

Early View Article: Online published version of an accepted article before publication in the final form.

Journal Name: Edorium Journal of Disability and Rehabilitation

doi: To be assigned

Early view version published: September 8, 2017

How to cite the article: Cheausuwantavee T. Development of community based rehabilitation in Thailand: Case study in Samut Sakhon Province. Edorium Journal of Disability and Rehabilitation. Forthcoming 2017.

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1 **TYPE OF ARTICLE:** Original Article

2

3 **TITLE:** Development of community based rehabilitation in Thailand: Case study in
4 Samut Sakhon Province

5

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19 **Short Running Title:** Development of Community Based Rehabilitation in Thailand

20

21 **Guarantor of Submission:** The corresponding author is the guarantor of
22 submission

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33 **ABSTRACT**34 **Aims**

35 To set up and conduct a community based rehabilitation (CBR) in urban area based
36 on significant variables and particular conditions of previous meta-analysis studies.

37

38 **Methods**

39 This study is participatory action research (PAR). The one particular community in
40 Samut Sakhon Province, Thailand was purposively selected. The 13 CBR research
41 participants were purposively and voluntarily recruited including officials of local,
42 regional government and community hospital, volunteers, persons with disabilities
43 (PWDs) and their care givers, and researchers. Verbatim of focus groups,
44 participatory observations and field notes were undertaken. Those data were
45 interpreted through thematic coding and analytic induction.

46

47 **Results**

48 CBR project was purposively set up with 4 significant independent variables
49 including age, education level, occupation or position, and work experience as
50 characteristics of CBR workers suggested by previous meta-analysis. PAR was still
51 contributive strategy for CBR development in terms of mechanism of consciousness
52 raising, understanding collaboration and addressing CBR matrix. However,
53 uncompleted PAR and CBR cycles, no more sectors of stakeholders and particular
54 services with health focus of CBR matrix were limitation and challenges.

55

56 **Conclusion**

57 This study proves that PAR with significant characteristics of participants is important
58 CBR development. It will be more successful should other challenges of CBR will be
59 also addressed.

60

61 **Keywords:** CBR, community, disability, participation,

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65 INTRODUCTION

66 Community based rehabilitation (CBR) is still an active and alternative method to use
67 for enhancing quality of life of persons with disabilities (PWDs) in community where
68 no more rehabilitation services available in many countries and Thailand. The
69 contributions of CBR include coverage and available services for PWDs,
70 consciousness raising and enhancing positive attitudes of community towards
71 PWDs, mental supports for PWDs and their families [1,2,3,4].

72 However, there have been some challenges occurring in CBR conduction including
73 (1) negative attitude of majority community members toward PWDs and
74 discrimination, (2) lack of rigorous studies and effective CBR impact evaluation
75 through more than the past two decades, (3) Lack of information and working skills
76 of PWDs in business sectors/companies, (4) No more cooperation among
77 stakeholders and providers for PWDs as well as conducting by professional, GO or
78 NGOs outside without more participation of community members and PWDs in
79 community, (5) poverty and non-service accessibility of PWDs [5,6,7,8,9,10,11,
80 12,13,14,15], (6) ineffective referral system, (7) lack of budget for long run project,
81 (8) lack of appropriate knowledge and skills of service providers, teacher and CBR
82 workers to serve PWDs [5,7,9,12,16,17,18].

83 On the other hand, even the more valid studies in CBR both qualitative and
84 quantitative approach, but results of those studies could not be implemented to
85 improve effective CBR in the real practice. Most previous studies were survey,
86 descriptive, literature review, questionnaires and in-depth interviews as segmental
87 and cross sectional, not comprehensive or holistic study [3,4,8,10,19,20,21,22,23].

88 Thus, components of CBR success have challenged.

89 Meta-analysis and content analysis on CBR researches was done by author and
90 colleagues to identify standard index or effect size or mean correlation among
91 significant independent and dependent variables in CBR phenomena in Thailand.

