V., Trani J.-F. and Kumar J. Y. B., (2013). Do Community-Based Rehabilitation programs promote the participation of persons with disabilities? A case control study from Mandya District, in India, Journal of Disability and Rehabilitation.

Biggeri M. and Ferrannini A. (2014). Opportunity Gap Analysis: Procedures and Methods for Applying the Capability Approach in Development Initiatives, Journal of Human Development and Capabilities: A Multi-Disciplinary Journal for People-Centered Development, 15:1, 60-78

Biggeri, M.; Ciani, F.; Menon, M.; and Perali F. (2016). Health Conditions and Household Material and Non-Material Extra-Needs: The case of Acquired Brain Injuries, Unpublished Paper.

Blau, D. and Currie, J. (2006). Pre-School, Day Care, and After-School Care: Who's Minding the Kids?, Handbook of the Economics of Education, Elsevier.

Boocock, S. (1995). Early childhood programs in other nations: Goals and outcomes, The Future of Children, 5(3): 94-114.

Braithwaite, J. and Mont, D. (2008). Disability and Poverty: A Survey of World Bank Poverty Assessments and Implications, World Bank, SP Discussion Paper, NO. O805.

Brunori, P. et al., (2013). Inequality of opportunity, income inequality and economic mobility: some international comparisons, Policy Research Working Paper Series 6304, The World Bank.

Burchardt, T. (2004). Capabilities and Disability: The Capabilities Framework and the Social Model of Disability, Disability and Society, 19(7): 735–751.

Camilli, G., et al. (2010). Meta-Analysis of the Effects of Early Education Interventions on Cognitive and Social Development. Teachers College Record 112.3 (2010): 579-620.

Census of India (2011).

Chowdhury, J. (2006). Economics of disability: An empirical study of disability and employment in the Bangladesh district of Chuadanga, Disability Studies Quarterly 26:4.

Clark, D. A. (2009). Adaptation, Poverty and Well-Being: Some Issues and Observations with Special Reference to the Capability Approach and Development Studies, Journal of Human Development and Capabilities, 10(1): 21-42.

Conti, G. and Heckman, J. (2012). The Developmental Approach to Child and Adult Health, IZA Discussion Papers 7060, Institute for the Study of Labor (IZA).

Dalal AK,(2002).Disability rehabilitation in a traditional Indian society. Asia Pacific Disabil Rehab J. 2002: 17-26. 29.

Deepak, S., Biggeri, M., Mauro, V., Kumar, J. Y. B., and Griffo, G. (2013). Impact of community-based rehabilitation on different groups of persons with disabilities. CBR and Inclusive Development Journal (DCIDJ). 24(4).

Di Tommaso, M. L. (2007). Children capabilities: A structural equation model for India, Journal of Behaviour and Experimental Economics, Elsevier, vol. 36 (3): 436-450.

Dixon R. and Nussbaum M. (2012). Children's Rights and a Capabilities approach: the Question of Special Priority, Public law and legal Theory Working paper Series, Univ. Chicago.

Ehrmann, L.C., Aeschleman, S.R. and Svanum, S. (1995). Parental Reports of Community Activity Patterns: A Comparison between Young Children with Disabilities and Their Nondisabled Peers, Research in Developmental Disabilities, 16: 331–343.

Erb, S., and Harriss-White, B. (1996). Outcast from social welfare? Adult disability and development in rural India. Unpublished paper, Queen Elizabeth House, University of Oxford.

Francavilla, F., Giannelli, G. C., and Grilli, L. (2013). Mothers' employment and their children's schooling: A joint multilevel analysis for India, World Development, 41:183–195.

Grandisson M., Hébert M, Thibeault R., (2014). A systematic review on how to conduct evaluations in community-based rehabilitation, Disabil Rehabil36(4):265-75.

Harris-White, B. (1996). The political economy of disability and development: With special reference to India. Discussion Paper No. 73, United Nations Research Institute for Social Development, Geneva.

Hartley S, Finkenflugel H, Kuipers P and Thomas M. (2009). Community-based rehabilitation: opportunity and challenge. Lancet, Vol. 374: 1803-1804.

Hart C.S., Biggeri M., Babic B. (Eds).(2014). Agency and Participation in Childhood and Youth: International Applications of the Capability Approach in Schools and Beyond, London, Bloomsbury.

Hart, C.S. (2010). Aspirations Re-Examined: A Capability Approach to Widening Participation in Higher Education, Doctoral Thesis, University of Cambridge, Cambridge.

Heckman J. (2006).Investing in disadvantaged young children is both fair and efficient. Presented to: the Committee for Economic Development, the Pew Charitable Trusts, P PNC Financial Services Group, 10 January 2006, New York City.

