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**Analysis of the impact of WASH
interventions on women and adolescent
girls' well-being in the tea plantations of
India: a comparative case study of Ghoronia
and Singlijan Tea Estates in Dibrugarh,
Assam- ANNEXES**

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ANNEX 1: Interviews to women and adolescent girls – Singlijan

INTERVIEW WOMEN AND ADOLESCENT GIRLS – SINGLIJAN

Hello! (Introduce myself and translator).

We come from Dibrugarh University and we are conducting a research on sanitation (toilets) and well-being of women. We are interested in learning about the quality of life of women like you living in your community. The information you give us will help us learn more about how is your life and about what you want and need, so that we can think of ways to make your lives more comfortable! We would like your permission to talk with you about your views on issues related to women's quality of life. We are recording the session because we don't want to miss any of your comments, but we won't be sharing the recording with anyone else. Please be assured that the information you share will remain confidential, so you should feel comfortable about sharing your thoughts and ideas freely.

Date:

Name of the respondent:

Age of the respondent:

A- SOCIAL STRUCTURE

(Social norms, Social structure, Power relations and Roles division)

1. What are your daily responsibilities in your family?

2. How do you participate in the household decision-making?

(Do they have a saying at home regarding important decisions?)

3. How it affects you when you or any members in your family get ill?

(We are looking for information about things they have to do and things they can not do)

B- HEALTH, SANITATION AND HYGIENE

4. Tell me about the advantages and disadvantages of owning a toilet for women?

5. What are the things you can now do thanks to having sanitation and you could not do before? (What are the things you are now able to do thanks to having toilet but you were not able to do before?)

C- WELLBEING

6. How would you describe your quality of life?

7. What aspects do you consider indispensable to have a good life?

8. And what are the aspects that make one's life bad?

9. What are the things you value most in your life?

10. How would you like your children's life to be?

11. Do you think the interventions have improved your quality of life? Tell me about it.

12. How access to sanitation and better hygiene practices have improved your quality of life/wellbeing?

Thank you for your time and ideas. This has been extremely helpful.

ANNEX 2: Interviews to women and adolescent girls - Ghoronia

INTERVIEW WOMEN AND ADOLESCENT GIRLS – GHORONIA

Hello! (Introduce myself and translator).

We come from Dibrugarh University and we are conducting a research on sanitation (toilets) and well-being of women. We are interested in learning about the quality of life of women like you living in your community. The information you give us will help us learn more about how is your life and about what you want and need, so that we can think of ways to make your lives more comfortable! We would like your permission to talk with you about your views on issues related to women's quality of life. We are recording the session because we don't want to miss any of your comments, but we won't be sharing the recording with anyone else. Please be assured that the information you share will remain confidential, so you should feel comfortable about sharing your thoughts and ideas freely.

Date:

Name of the respondent:

Age of the respondent:

A- SOCIAL STRUCTURE

(Social norms, Social structure, Power relations and Roles division)

1. What are your daily responsibilities in your family?

2. How do you participate in the household decision-making?

(Do they have a saying at home regarding important decisions?)

3. How it affects you when you or any members in your family get ill?

(We are looking for information about things they have to do and things they can not do)

B- HEALTH, SANITATION AND HYGIENE

4. As a woman, what are the main problems you face due to inadequate sanitation?
5. Tell me about any incidents that had occurred to women when going to the fields to defecate.
6. What are your preferences regarding toilets? What would you change if you could to make the toilets in your community better for women?
7. Tell me about the limitations you have in your daily routine when you are menstruating and the reasons behind those limitations. *(We are looking for information regarding: do not go to school/work, do not enter the kitchen, do not enter sacred places, do not use certain water sources, do not do physical activity, sleep separately, etc)*

C- WELLBEING

8. How would you describe your quality of life?
9. What aspects do you consider indispensable to have a good life?
10. And what are the aspects that make one's life bad?
11. What are the things you value most in your life?
12. How would you like your children's life to be?
13. How would you like to be your life if you had the opportunity to change it?

Thank you for your time and ideas. This has been extremely helpful.

ANNEX 3: WASH questionnaire

WASH - WOMEN'S QUESTIONNAIRE

Namaskar (Introduce myself and translator)

We come from Dibrugarh University and we are conducting a research on water, sanitation (toilets) and hygiene. We are interested in learning about some of the main health and hygiene needs and practices of women like you living in your community. We would like you to answer a few questions. The information you give us will help us learn more about what you want and need so that we can think of ways to make your lives healthier and more comfortable. Please be assured that the information you share will remain confidential.

1. Name of the Tea Estate:

2. Date visited:

RESPONDENT AND HOUSEHOLD INFORMATION

3. Name of respondent:

4. Age of respondent:

5. Marital Status:

6. Origin of the respondent (Orissa, Jharkhand, Bihar, Madhya Pradesh, etc):

7. Religion:

8. Education level:

9. IF WOMAN: Occupation:

10. IF ADOLESCENT GIRL: Do you go to school? Yes No Why?

11. Is your household a BPL household (Below Poverty Line)? Y/N

12. N^o of family members that live in this household:?

13. Any member engaged in the Self-Help Group or any other groups?

Yes Which Group?