92 The CBR projects addressed inclusion criteria in which (1) had sufficient statistical
93 matters especially the Pearson product moment correlation or correlation coefficient
94 (r), mean, standard deviation, t-test, F-test and Chi-square test for a survey,
95 descriptive or correlation study and an experimental or a quasi-study, (2) had been
96 produced between 1995-2014 and (3) available on public libraries in Thailand and an

97 electronic ThaiLIS database, were purposively collected. The sample was 28 CBR
98 projects consisted of 11 and 17 qualitative and quantitative studies respectively. The
99 main findings showed that, effect size (ES) between significant independent and
100 dependent variables within CBR studies was medium size and varied from 0.2196 –
101 0.2638 (\bar{x} = 0.2427, S.D. = 0.1212). The main independent variables that reflected
102 characteristics of CBR workers influencing dependent variables or outcomes of CBR
103 included (1) age (ES = .2196), (2) occupation or position (ES = .2317), (3) work
104 experience (ES = .2556) and (4) education level (ES = .2638) of CBR workers [4].
105 Based on lack of rigorous studies. Additionally, CBR setting and success have been
106 controversial as well as according to recent study of effect size that reflects
107 the strength of the relationship between two variables on a numeric scale.
108 Thus, such 4 recent independent variables can predict CBR outcome and success.
109 That means it would be great if CBR project were set up with those significant
110 independent variables effecting CBR success as attributive variables or qualifications
111 of CBR workers. The research question is “how will a comprehensive CBR project be
112 conducted based on significant independent variables as qualifications of CBR
113 workers?”. Thus, it aims to (1) set up and conduct CBR project in particular voluntary
114 context concerning on significant qualifications of CBR workers including age,
115 education level, occupation or position and work experience of CBR workers as
116 mentioned earlier, (2) conclude and critique phenomena through CBR project as
117 lesson learned.

118

119

120 MATERIALS AND METHODS

121 This study is participatory action research (PAR) as Figure 1 adapted from Aimers
122 [24] and consisted of 5 steps that includes (1) developing a basis for participation, (2)
123 data collection and analysis, (3) planning (master plan of CBR), (4) action and
124 evaluation and (5) termination. It aimed to set up and conduct a community based
125 rehabilitation (CBR) in an urban area based on significant variables and particular
126 conditions of previous meta-analysis studies. The particular community and
127 participants in Karkar (assumed name) Sub-district, Samutsakorn Province, Thailand
128 were purposively selected as theoretical criterion sampling with “ 4-semi-voluntary-

129 inclusion” criteria that means trying to find voluntary participants who would be
130 specific inclusion criteria based on previous study reflected significant qualifications
131 of CBR workers including (1) age (more than 23 years), (2) occupation or
132 position(permanent position and salary), (3) work experience (2 years or more), (4)
133 education level (secondary school or more) of CBR workers [4].

134 Data were obtained through various CBR activities including community visits, focus
135 groups, reflective meeting and basic rehabilitation services for PWDs. Verbatim and
136 tape recording of focus groups, participatory observations, field notes and secondary
137 data related were undertaken. Those data were interpreted through such qualitative
138 methods as thematic coding and analytic induction.

139

140 RESULTS

141

142 **Community context and development of community participation.**

143 Karkar(assumed name) Sub-district is located in Muang District, Samutsakorn
144 Province, the central part of Thailand. Most of the 8,642 population work in
145 agriculture. According to its metropolitan area being far from Bangkok –the capital
146 city of Thailand- around 30 kilo meters away, it has been also partially influenced by
147 industrialization and modern society. The CBR project established 4 significant
148 independent variables as characteristics of CBR workers with “semi voluntary-
149 inclusion criteria” as mentioned earlier.

150 Various approaches were used for community participation and recruitment including
151 formal and informal meeting, personal contact with persons in the community and
152 snow ball techniques through 3 months of the initial stage. Further inclusion criteria
153 of “true participant” was frequency of participation that he or she had to voluntarily
154 join CBR activities such as meetings, home visits, coordinating, rehabilitation
155 services for PWDs in community more than 10 of 15 times of such activities through
156 12 months of CBR conduction.