Heckman, J.J., R. Pinto, and P.A. Savelyev (2012). Understanding the mechanisms through which an influential early childhood program boosted adult outcomes. American Economic Review. Forthcoming.

Heckman J. and Masterov D. V. (2007). The Productivity Argument for Investing in Young Children, NBER Working Papers 13016, National Bureau of Economic Research, Inc.

ILO, UNESCO and WHO (2004). CBR: A Strategy for Rehabilitation, Equalization of Opportunities, Poverty Reduction and Social Inclusion of People with Disabilities, Joint position paper, Geneva.

Irwin, L. G., Siddiqi A. and Hertzman, C. (2007). Early Childhood Development: A powerful equalizer – Final report for the World Health Organization's Commission on the Social Determinants of Health, Human Early Learning Partnership, Vancouver.

Klasen, S. (2001). Social Exclusion, Children and Education: Implications of a Rights based Approach, European Societies, 3(4): 413–445.

Kuklys, W. (2005). Amartya Sen's Capability Approach: Theoretical Insights and Empirical Applications, Berlin: Springer Verlag.

Kuper H, Monteath-van Dok A, Wing K, Danquah L, Evans J, et al. (2014).The Impact of Disability on the Lives of Children; Cross-Sectional Data Including 8,900 Children with Disabilities and 898,834 Children without Disabilities across 30 Countries. PLoS ONE 9(9): e107300.

Lang, R. (2001). Understanding Disability from a South Indian Perspective. 14th Annual Conference of the Society of Disability Studies, Winnipeg, Canada.

Lansdown, G. (2005). Can you hear me?The right of young children to participate in decisions affecting them. The Hague, Netherlands: Bernard van Leer Foundation.

Marmot, M., and Wadsworth, M. (1997). Fetal and early childhood environment: Long term health implications. London: British Medical Bulletin.

Marmot, M. (2010). The Marmot Review Final Report: Fair Society, Healthy Lives (2010). UCL.

Mauro V., Biggeri M., Deepak S. and Trani J.-F. (2014). The Effectiveness of Community based rehabilitation programs: An impact evaluation of a quasi-randomised trial. Journal of Epidemiology and Community Health. P. 1-7.

Mauro, V., Biggeri, M., and Grilli, L. (2015). Does Community-Based Rehabilitation Enhance the Multidimensional Well-Being of Deprived Persons With Disabilities? A Multilevel Impact Evaluation, World Development, Volume 76: 190- 202.

Mehrotra, N. (2006). Negotiating gender and disability in rural Haryana. Sociological Bulletin, 55(3). 406,426.

Mehrotra, N. (2008). Women and disability ,management In Rural Haryana, India, Asia Pacific Disability Rehabilitation Journal, Vol. 19 No. 1 2008.

Mehrotra, N (2013). Disability, gender and caste intersections in Indian economy, in Sharon N. Barnartt, Barbara M. Altman (ed.)Disability and Intersecting Statuses (Research in Social Science and Disability, Volume 7).Emerald Group Publishing Limited: 295 - 324 .

Menon, M.; Pendakur, R. and Perali, F. (2014). All in the Family: How Do Social Capital and Material Wellbeing Affect Relational Wellbeing?, Working Papers 03/2014, University of Verona, Department of Economics.

Mitra, S. (2006).The Capability Approach and Disability, Journal of Disability Policy Studies, 16, No. 4: 236-247.

Mitra, S. (2014). Reconciling the Capability Approach and the ICF: A Response, ALTER: European Journal of Disability Research.

Mullings, L., and Schulz, A. J. (2006). Intersectionality and health: an introduction. InL. Mullings, and A. J. Schulz (Eds.). Gender, race, class, and health: An intersectional approach, San Francisco: John Wiley and Sons, Inc.

Murthy, R.S. (1991).Community Based Rehabilitation — Is there a need for research?, Action Aid Disability News, 2(2): 20.

Nagi, S. Z. (1991).Disability concepts revisited: Implications for prevention. Disability in America: Toward a national agenda for prevention: 309-327.

Nussbaum, M. (2003). Capabilities as Fundamental Entitlements: Sen and Social Justice., Feminist Economics, 9(2-3): 33-59.

O'Keefe, P. Human Development Unit, South East Asia Region. (2009). People with disabilities from India: From commitments to outcomes. Human Development Unit, South East Asia Region, The World Bank.

Oliver M. (1996). Understanding Disability: From Theory to Practice, Macmillan, Basingstok.

Otto, O. L; and Ziegler, H. (2011). Closing the Capability Gap - Renegotiating Social Justice for the Young. Leverkusen: Barbara Budrich.

Pal, G. C. (2010). Dalits with disabilities: The neglected dimension of social exclusion. Working Paper Series, 4(3). IIDS, New Delhi.