No

14. Any member engaged in the Adolescent Girls' Club?: Y/N

15. Type of house: Kuccha Semi-pucca Pucca

16. Was your house provided by the tea garden? self-constructed?

17. Household condition (inspect if it is clean and safe): Clean/Not clean Safe/Not safe

18. You are: Permanent worker Casual worker

e- Bottled water

36. Condition of water source (inspect): Safe Not safe Why?
37. Who goes to fetch the water (if applicable)?:
38. How long does it take the person in charge to fetch water (round trip, in minutes)?:
39. How do you treat water: Filtered Boiled Filtered+Boiled Not treated Other
40. How do you store the drinking water (inspect)?:
41. Is the container covered (inspect)?: Y/N
42. Is the container clean (inspect)?: Y/N
43. How do you get water from the container (tick all that apply)?:
- a- Tilt container and pour into a cup
 - b- Dip hand with cup
 - c- Container has a tap
 - d- Use a ladder or scooper

TOILET INFORMATION

44. Do you have access to a toilet?: Yes, own Yes, shared/neighbour No
45. Where do the members of your family usually defecate?:
- Own toilet Neighbour toilet Shared toilet Public toilet Field

IF OWN TOILET

46. Type of construction of your toilet: Kuccha Semi-pucca Pucca
47. Type of toilet (inspect): Flush Pit
- a- Flush to piped sewer system
 - a- Twin pit/composting toilet
 - b- Flush to septic tank
 - b- Pit toilet with slab
 - c- Flush to leach pit
 - c- Pit toilet without slab/open pit
 - d- Flush to somewhere else
 - d- Dry toilet
48. Is the toilet functional (if applicable)?: Yes No Why?:
49. Who constructed the toilet: Government Tea Estate Self-construction
50. If your toilet has been provided by the government, did you have a toilet before? Y/N
51. Why did you have a toilet constructed? Give the reasons:
52. Which toilet is being used?: New toilet Old toilet Why?

53. Where does the toilet drain?:

54. Is the toilet being used for its purpose?: Always

Sometimes Why?:

No a- Why?:

b- Where do you defecate?:

55. How many members of the family use it?:

56. Is the toilet clean (inspect)? Y/N

57. Does your toilet have water (inspect)? Y/N And soap (inspect)? Y/N

58. Who cleans the toilet?:

59. How often is the toilet cleaned?:

60. What do you use to clean the toilet?:

61. Has your toilet pit ever been emptied (if applicable)?:

62. Who empties the pit (if applicable)?:

63. What did you do with the contents of the pit (if applicable)?:

IF NO OWN TOILET

64. Why did not you have a toilet constructed in your house?

65. How far is your place of defecation from your house (in minutes)?

66. When do you defecate? Morning Afternoon Evening Night

67. Have you ever been or know someone that has ever been assaulted/attacked/molested while going to defecate? Y/N

68. How many women have been assaulted/attacked/molested while going to defecate in the last year?

69. In your household, how are babies' faeces disposed of?:

HYGIENE AND HANDWASHING INFORMATION

70. When do you usually wash your hands?:

a- before eating Always Sometimes Never

b- after eating Always Sometimes Never

c- before preparing food Always Sometimes Never

- d- after using the toilet Always Sometimes Never
- e- after handling babies' faeces Always Sometimes Never
- f- after handling animals Always Sometimes Never
- g- after handling rubbish Always Sometimes Never
- h- when they are dirty Always Sometimes Never

71. Where do you wash your hands?:

72. What do you use for handwashing?: Soap Only water Other

73. How do you eat your food?:

a- cooked

b- raw, washed

c- raw, non washed

74. Have you ever received hygiene education/ handwashing advice?: Y/N

75. Which information regarding hygiene have you received (tick all that apply)?:

a- Drink safe water

b- Need of toilet use

c- Handwashing advice

d- Food hygiene advice

e- Babies faeces disposal advice

f- Waste disposal advice

g- Menstrual hygiene advice

76. Which will be your preferred method for getting advice on health and hygiene?

a- Radio/TV

b- Video showing

c- Drama presentation

d- Training sessions/workshops

e- Posters/pictures/

77. Do you wear shoes?: Always Sometimes Never Why?

78. Do your children wear shoes?: Always Sometimes Never Why?

WASTE DISPOSAL INFORMATION

79. What do you do with the garbage collected in your house?:

- a) Bury
- b) Burn
- c) Lay around house
- d) Waste disposal area
- e) Outside yard
- f) Dump in drain

80. How is the water used in your house discarded? (bathing, washing, etc.):

MENSTRUATION AND REPRODUCTIVE HEALTH INFORMATION

81. Have you ever lost work/school days due to periods?: Y/N

82. How many days of work/school have you missed due to periods in the last year?:

83. What do you use for your periods?: Sanitary pads Old clothes Other

84. How many times do you change them per day?:

85. Do you reuse them?: Y/N

86. How do you wash them (if applicable)?: Water Water+soap Other

87. Where do you dry them?:

88. Have you ever had female specific diseases (urinary and vaginal infections)?

Yes Which ones? No

89. What do you do when you have a female specific disease?:

Go to the doctor Use traditional medicine/healer Nothing

90. Are there any restrictions to your daily routine due to your period?: Y/N

91. Which ones? (tick all that apply):

- Do not go to school/work
- Do not enter the kitchen
- Do not entre sacred places
- Do not use certain water sources
- Do not do physical activity
- Sleep separately
- Other (specify)

92. Which of the following do you associate with menstruation? (Tick all that apply):

Foul odour Impurity Unclean blood Empowerment Woman pride

93. What is the cause of menstruation?:

It is a physiological process

It is a curse of God

It is punishment for a Sin

It is a gift of Nature

It is caused by a disease

Other (specify):

Don't know

Thank you for your time and ideas. This has been extremely helpful.

Wash interventions and well-being of women and adolescent girls in the tea plantations of India: a comparative case study of Ghoronia and Singlijan Tea Estates in Dibrugarh, Assam.