157 Finally, the 13 participants/ workers were recruited to join the CBR project. Hence,
158 they were selected by “semi voluntary-inclusion” criteria by purposive and criterion
159 sampling as the sectors and roles for development and implementation of CBR
160 suggested by United Nations Economic and Social Commission for Asia and the

161 Pacific – UNESCAP (1997) and by their own voluntary as well. At the beginning step,
162 the researcher was a leader and then became a facilitator in the middle and final
163 step.

164 Those “true participants” were 2 officials of Community Health Promoting Hospital, 2
165 officials of the Sub-district Administrative Organization, 1 official of Provincial
166 Department, 2 volunteers in a village, 1 PWD leader, 2 care givers of PWDs, 1
167 researcher and 2 research assistants. All participants conducted CBR project
168 through various activities including community visits, focus groups, reflections and
169 basic mobile services for PWDs, etc.

170 Characteristics and majority of those CBR participants or workers were women
171 (76.92%) with a mean age of 45.46 years and range 24-71 years, obtained bachelor
172 degree (46.45 %), official position (61.54 %), had 3.5 years of experiences in
173 rehabilitation services , social work or related, had positive attitude towards PWDS
174 and services for PWDs. Thus, characteristics of those participants were in Table 1
175 and met proposed inclusion criteria.

176

177 **Positive lessons learned from this CBR project facilitated by researcher from**
178 **the initial to termination stage**

179

180 **Setting up and conducting CBR project in particular voluntary context**
181 **concerns significant attributive qualifications of CBR workers/ research**
182 **participants.**

183 This CBR project was set up in Karkar(assumed name) Sub-district Administrative
184 Organization(SAO),Muang District, Samootsakorn Province, Thailand. Since
185 community participation is the critical first step of CBR project through participatory
186 action research. CBR participants were recruited based on effect size (ES) between
187 critical independent variables as qualifications of CBR workers and dependent
188 variables as outcome or effectiveness of CBR in CBR phenomena of previous study.
189 In terms of qualifications of CBR workers as independent variables with their effect
190 sizes prioritized including (1) education level(ES=.2638),(2) work
191 experience(ES=.2556), (3) occupation or position(ES=.2317) and (4) age(ES=.2196)
192 of CBR workers [4] respectively, were inclusion criteria of CBR workers or research

193 participants. Those effect sizes reflected qualifications of CBR workers who
194 graduated in secondary school or more, permanent position and salary, 2 years or
195 more experience, more than 23 years old, could predict CBR outcome and success.
196 However, since participatory action research (PAR) itself, community participation of
197 participants is initiated by their own awareness of research participants, thus CBR
198 workers eventually joined voluntarily as well. Thus, these qualifications were only
199 guidelines rather than rigid inclusion criteria for research participants. Finally, the 13
200 participants/ workers were invited and recruited to join the CBR project as presented.
201 During the 12 months conducting of CBR, 13 CBR participants provided 15 field
202 visits, depth interviews with over 20 PWDs and their families in the community, 2
203 public hearings among 85 participants with PWDs, families, community members,
204 leaders and professionals in local area. There were over 114 PWDs reviewed and
205 registered by CBR participants. The problems and needs of PWDs and their families
206 were prioritized and solved by CBR participants through their own perspectives as
207 following verbal transcriptions.

208

209 **Participatory Action Research (PAR) as mechanism of consciousness raising**
210 **and transformative learning to enhance quality of life development for PWDs in**
211 **community**

212 PAR is still both philosophy and methodology to help us to know the cycle , nature
213 and dynamic of community participation to help and enhance quality of life of PWDs
214 from a starting point as developing a basis for participation, then data collection and
215 analysis, planning (master plan of CBR), action and evaluation until termination and
216 withdraw of researchers from a community. This CBR cycle reflected not only
217 positive but also negative aspects occurring and how CBR participants coped with
218 this through a holistic cycle of CBR.