Rabe-Hesketh, S. and Skrondal, A. (2012). Multilevel and Longitudinal Modeling Using Stata (Third Edition). Stata Press, College Station.

Robeyns, I. (2003). Sen's Capability Approach and Gender Inequality: Selecting Relevant Capabilities. Feminist Economics, 9(2-3).

Sayre R. K., Devercelli A. E., Neuman M. J. and Wodon Q.(2015). Investing in Early Childhood Development Review of the World Bank's Recent Experience, The World Bank, Washington, DC.

Sen, A. K. (1984). The Living Standard, Economic Papers, 36: 74-90.

Sen, A. K., (1985). Commodities and Capabilities, New Delhi: Oxford University Press.

Sen, A. K. (1992).Inequality Re-Examined, Oxford: Clarendon Press.

Sen, A. K. (1999). Development as Freedom. Oxford: Oxford University Press.

Sen A. K. 1999 b. Investing in early childhood: its role in development. Conference on Breaking the Poverty Cycle: Investing in Early Childhood, 14 March 1999. Inter-American Development Bank: Washington, DC.

Sen, A. K. (2000). Social Exclusion: Concept, Application, and Scrutiny. Manilla: Asian Development Bank.

Sen A. K. (2005). Human Rights and Capabilities, Journal of Human Development, 6(2): 151-166.

Sen, A. K. (2007). Children and Human Rights, Indian Journal of Human Development, 1(2): 1-11.

Sen, A. K. (2009). The Idea of Justice. London: Allen Lane.

Shakespeare, T. and Watson, N. (2002). The social model of disability: an outdated ideology?, Research in social science and disability, 2: 9-28.

Sharma, S., (2007). Community participation in community-based rehabilitation programmes, Asia Pacific Disability Rehabilitation Journal, 18(2). 146-157.

Singal, N. and Jeffery, R. (2009). Transitions to adulthood for young people with disabilities in India: Currents status and emerging prospects. Asia Pacific Disability Rehabilitation Journal, 20 (1).15-40.

Singal, N. Jeffery, R., Jain, A. and Sood, N. (2011). The enabling role of education in the lives of young people with disabilities in India: achieved and desired outcomes. International Journal of Inclusive Education, 15 (10). 1205-1218.

Snijders, T.A.B., and Bosker, R.J. (2012). Multilevel analysis: an introduction to basic and advanced multilevel modelling. 2nd ed., Sage.

Stabile, M. and Allin, S. (2012). The economic costs of childhood disability, Future of Children22 (2012). 65–96.

Terzi, L. (2005).A Capability Perspective on Impairment, Disability and Special Needs: Towards Social Justice in Education, Theory and Research in Education, 3 (2). 197-223.

Thomas M and Thomas MJ. (2003). Manual for CBR planners. Bangalore: Asia Pacific Disability Rehabilitation Journal Group Publication; 2003.

Trani, J-F, Bakhshi, P., and Biggeri M. (2011a). Re-thinking Children's Disabilities through the Capability Lens: A Framework for Analysis and Policy Implications in M. Biggeri, J. Ballet, F. Comim (eds). Children and the capability approach, Palgrave Macmillan.

Trani, F., Bakhshi, P., Bellanca N., Biggeri, M. and Marchetta, F. (2011b). Disabilities through the Capability Approach Lens: Implications for public policies, ALTER. European Journal of Disability Research.

UN (1989). Convention on the Rights of the Child, United Nations, New York.

UN (2006).Convention on the Rights of Persons with Disabilities, New York.

WHO (2001). International Classification of Functioning, Disability and Health.

WHO (2007).International classification of functioning, disability and health: children and youth version. Geneva.

WHO (2012). Early childhood development and disability: discussion paper.

WHO/ ILEP (2007).WHO/ILEP technical guide on community based rehabilitation and leprosy, Genève.

WHO, UNESCO, ILO, IDDC (2010). Community-based Rehabilitation CBR Guidelines. World Health Organisation, United Nations Educational, Scientific and Cultural Organisation, International Labour Organisation and International Disability and Development Consortium, Geneva, Switzerland.

WHO and World Bank. (2011). World Report on Disability. World Health Organization and The World Bank.

Wolff, J., and De-Shalit, A. (2007). Disadvantage. Oxford: Oxford University Press.

Woodhead, M.; Feathersone, Imogen; Bolton, Laura and Robertson, Penny (2014). Early Childhood Development: Delivering Intersectoral Policies, Programmes and Services in Lowresource Settings. Topic guide, November (2014). Oxford: Health and Education Advice and Resource Team (HEART).

Zaidi, A. and Burchardt, T. (2005). Comparing incomes when needs differ: equivalization for the extra costs of disability in the UK. Centre for Analysis of Social Exclusion Paper. No. 64.