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Abstract

The lack of access to adequate sanitation, along with unawareness of hygienic practices, is a serious issue among the population living and working in the tea plantations in Assam, commonly called the Tea Tribes, with important consequences to their quality of life. The well-being of women and adolescent girls is even more compromised due to the female-specific diseases and the social dynamics in which the community is embedded.

In this paper, we intend to analyse the impact that the sanitation and hygiene interventions in the tea plantations of Dibrugarh district of Assam, India, have had on women and adolescent girls' physical and mental well-being, using Amartya Sen's Capabilities Approach.

For that purpose, a comparative qualitative study was carried out in two tea gardens in Dibrugarh: Ghoronia Tea Estate – without intervention- and Singlijan Tea Estate – where WASH interventions had been implemented for a considerable period of time.

Interviews with women and adolescent girls from the tea tribes were conducted to explore their well-being through the capabilities and functionings enhanced by the interventions, as well as the social conversion factors that were limiting their real opportunities to lead the life they had reasons to value, and influencing their preferences and effective elections.

Introduction

Historically, the approaches to people's well-being have focused on evaluating income, consumption, commodity bundles, basic needs, or even desire fulfilment. However, well-being includes other aspects of a person's life, such as physical health or mental and social well-being beyond material achievements and, therefore, wealth or utility alone are not sufficient to measure people's quality of life. Moreover, economic growth is no guarantee of human development.

In his Capabilities Approach, in which human beings and their flourishing are seen as the ends of development, Sen argues that the well-being of a person should be assessed in the space of capabilities, that is 'what people are able to be or do', rather than 'what they have' in terms of income or commodities. In that sense, well-being would be constituted by the valuable functionings – or 'beings' and 'doings'- a person has successfully achieved, and goods and

services would be the means for the development of capabilities – or substantive freedoms a person has to realise functionings that she values (Sen, 1999).

Sen also recognises that there are very elementary functionings such as being well nourished or healthy or escaping avoidable morbidity and premature mortality - and the corresponding basic capabilities- while others, like achieving self-respect or taking part in the life of the community, are more complex but still widely valued (Sen, 1999).

There are a variety of factors that can affect the freedom of a person to lead the kind of life she values, and the availability of goods and services does not necessarily translate into capability. A key aspect of the approach is the conversion factors -the personal characteristics and social arrangements- that can influence and restrict the freedoms that people can enjoy and which also shape individuals' preferences, which in turn will define personal choices of functionings (Robeyns, 2005).

Sanitation is a basic need that enables the capability to be healthy, which in turn is a resource for other capabilities such as the ability to be productive or to be literate. On the opposite side, poor sanitary conditions not only impact physical health, but have direct consequences on people's socio-psychological well-being, limiting people's capabilities or freedoms to lead the life they have reason to value.

The lack of adequate sanitation and hygienic practices is a common issue among the population living and working in the tea plantations, commonly called the Tea Tribes, in Assam, India, and seriously affect their quality of life. The well-being of women and adolescent girls is even more compromised due to the female-specific diseases and the gender inequalities and social dynamics in which the community is embedded.

Sen's approach, "by focusing from the start on what people are actually able to do and to be, is very well placed to foreground and address inequalities that women suffer inside the family" (Agarwal et al., 2007:45).

This paper seeks to understand, through the Capabilities Approach, to what extent water and sanitation (WASH) interventions carried out by the Assam Branch of the Indian Tea Association (ABITA) in partnership with UNICEF and the government in some tea gardens of Dibrugarh district of Assam, India, have improved women and adolescent girls' well-being.

There are many challenges in operationalising the Capabilities Approach, and many attempts have been made to build an index that could measure and "quantify" the relevant capabilities. However, capturing the full complexity of human capabilities in a single index seems difficult, as "the range of human capabilities is infinite and the value that individuals assign to each one can vary from person to person" (Fukuda-Parr, 2003:305) and from one community to another. Therefore, assessing the interventions through the lens of capabilities implies using a qualitative approach to understand the reality from the people's point of view, for which it becomes necessary to know about their contexts, backgrounds, power relations, social norms, etc.; so it is possible to interpret the changes in perception after the interventions have taken place.

In order to achieve that, a comparative qualitative study was carried out in two tea gardens in Dibrugarh: Ghoronia Tea Estate – without intervention- and Singlijan Tea Estate – where WASH interventions had been implemented for a considerable period of time.

Throughout the research process, we assumed an interpretative/constructivist approach. Our perspective is that reality is not objective, it is constructed socially and the researcher's task is

to understand the complex world from the point of view of the people that are living a particular experience. In that sense, we wanted to understand the state of capabilities in both gardens through the women and adolescent girls' experiences.

As the social world is constructed of symbols and meanings, we based our study on qualitative methods which allowed us to deeply understand the reality through the meanings and definitions that women and adolescent girls from the gardens gave to their particular situation.

For our purpose, the case study seemed the best way to provide us with important information that could not be captured through quantitative methods, as it provides an in-depth analysis of a phenomenon by capturing the views of the people involved.

Interviews with women and adolescent girls from the tea tribes were conducted in both tea gardens in order to explore their capabilities and functionings, but also the personal and social conversion factors that can restrict the choices they have.

The paper begins with a more detailed explanation of the Capabilities Approach, as well as an overview of the implications of inadequate sanitation for people's well-being, particularly for women, and an introduction to the tea communities and the interventions that have been implemented in the tea gardens of Dibrugarh. The next section states the purpose and research objectives. The methodology section presents the study setting and explains the sampling and the research instruments utilised. This is followed by an explanation of the analysis carried out and the findings of the study, which are discussed. The conclusion gives some insights from our research. The following section provides some recommendations to approach sanitation interventions. Finally, the paper ends with the research limitations and possible bias.