219 As positive things, there were meaningful sharing, learning and supporting among
220 participants and make them empower to step up and overcome challenges they
221 were dealing with.

222 The one of important steps in the PAR cycle was resource mobilizing and
223 comprehensive planning among stakeholders or participants including data base
224 sharing, pooled resources, budget, alternatives and various services for PWDs.

225 Billy: "We visited PWDs and their families, but could not visit every PWDs
226 in community. Anyway, we have used two cars of Community Health
227 Promoting Hospital and of head of village. Furthermore, a medical
228 doctor from Community Hospital visited along with us, evaluated and
229 issued medical documents for PWDs as well."

230 Pornpun: "There is local budget allocated by National Health Security Office.
231 Such budget now is organized by SAO(Sub-district Administrative
232 Organization). Thus, groups of aging or PWDs in community can
233 submit project to SAO for budget allocation."

234 **Exploring and filling the gap with understanding collaboration**

235 Additionally, valid data collection and effective information management regarding
236 PWDs in community were also critical issues and seriously discussed among
237 participants through PAR. There have been so far various providers and agencies
238 working and delivering services for PWDs in community including Community Health
239 Promoting Hospital, SAO, Provincial Department of Human Security and Social,
240 Center of Special Education, but those agencies have worked separately each other
241 and different data base. As a result, PWDs have gotten services supports
242 ineffectively. These issues were one of agendas critiqued and tried to solved by
243 participants.

244 Vee: "Only home visit and single data collection might not be helpful, but
245 continuing up-to date of data, critical analysis and identify their actual
246 problems and needs then support based on those valid problems
247 through cooperation among stakeholders. Some problems could be
248 solved by ourselves, but the rest of problems have to be addressed by
249 other sectors"

250 Keit: "In case of continuing movement, once related agencies have known
251 these data and to explore more details of all 108 PWDs in community,
252 we will have depth information and what we will go next steps, I believe
253 that."

254
255

256 **Physical and medical services as the main issues for quality of life**
257 **development for PWDs.**

258 According to leading participants were a nurse and a physical therapist of
259 Community Health Promoting Hospital and community health service volunteers, so
260 the main services focused on health component and physical rehabilitation as
261 medical model that corresponded to need of PWDs in community too. So, activities
262 to help PWDs to access wheelchairs were done through participation of participants.
263 After group discussion that all participants discussed in more details and planned to
264 effectively proceed these activities in the next couple of weeks.

265 Billy: "Based on our home visits, most of PWDs have physical disabilities,
266 lack of any supporting equipment, especially wheelchairs. They want
267 to use wheelchairs, we submitted their request for wheelchairs to
268 provincial hospitals, but it was not successful because wheelchairs
269 were not available.

270 Vee: It is not a big deal, Sirindhorn National Medical Rehabilitation Centre,
271 in Nontaburi Province can provide various wheelchairs, but how can
272 we take PWDs to be there for preliminary assessment and bring
273 such wheelchairs back due to long distance and location, we also
274 need particular vehicles to support those PWDs.

275 Wiwa: PWDs who want to use wheelchairs in my village are Aun, Kon,
276 Nongluck ... Ummm.. Around 4-5 persons.

277 Pornpun: My institution (Community Health Promoting Hospital) can provide a
278 van to take 4-5 PWDs there, but the problem is that there is not truck
279 or car to take their wheelchairs back home, we need more vehicles.

280 Somjai: My Organization (Sub-district Administrative Organization-SAO) has
281 one pick-up truck, I could help in case its necessary to up such
282 wheelchairs."

283

284

285

286

287 **Employment and income generation of PWDs as the CBR component beyond**
288 **charity and medical model in community**

289 Beside health services, based on data collection and PWDs needs prioritized, job
290 employment and income generation of PWDs are also critical concerns to promote
291 the quality of life for PWDs in this community.