Background

The Capabilities Approach and Human Development

Sen, in *Development as freedom* (1999), defines development as an expansion of people's real freedoms or capabilities and states that the purpose of development is "to improve people's lives by expanding the range of things that a person can be and do in her life" (Fukuda-Parr, 2003:303). His Capabilities Approach concentrates on people's quality of life by focusing on the real opportunities or freedom they have to achieve the functionings – or 'beings' and 'doings'- they value.

The key components of the approach are the 'capabilities' and the 'functionings'.

Functionings are 'beings' and 'doings'. By 'valuable functionings' it is meant the various things a person may value doing or being which "[...] may vary from elementary ones, such as being adequately nourished and being free of avoidable disease, to very complex activities or personal states, such as being able to take part in the life of the community and having self-respect" (Sen, 1999:75). 'Achieved functionings' are the particular functionings a person has successfully realised and are argued to be constitutive of a person's well-being.

Capabilities are the substantive freedoms a person has to achieve functionings that she values (Sen, 1999) -what people are actually able to be and to do- and the capability set represents the alternative combinations of functionings from which a person can choose, reflecting her freedom to lead one type of life or another.

In other words, functionings would be the person's achievements, capabilities the freedom to achieve, and commodities (goods and services) would be the means to achieve.

Sen recognises that there are basic capabilities or 'substantive freedoms' that can be considered as resources, as their lack would impede many other capabilities.

Another key aspect of the approach is the conversion factors: personal, social and environmental aspects that can influence and restrict the freedoms that people can enjoy and which also shape individuals' preferences, which in turn will define personal choices of functionings (Robeyns, 2005). Sen affirms that "Inequality between women and men afflicts [...] the lives of millions of women and, in different ways, severely restricts the substantive freedoms that women enjoy" (1999:15). Therefore, the social conversion factors are particularly important in the case of women living in patriarchal societies such as the tea communities and have a strong influence in their well-being, as social norms, traditions, discriminatory practices, gender roles, societal hierarchies and power relations constrain their real opportunities to lead the life they have reason to value, and influence their preferences, aspirations and effective elections. As Bina Agarwal states, "Women's current preferences often show distortions that are the result of unjust background conditions" (2007: 40).

Sanitary crisis and its consequences

Adequate sanitation, together with good hygiene and safe water are fundamental to good health. However, over 2 billion people worldwide do not have access to improved sanitation and almost a billion have to defecate in the open (WHO/UNICEF, 2015).

According to the Joint Monitoring Program data (WHO/UNICEF, 2015), in India, 60% of the population do not have access to improved sanitation, and over 44% still defecate in the open.

The Joint Monitoring Programme (JMP) defines improved sanitation facility as one that hygienically separates human excreta from human contact.

Inadequate sanitation, together with unclean water and poor hygienic practices have serious consequences on health and are one of the most important contributors to diarrhoea, dysentery, intestinal worms and other excreta-related diseases and infections, often leading to malnutrition, stunting and reduced cognitive development in children, and high rates of morbidity and mortality in general (Strunz et. al, 2014; WaterAid, 2016; WaterAid 2015).

In turn, disease burden affects people's education opportunities as well as income, in terms of increase in medical expenditures and loss of working days which results in reduced productivity (Mehta, 2014).

Poor sanitary conditions not only impact physical health, but have direct consequences on people's socio-psychological well-being: walking long distances to find a private space consumes time that could be, otherwise, spent on more productive activities or on leisure and the lack of privacy affects dignity and self-esteem (Mara et al., 2010).

Women and young girls face even more psychological stress and greater health risks: changes in dietary habits and delayed urination and defecation due to the shame of being seen or the fear of being victims of violence makes them prone to urogenital tract infections and chronic constipation. Moreover, the lack of appropriate facilities to manage their menstrual hygiene results in school and work absenteeism (Roma and Pugh, 2012).

The tea industry and the tea tribes

The tea industry started in Assam at the beginning of the nineteenth century with the colonial British Administration. Nowadays, the sector employs around 20% of the population of Assam, being Dibrugarh the district with the highest production of tea.

The tea laborers, which were low caste or tribal people recruited from states like Uttar Pradesh, Bihar, Jharkhand, Orissa and Andhra Pradesh (Gogoi et al. 2014; Centre for Workers' Management, 2015), lived and worked in the tea plantations in rather deplorable conditions, being one of the most marginalised and socially excluded communities in Assam (Hazarika, 2012).

After independence, the Plantation Labour Act 1951 (PLA) was enacted to regulate the working and living conditions of the people employed at the plantations in India, including tea gardens. The PLA specifies labour standards and requires the employers to provide the workers and their dependants with housing accommodation, medical facilities, crèches, educational facilities for children between ages of 6 and 12, safe drinking water and sanitation; but this only applies to permanent labourers and it does not include temporary workers (Tea Board of India, 2016). Moreover, it has not been implemented in all the tea gardens and the quality of the services provided leaves much to be desired.

As a consequence, the tea communities, commonly called the Tea Tribes, continue to be amongst the most exploited and vulnerable workforce in Assam, with poor development indicators. Their working conditions are deplorable and their wages are among the lowest in the organised sector. Their living conditions are also precarious: low socio-economic status, with high rates of illiteracy, alcohol abuse, malnutrition (Kashem, 2015) and a high prevalence of gastrointestinal and skin diseases due to the lack of or inadequate sanitation and unawareness of health and hygiene.

The tea tribes have their own culture, traditions and social norms which can be reflected in a high incidence of child marriage and child labour, superstition and witchcraft and very well defined gender roles. Women and girls in tea plantations are the most vulnerable due to the highly patriarchal social system in which they live. Women, in addition to their paid work at the fields, are in charge of all the household duties and of taking care of the children, they have little participation in the household decision making process and are often victims of domestic violence. Girls, from the age they start school, also participate in running the household. As adolescents, they are often responsible for taking care of the younger siblings and the sick, and some of them start working in the plantations to support the family economically, with no time for studies (Hazarika, 2012).

ABITA interventions

To tackle the sanitary problem in the tea gardens, the Government of India, UNICEF and some tea associations have united efforts to put in place interventions to improve the sanitation and hygienic conditions of the tea tribes.

Tea Associations, that work as intermediaries between the tea garden managements, labourers and the Government, were constituted hundred years ago to look after the welfare of the

garden labourers and nowadays facilitate the implementation of the PLA by the Tea Garden Management (ABITA, 2016).

The Assam Branch Indian Tea Association – ABITA-, which comprises 276 tea garden companies in Assam, was established in 1989 “to watch over and safeguard the interest of its members and labour employed in member estates” and is divided into 16 circles grouped into three zones (Assam online portal, 2016).

ABITA Zone-1, in partnership with UNICEF since 2006 (UNICEF 2012), is in charge of implementing WASH interventions in Dibrugarh at the tea garden level, particularly the Swacch Cha Bagan project, in order to improve the sanitary and hygienic conditions of the tea tribes and relieve them from the burden of disease. The main objectives of the WASH programmes are to ensure full coverage of sanitary and water facilities for all workers and their families, and raise awareness on sanitation, hygiene and health with a view to ensure its effective usage among the tea communities and create a healthy and safe environment. The activities carried out consist of capacity building and trainings at various levels, awareness campaigns, demonstration, advocacy initiatives and formation of Adolescent Girls’ Clubs and Mothers’ Clubs (ABITA, 2016; The Eastern Today, 2016 a and 2016 b).

Objectives

This paper seeks to analyse the impact that the water and sanitation (WASH) interventions carried out by the Assam Branch of the Indian Tea Association (ABITA) in partnership with UNICEF and the government in some tea gardens of Dibrugarh district of Assam, India, have had on women and adolescent girls’ well-being, using Amartya Sen’s Capabilities Approach.

Methodology

Study setting

The study is a qualitative case study of research based on the data collected during extensive field visits from October to December 2016 in two tea gardens of Dibrugarh district of Assam, Ghoronia Tea Estate and Singlijan Tea Estate.

The state of Assam, in North Eastern India, bears India’s major share of tea production and export. Dibrugarh, a district of upper Assam, with an area of 3381 km² and a population of 1,327,748 (Census 2011), has the world’s largest area covered by tea gardens (Gogoi, 2014) and is known as the “Tea City”.

Ghoronia Tea Estate

Ghoronia Tea Estate is a privately owned garden located in Dibrugarh district of Assam that hosts a total population of 726 people. It has 71 households distributed in 3 labour lines. The total labour is 630 people, 270 of which are permanent and 360 casual (Managerial records).

Although water sources are accessible to everyone, almost none of the residents have a sanitary toilet at home, and many of them have to defecate in the fields. Moreover, no WASH interventions have ever been implemented in the garden and no Adolescent Girls’ Club, Mothers’ Club or Self-help Group have ever been formed.

Singlijan Tea Estate

Singlijan Tea Estate, owned by the company M.K. Shah Export Ltd., is also located in Dibrugarh district of Assam and was the first tea garden to be declared Open defecation free (ODF) in India, in 2015, under the Swacch Cha Bagan programme implemented by ABITA. The plantation covers an extension of 276.08 Hectares and hosts a total population of 1761 people. It has 306 households distributed in 3 labour lines. The total labour is 1262 workers, 560 of which are permanent and 702 casual (Tea garden Atlas, 2016).

Since 2007, ABITA, in partnership with UNICEF, has been implementing interventions which had a component of WASH and, nowadays, all garden residents have access to sanitary toilets and water points, and the water is chlorinated quarterly. Facilities for waste segregation into biodegradable and non-biodegradable can also be found. There is a self-help group, a Mothers' Club and an Adolescent Girls' Club that meet weekly, and recently a Boys' Club has been formed.

Sample selection

Ghooronia and Singlijan Tea Estates were selected purposively from the many visited. Ghooronia Tea Estate was chosen because, even though it is a member of ABITA, it had never had any WASH interventions implemented and the lack of sanitation facilities among its residents was evident. Singlijan Tea Estate was selected for having attained the Open Defecation Free (ODF) status with full coverage of latrines and water points among its residents and having had WASH interventions by ABITA for a considerable period of time, long enough to see any achievements.

These two opposite situations would allow us to analyse and understand to what extent adequate sanitation facilities and hygienic behaviours contribute to the expansion of the capabilities.

We also used purposive sampling to choose the participants in the study. The information was retrieved exclusively from women of all ages and adolescent girls mainly based on their willingness to share their specific experiences.

Methods

A combination of methods was employed to collect data related to the study objectives.

The main study tool consisted of 20 personal semi-structured interviews, 10 in each garden, to women of all ages and adolescent girls looking for qualitative information, in order to capture their thoughts and feelings in relation to their sanitation status. Additionally, observation, workshops with the participants, informal talks and interviews with key informants such as the welfare officer, the doctor and a teacher of each tea garden, allowed us to better understand and triangulate the information.

Although the study is qualitative, 30 surveys were also carried out in each garden to gather quantitative information that could complement the qualitative data and to verify some of the information provided.