292 Employment for PWDs is one of CBR matrix that community and participants
293 emphasized to find opportunity for PWDs in community along with business sectors'
294 needs to comply with current laws regarding employment of PWDs in Thailand.

295 Persons with Disabilities Empowerment Act 2007, article 33 states that “ For the
296 benefits of the empowerment of persons with disabilities, employers, entrepreneurs
297 and government agency shall employ persons with disabilities to work in the
298 positions suitable for them in proper proportions to the entire number of the
299 employees in their work places. The Minister of Labor shall issue Ministerial
300 Regulations to specify numbers of employees with disabilities that the employers,
301 entrepreneurs and government agencies shall recruit in their work places [25, 26].

302 That means such particular laws to promote PWDs to capitalism both market and
303 self-employment without discrimination and provides quota scheme for PWDs by
304 1.0% of total employees of public and private organizations. Thus, meeting in
305 community between business employers and PWDs was held by CBR participants in
306 order to find employment opportunity for PWDs and business/company sectors as
307 win win approach. It did not prove to solve or guarantee employment of PWDs, but it
308 was a starting point and opportunity both PWDs and business sectors in terms of
309 inclusive business. After such meeting and negotiation, those companies reflected
310 some benefits.

311 Vee: we have never held meeting among employers, companies,
312 business sectors, persons with disabilities and their families before.

313 So. this is the first time of meeting in our community that will helps
314 employers recruit PWDs getting jobs to comply with laws and
315 provide PWDs opportunities for more independent living rather than
316 wait for only small allowance as usual. I now would like to invite
317 companies participating today to reflect what benefits and any
318 suggestion they get and give us respectively.

319 Bitech: I today know what are the PWDs needs. Working at home might be
320 alternative options for PWDs that I have never concerned before, I
321 usually focus on working in company only. But so far PWDs could be
322 provided jobs at their homes too. I will have meeting with my team to
323 explore this alternative possibility for PWDs then.

324 CS Steel: I today interviewed 3 cases of PWDs. They are willing to sell some
325 goods in my company. They also wonder how they can get to my
326 company; no worry about that, I can support them with a car for their
327 transportation free of charge.

328 Sausage: I could not recruit any PWDs to get a job, no more time and PWDS
329 in this meeting. Anyhow I today learned more about PWDs and
330 useful information to design what kind of job to suit for them and how
331 to support them at work place.

332

333 **Sustainability of CBR through strategic plan**

334 CBR workers relate to sustainability of CBR services in this community after the
335 researcher terminates the project and withdraws from the community. This project
336 had been conducted through 12 months with 15 various activities such as group
337 discussion, in-depth interview, home visits and services, rehabilitation and referral
338 services, public hearing, etc. through community participation and involvement. By
339 the ways, these activities have been initiative and simultaneous phase to explore and
340 create possibility of CBR set by researcher and some parts of community sectors.
341 For its sustainability over the long run, CBR strategic plan has have existed and
342 integrated into community planning with full participation and continuity. Thus, the
343 CBR four years strategic plan (2016-2019) was written by CBR workers and
344 stakeholders in community based on lessons learned from various activities of
345 research conduction, their sharing and participation. In the preliminary step, the CBR
346 strategic plan had two aims. The first aim was to promote the rights of PWDs to
347 access to crucial basic services including health, education, occupation and social
348 services. Secondly it aimed to strengthen Sub-district Administrative Organization
349 (SAO), PWDs group and their networks in community to conduct continuously and
350 systematically CBR services. This strategic plan was made cooperatively and

351 distributed to community leaders and the main local organizations/stakeholders
352 including Sub-district Administrative Organization (SAO), Community Health
353 Promoting Hospital, Provincial Department of Human Security and Social
354 Development, health service volunteer group and community PWDs clubs in
355 community before the end of research project or termination stage.

356

357 **Negative Lessons and challenges learned from CBR phenomena.**

358

359 Even though there were many positive aspects through the CBR project presented
360 above. there were also challenges and problems or limitations within this CBR
361 conduction that might threaten its sustainability as well.

362

363 **Uncompleted PAR and CBR cycles**

364 As per the nature of PAR, development of participation of participants as well as
365 valid needs and problems by their own perspective are important, thus the two first
366 steps of CBR- step (1) developing a basis for participation and (2) data collection and
367 analysis, required more 6 months with limited time and budget. So, less time was left
368 for step (3) planning (master plan of CBR) as well as step (4) action and evaluation,
369 (5) termination. Evaluation of CBR outcomes for this project such as using of
370 assistive technologies, services accessibility, independent living and addressing
371 various needs of PWDs in community have not been assessed yet.

372

373 **Focusing on some parts of elements of health and livelihood component of** 374 **CBR matrix**

375 Ideally, CBR matrix consists of five domains including health, education, livelihood,
376 social and empowerment. The health and livelihood domains of this project were
377 emphasized, based on CBR workers and community's expressed interests and
378 need. Home visits, wheelchair referral supports as well as meeting between PWDs
379 and companies for PWDs' employment were conducted. Problems of PWDs in
380 community have been also complicated issues, while this CBR project was lunched
381 as the first time in community with a short period. Basic and updated data regarding
382 PWDs and their needs in community were identified through some community

383 members and participation. Problems of PWDs were discussed and shared, so
384 many those challenges have been still left and needed to be solved in next steps
385 particularly (1) proper health referral system for PWDs, (2) working and social skills
386 of PWDs in companies and business sectors, (3) valid data of qualified PWDs for
387 employment and (4) lacking of qualified teachers for PWDs in community.

388

389 **No more sectors of stakeholders in CBR project.**

390 According to global organizations mentioned [27, 28], CBR workers/ stakeholders
391 should be seven sectors including (1) PWDs, (2) families of PWDs, (3) community
392 members, (4) governmental organizations as local, regional and national level, (5)
393 non-governmental organizations as local, regional, national and international level,
394 (6) professionals related such as medical, educational personnel, social works and
395 others, (7) business sectors. For this project, there were only 13 main CBR
396 workers including 2 officials of community Health Promoting Hospital, 2 officials
397 Sub-district Administrative Organization, 1 official of Provincial Department, 2
398 volunteers in village, 1 leaders of PWDs leader, 2 care givers of PWDs, 1
399 researcher, 2 research assistants. That means that most of CBR workers were
400 governmental organizations as local medical professionals, local government and
401 research team. There was no business sector and only small group of stakeholders,
402 especially representative of PWDs. It might be risk to strength and continuity of
403 CBR project. Thus, community concern and participation would be further promoted
404 for CBR sustainability.

405

406 **DISCUSSION**

407 This study was conducted through participatory action research (PAR) to set up and
408 conduct a community based rehabilitation (CBR) in urban area based on significant
409 variables and particular conditions of previous meta-analysis studies. PAR is still
410 helpful for development of community partnerships, participation and involvement. It
411 increases the cultural competency of rehabilitation services, raising disability
412 awareness and decision making by their own perspective of community participants
413 or CBR workers [29,30.31].

414 There were also some positive phenomena helping this CBR project to be run and
415 keep its role. Sharing among CBR workers through PAR helped them understand,
416 have empathy with each other and set up mutual goals with their own perspectives to
417 overcome challenges and address some needs of PWDs in community. Cooperation
418 and networking services were created among these CBR workers as well as capacity
419 building and community resource mobilization were run through CBR activities.
420 These CBR contributions were also the key components as previous studies [6,7,8].
421 It was set up with 13 CBR workers based on their authentic participants, it helps us
422 to understand CBR project as its holistic and dynamic being since initial stage-
423 developing a basis for participation to termination stage as a longitudinal study. This
424 study is the same method of some previous studies [7] and differs from majority of
425 other studies that focused on literature review, survey, questionnaire and in-depth
426 interview as a cross-sectional study [5,6,8,10,19,20,21,22,23].
427 The important difference from other studies was it was also set up based on
428 significant variables of previous studies [4]. That study suggested that 4 independent
429 variables as qualification of CBR workers were also predictable for CBR success and
430 sustainability including education (ES= .2914), position or socioeconomic status
431 (ES= .2731), work experiences (ES= .2365), age (ES= .2196) that means those who
432 graduated from secondary school or more, had a permanent position and salary, 2
433 years or more experiences, more than 20 years old. There has been no study to set
434 up a project with significant variables from meta-analysis like this study, there were
435 just some content analysis [9]. CBR setting through PAR needed voluntary
436 participation, while no gold standard for optimal participation, conduction, monitoring
437 and tools of CBR. Participation does not occur in a vacuum. It varies depending on
438 context and community culture [31,35,35]. Nevertheless, this CBR project might not
439 indicate more control of the 4 independent variables in a real situation or
440 environment, confounding factors might effect dependent variables, effectiveness or
441 sustainable CBR.