Primary data were collected from the garden through workshops and individual interviews with the women and adolescent girls, key informant interviews, observation, informal talks and discussions and questionnaires. A translator and a mediator from the community provided the necessary support. Secondary data were obtained from reports from organizations, journals, research papers and official websites, as well as from medical and managerial records in the tea gardens.

During the visits, extensive field notes were written and a voice recorder was used to record the interviewees' opinions, in order not to miss any information. The data collected in the interviews were translated and transcribed. Afterwards, all the qualitative information was organised using codes and then analysed and interpreted.

Although being context-specific, the results of the case study could be generalised to other contexts that have similar theoretic conditions.

Findings

Through the analysis and interpretation of the interviews conducted with women and adolescent girls, we intended to provide sufficient evidence to understand to what extent the WASH interventions had improved their well-being by expanding the capability set from which they can choose valuable functionings.

The interview questions were directed to obtain information about what they value, the commodities available (sanitation facilities), the capabilities and functionings limited by the lack of adequate sanitation and the ones that had been expanded with the interventions; and the personal and social conversion factors, which shape their capabilities and their choices.

The literature review allowed us to draw an initial list of relevant capabilities in relation to sanitation. But not all functionings are relevant to every evaluation of quality of life as well-being has to do with what people value. Moreover, what people understand for well-being is context-specific. Therefore, in order to explore the well-being of the women and adolescent girls of the tea gardens and shortlist the relevant capabilities, we first identified valuable functionings for them.

Valuable functionings

Most of the valuable functionings identified were very elementary functionings.

The interviews showed that **being educated** was the most valued functioning, as almost all the interviewees mentioned it. This can be reflected in statements such as *'I have not received lots of things in my life... I wanted to be a Bachelor of Art (B.A) Graduate, couldn't do it... I wanted to get a computer which also can't be done...'* *'Sometimes I feel if I had studied at English medium school, I could have hoped a good life. If I had completed my bachelor degree, my life would be better than now'; 'I want my children to study well. What I couldn't do, I want them to do it'; 'If I had studied well, I think such kind of situation will not have occurred'; 'I think more education will make my life better' or 'like my elder sister... she wanted to study further but she could not and quit her studies and started working, just because my mother had a problem. That should not happen to anyone... parents should allow their children to study no matter what is the problem'*

Being healthy and **well-nourished** were also important functionings, as can be seen in the following fragments of interviews: *'It feels good to keep my house clean and it protects us from diseases. Nowadays diseases are increasing from dirty environment, so it is good for me if I take care'; 'the things that are needed for a better life are good health, good education, good unity'; 'the things which make people's life bad are drinking habits and living in a dirty environment. That will spread diseases' 'the things to have a good life are education... more education... good health and money'; 'According to me, firstly health is important' or 'when I have children, I will try to give them good education, provide them with good food and also try to give them a good environment and make them be good people'*

The interviewees found essential **having their basic needs satisfied** by means of a sufficient income. Examples of it are: *'Only money is the problem'; 'We don't have many things in our home like bed, table and chairs and many more... and even no electricity facility is available in my house so my children are not able to study. It would be good if we had all these things'; 'If there is money available, then only I can think of starting something'; 'I will try to fulfil their needs (my children) and try to give them good education so that they can be good men in society'; 'I would like to fulfil their needs (my children) then they will go ahead in their life without any problem'; 'The things that I don't like about my life is that I don't have a sustainable situation' or 'because if I have money, then I can fulfil any of my needs'*

Many of the women and adolescent girls valued **being productive and earning money** too, which can be reflected in the next affirmations: *'What I value most is good food, water, my kids and my job [laugh] Because, if I work, then I can fill my stomach and my children's life'; 'What I need for a better life is a job. I am also attending interviews'; 'Job is very important in my life. I want a job. It is important'; 'If I could become a good singer, I would be able to solve all my problems' and 'I want them (my children) to study well and when they grow up they should get a good job'.*

Some of the interviewees also mentioned more complex functionings such as **being happy** and **having a good lifestyle** or **having leisure time** *'I want my parents to live happy, want my friends to be happy and I want to be happy'; 'I would like to give them (my children) a good lifestyle' or 'My children don't tell me how they feel, however I want them to have a good life. I wish that they can live happily'. 'When I have children, I would like them to be happy and will advise them to play good games' and 'I would like my children's life to be... Just not like my life. I should give them good education and time to do what they want and... what should I say? Just not like mine'*

The valuable functionings that emerged from the interviews and the context specificities allowed us to shortlist the relevant capabilities from the initial list. The resultant group of capabilities that were relevant to women and adolescent girls in the tea gardens was used to establish the comparison between the two gardens.

Capabilities limited by the lack of adequate sanitation

In the case of the women and adolescent girls that did not have access to sanitation facilities and had not had hygiene education, we explored how the lack of it was affecting their capabilities.

Not having access to the facilities was not allowing the community to **have their basic needs satisfied** *'If you don't have a toilet, you have many problems, and you have to go to garden or field'; 'Children do it at the backward of the house'; 'We have no latrine, no hand pump or a bathroom. I bring water from my neighbour's house' and 'I would need a latrine with water facility, bathroom... to live a comfortable life. Now it's difficult'.*

The lack of sanitation caused deprivation of a basic capability such as to be able to **live a healthy life** and, therefore, was constraining their physical well-being: *'(Some people don't have latrine) ...They go in the garden for toilet and they are suffering from many types of diseases for that'*

Health is a basic capability which is a resource for other capabilities. Its absence can be reflected in failures such as incapability **to be productive and earn money**: *'No, I do not stitch when I am sick' and 'When I am sick I don't go to work (...) No, why they will pay us when we don't work?'; as well as the incapability **to receive education** 'I look after my mother when she gets ill. If she is admitted to the hospital, I take leave from school and do the household works, and then I go to the hospital'.*

The mental well-being was also seriously affected by the lack of adequate facilities. Statements such as *'We don't have toilets at home, so we go to the garden for toilet at the early morning time. When to do it? People see us while going to the garden for toilet and we feel shy'; 'We have faced many problems for not having a toilet or bathroom. We have to go far away' and 'We go to work and they will not allow us to change (the sanitary pads) while working so, when we get a break for lunch, we come home and change them'* showed the inability of the women and adolescent girls to **coordinate their own time**.

The ability to **have a private sphere** and to **have feelings of dignity** were also limited, as the next affirmations demonstrate: *'We have to go to the garden for toilet... we feel shy. We have to do it hiding from others'; 'If we need to go to toilet at night, we go to someone's latrine'; 'We face many problems for not having a toilet, especially at night, and not having a hand pump. When I have my periods I go to others' hand pump to wash. I feel shy to go others' home'; 'I feel shy and scared to go into the garden for a toilet (...) it's quite far' and 'It is difficult when a guest comes. We feel embarrassed for not having a toilet if they need it'.*

Finally, the ability **to feel safe** was affected as well: *'We are scared of snakes (when going to the field to defecate)'; '(Do you go to the garden alone for toilet?) No. How can I go alone? We go along with three or four people' or 'Yes. I remember... long time ago, once, a woman went for toilet at the garden and she was bitten by a snake. That was before my marriage. She was taken to the hospital and after that she was saved'.*

Capabilities expanded by the interventions

In the case of women and adolescent girls from Singlijan Tea Estate, we explored the capabilities and functionings that had been expanded with the interventions which mainly consisted of provision of sanitary facilities and education in hygiene practices to bring about behavioural changes. On one hand, we explored the capabilities that had been expanded through having access to sanitation facilities and, on the other hand, the capabilities expanded through safer hygienic practices as a consequence of the education received.

a) Capabilities expanded by having sanitation facilities

The access to adequate sanitary facilities resulted in a cleaner environment which, in turn, led to an improvement on health and, thus, on physical well-being. The women and adolescent girls declared getting less excreta-related diseases, showing that the interventions had contributed to expand the capability to **live a healthy life**: *'we have latrine so we don't have to go outside. We do toilet in our house and, also, we don't get diseases' 'Now we don't fall sick. And before we used to have itching on our skin' '(there are latrines at everyone's home) We get a clean environment. Diseases have decreased because of cleanliness (...) and we are free from harmful diseases'*.

Acquiring the capability to live a healthy life is a resource to other capabilities such as to **be productive and earn money** and to **receive education**. Indeed, being free of disease was allowing the women and adolescent girls to attend their work place and the school giving them income-earning and literacy opportunities.

Having their own sanitary latrines, also resulted in an improvement of their mental well-being. The lack of privacy for sanitation activities, in the context of the tea gardens, means exposure to the public and to animals and affects dignity and self-esteem, as well as safety. However, after getting their own latrines, women and adolescent girls were able to **have a private sphere**, to **have feelings of dignity** and to **feel safe**: *'(having a latrine) especially it's good for women and girls... no one can see us when we go to toilet' 'It is very helpful for a woman because if we go outside people may stare at us and at home it's safe and secure' and 'If guests come, it is helpful for them'*

The interventions had also expanded women's capability to **coordinate their own time**. They did not need to walk long distances to find a private space, resulting in saving time to realise productive or leisure activities. They also got free of the psychological stress of having to plan their time and habits around their sanitation activities: *'(having a toilet) It's helpful... like when we feel like going to toilet, we can go easily. It's close, no time barrier'; 'we are not facing any problems at night... during daytime we can go to a far place to do toilet but at night it's not possible, so the latrine is very helpful, especially at night'; '(having a hand pump) It's very helpful in our life as scarcity of water is big problem, but if you have a hand pump near house its helpful for eating and drinking, washing clothes...' and 'Having our own toilet, we do not require to go here and there'*

b) Capabilities expanded through better hygienic practices

The education received on WASH-related issues translated into knowledge, which resulted in better hygienic practices that contributed to the expansion of some capabilities such as to **live a healthy life** and to **receive education**.

Health benefits resulted from appropriate defecation practices and safer drinking water handling, as well as improved personal hygiene, as the following statements show: *'If we use a latrine we don't get affected from disease, and if we go for toilet outside we get affected from diseases like diarrhoea and many more diseases, like stomach pain'; 'I have learnt many things (at the meetings) like how to wash our hands, we should drink filtered and boiled water... children are not getting disease by following these; 'I learned many things. Before, we did not wash our hands properly, but now we wash our hands properly after coming from toilet'; 'Things like urine and latrine doing here and there will make a person sick. Toilet and latrine should be neat and*

clean'; 'cleanliness leads to good health. I know these things and I also tell them (neighbours) to be neat and clean' or 'I am also able to teach my younger brother and he is also free from disease'

Reproductive health and the opportunities for education got enhanced as well through better management of the menstrual hygiene: *'we were using pads, we did not feel free to move, now we feel free and can do other works (...) now we use pads instead of cloths which is very comfortable (...) Before I used to stay at home during periods, I skipped the classes' or 'And also we know that if someone is using a cloth instead of pads, then they have to wash it properly with detergent and keep it in the sunshine, not in shadow'*

As social constraints influence and restrict well-being, another group of elements we explored were the conversion factors. We wanted to know to what extent social norms, discriminatory practices and gender roles were boosting or limiting the exercise of capabilities and functionings of the women and adolescent girls in the tea gardens.