442 There were some challenges occurring in CBR conduction including uncompleted
443 PAR and CBR cycles, limited focus on only health and livelihood component of CBR
444 matrix, no more sectors of stakeholders in CBR project, lack of proper health referral
445 system for PWDs, lack of working and social skills of PWDs in companies and

446 business sectors, lack of valid data of qualified PWDs for employment and lack of
447 qualified teachers for PWDs in community.

448 These challenges were similar previous studies. It reflects that these problematic
449 circumstances had been hard to get rid from CBR phenomena through the past two
450 decades both in Thailand and other countries [7,8,10,12,13,14, 15,16,17,18]. These
451 challenges are not sourced from this CBR workers but from outsiders or stakeholders
452 surrounding them as the big society.

453 Other limitations of study were limited time and research budget that would be
454 finished one year. So the CBR cycle through PAR was not perfect, uncompleted
455 PAR and CBR cycles. We spent much more time with step (1) developing a basis for
456 participation, step (2) data collection and analysis and step (3) planning (master plan
457 of CBR) before terminate stage and withdrawing from community rather than step (4)
458 action and evaluation. Since community participation was mainly concerned as the
459 key and sustainable component of CBR being. While only 13 main CBR workers
460 involving this project without business sectors and active PWDs in community as
461 CBR concept and practice [27,28,29,33], thus CBR matrix services were also
462 limited as “ general and superficial services” as only home visits, general health and
463 occupational guidance, referral and supports for getting wheel chairs. For these
464 limitations, further design to identify and promote key stakeholders as well as follow
465 up , evaluate and measure CBR output , outcome and its impact would be done
466 while this design is little know and study. Meaningful framework of CBR services and
467 evaluation including ICF concept with deep livelihood, education and cultural
468 component into CBR matrix should be considered. Furthermore CBR workers
469 training with new paradigm of disability services as social model, rights based and
470 advocacy model are also necessary for effective CBR services [4,22,31,35,36,37].

471

472 **CONCLUSION**

473 CBR project were purposively and voluntarily set up with 4 significant independent
474 variables that were characteristics of CBR workers including education, age,
475 occupation, experiences of human services of CBR workers. Those characteristics of
476 CBR workers have proved that they are part of CBR success and sustainability.
477 While there were still some challenges in this CBR phenomena including no more

478 participation of sectors in community especially PWDs themselves, business sector,
479 no comprehensive evaluation of CBR outcomes.
480 According to research results, the study suggests that (1) CBR studies through PAR
481 approach in various contexts, significant variables concerned with completed PAR
482 cycle need to be conducted to make various lesson learned, firm conclusions and
483 broad applications, (2) CBR setting for its continuity and sustainability should
484 consider some variables and factors as follows, (2.1) in case of limited CBR
485 sectors, the key CBR stakeholders need to come from at least three sectors
486 including (2.1.1) community leader group, (2.1.2) PWDs and their care givers and
487 (2.1.3) professionals or CBR facilitators, (2.2) qualifications of CBR
488 workers/participants as a concerning guideline are (2.2.1) educational level reflecting
489 knowledge and skills for disability services, (2.2.2) age reflecting maturity and human
490 relationship skills, (2.2.3) sufficient socioeconomic status reflecting time devotion
491 and no more benefit and 4) attitude and experiences reflecting public and human
492 service mind, (3) professionals or CBR facilitators should work with community
493 leaders and strengthen PWDs and their care givers. PWDs and their families
494 club/group in community should be promoted, (4) evaluation and measurement of
495 CBR projects for identifying their quality and quantity as well as effectiveness and
496 efficiency should be done, (5) after research projects or disability services done by
497 any sectors, document and information should be share each other in community.
498 This approach will help all stakeholders to get to know how community and PWDs
499 are and what they will do next with more cooperative or lesser redundant work.

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501 **ACKNOWLEDGEMENTS**

502 This article was also part of research titled “The Development of Holistic Community-
503 Based Rehabilitation”. Many thanks to all participants, especially ten participants
504 who lived and worked in community for their project participation, movement and
505 data providing and also two coordinators of research project- Mr. Chinapong
506 Krisingsom and Ms.Jarunda Junjam for their filed and activity coordination, tape
507 recording and transcription writing. Special thanks Dr. Donald Persons for his
508 support in English editing the manuscript.

509

510 **DECLARATION OF INTEREST**

511 The author reports no conflicts of interest.

512

513 **FUNDING**

514 This research was supported by Mahidol University (Grant 2015).

515

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637 **TABLE**

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639 Table 1: Characteristic of participants

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No.	Assumed name	Gender	Age (years)	Education	Occupation/ position	Work experience
1	Pornpun	Female	54	Bachelor	Director of Community Health Promoting Hospital	- 30 years as public health nurse - 5 years focused more on PWDs
2	Billy	Female	24	Bachelor	Physical therapist of Director Community Health Promoting Hospital	- 6 Years as Physical therapist - 5 years focused more on PWDs
3	Keit	Male	45	Bachelor	Vice Director of Sub-district Administrative Organization	- 20 years as local government official - 5 years focused on social welfare for community members

4	Somjai	Female	40	Bachelor	Official of Sub-district Administrative Organization	<ul style="list-style-type: none"> - 8 years as local government official - 3 years worked with PWDs in community
5	Suree	Female	33	Bachelor	Official of Provincial Department of Human Security and Social Development	<ul style="list-style-type: none"> - 6 years as social worker - 2 years worked for PWDs in community
6	Wiwa	Female	71	Bachelor	Head of health service volunteer in village A	<ul style="list-style-type: none"> - 15 years as volunteer in community - 1 year worked for PWDs in community
7	Neung	Female	46	Secondary School	Head of health Service volunteer in village B	<ul style="list-style-type: none"> - 8 years as volunteer in community - 1 year worked for PWDs in community
8	Petch	Female	54	Primary School	Chair of Community PWDs Club	<ul style="list-style-type: none"> - 6 years as person with physical disability on

						wheelchair - 2 years of Chair of Community PWDs Club
9	Aun	Female	50	Primary School	Care giver of PWD and member Community of PWDs Club	- 5 years as volunteer in community - 30 years as PWD care giver (sister of PWD) - 2 years as member of Community PWDs Club
10	Chup	Female	68	Primary School	Care giver of PWD	- 20 years as PWD care giver (grandmother of PWD)
11	Vee	Male	50	Doctoral	Researcher	- 20 years of instructor in rehabilitation services - 15 years of CBR researcher

12	Chin	Male	31	Master	Research assistant /Project coordinator	- 3 years as coordinator in policy and community work for PWDs supported by research fund
13	Jarunda	Female	28	Master	Research assistant /Project coordinator	- 1 years as coordinator in community work for PWDs supported by research fund

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658 **FIGURE LEGEND**

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660 Figure 1: Steps of Participatory Action Research (PAR) on Community Based
661 Rehabilitation (CBR) adapted from Aimers [24].

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663 **FIGURE**

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683 Rehabilitation (CBR) adapted from Aimers [24].

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