Social conversion factors and exercise of capabilities

All of the interviewees declared being in charge of the household duties and their answers showed that mainly the females were responsible for taking care of the sick, apart from their paid work and education obligations.

The following fragments of interviews evidence the gender roles at the tea communities that clearly reflected double work shifts for the females and which impeded them to exercise the valuable functioning of having leisure time and, thus, restricted their mental and social well-being: *'I do all types of activities...like cooking, washing clothes, utensils, go to the garden (...) my husband does not co-operate'; 'I do all the household works like cooking, washing clothes, cleaning campus... [Why they don't help you?] Because they are all boys'; 'Nothing is good at present for me. I have to clean my own house and one of my uncles has broken his hand and I have to take care of his house too'; 'Yes, I feel bad (about working all day) but, what can I do?'* and *'I cook early in the morning before going to school as my mother and father go to work and at night I cook early and then I study'*

Having the basic capability to be healthy was shown to be a resource for the capabilities of education and productivity. However, caring for others represented a burden among the interviewees, which was limiting their freedom to earn an income and receive education, even when they chose to care. *'I don't go to work when my children get ill. I take them to the hospital (...) No, he (their father) doesn't go'; 'I could not study because my mother was ill' and 'This year I am not enrolled in school because my sister in-law is sick'.*

Discussion

The results of the study show that many aspects in life are affected by sanitation and that sanitation influences some capabilities directly, and some other indirectly.

The lack of adequate sanitation facilities and practices affected women and young girls' quality of life in many ways. On one hand, their physical well-being, as the incidence of water borne and sanitation-related diseases impeded them to achieve the elementary functioning of being healthy, which in turn, constrained their income earning and literacy opportunities. On the other hand, the lack of a private space led to the psychological stress of having to coordinate their

time around sanitation activities and to feelings of shame and insecurity, affecting seriously their mental and social well-being.

The results also demonstrated that the access to sanitation facilities and better awareness and hygiene practices, consequence of the education in WASH received, improved certain capabilities. Indeed, after the interventions, there was a lower incidence of water borne and sanitation-related illnesses, allowing the women and adolescent girls to achieve the valuable functioning of being healthy and, therefore, improved physical well-being. This better health status being also a resource to income generating and literacy capacities for them. Having their own sanitary latrines, also resulted in a betterment of their psychosocial well-being: the interventions expanded women and adolescent girls' capabilities to have a private sphere, to have feelings of dignity and self-esteem and to feel safe, as well as the capability to coordinate their own time.

However, some of the capabilities acquired were not being put into practice to achieve the valuable functionings due to social constraints, restricting their well-being. Their role of care givers and the household responsibilities were limiting the exercise of capabilities derived of the capability of health, such as to be able to earn an income, to receive an education or to have leisure time.

Equity is a central concern of the Capabilities Approach and, therefore, all individuals should equally have access to the necessary positive resources, and should be able to make choices that matter to them. However, social norms and gender roles among the tea communities limited women and adolescent girls' choices and the real opportunities to lead the life they have reason to value. The interventions had succeeded in expanding some capabilities in the tea gardens, and therefore the opportunity to achieve valuable functionings which are constituent elements of the well-being, but gender inequality amongst the tea tribes restricted women and adolescent girls' options and, thus, limited their quality of life. Under Sen's approach, the interventions had not provided equal freedoms to women and men.

Conclusion

The lack of adequate sanitation and hygienic practices is a common issue among the Tea Tribes of Assam. Their poor sanitary conditions not only impact the physical health of the community, but have direct consequences on people's socio-psychological well-being, particularly for women, limiting their opportunities to lead the life they have reason to value.

A comparative study between two tea gardens of Dibrugarh, using elements of the Capability Approach, allowed us to obtain a better understanding of what women and adolescent girls belonging to the tea tribes value, and to analyse the impact that WASH interventions had had on their well-being. The results of the study suggest that the interventions had improved people's physical and psychosocial well-being by contributing to expand some capabilities among the individuals from which they could choose valuable functionings. However, the interventions were not taking into account gender constraints and social arrangements that determine the conversion of capabilities into actual functionings and, as a consequence, women and adolescent girls were not able to achieve functionings they valued and well-being had only been bettered to a certain extent. Although the research being context-specific, future WASH interventions in the tea gardens could benefit from the results of the study and incorporate strategies that contribute to social justice by addressing gender inequality.

Recommendations

Human beings and their flourishing are the ends of development and, therefore, development interventions should focus on removing any obstacles to people's development, such as Illiteracy, ill health, etc., so that individuals have the opportunity to live a good life. In that sense, the Capabilities Approach, in which well-being and people's ability to achieve valuable functionings are central features, can provide a possible approach to the sanitation crisis. This section will make suggestions for the design of future WASH strategies in order to improve people's quality of life.

- As many aspects of life are affected by the lack of adequate sanitation, WASH interventions should aim at improving people's well-being, and not just at the provision of goods and services, which is no guarantee of human development. In the same sense, evaluation of interventions should focus on assessing people's well-being. But a broader meaning of well-being, which includes psychosocial well-being, is needed.

- The well-being of a person should be assessed in the space of capabilities, that is 'what people are able to be or do' to live the kind of lives they value; and evaluation of WASH interventions should be done according to their impact on people's capabilities. It is recommended to incorporate a capability perspective in policy design and evaluation.

- Well-being is subjective and context-specific and, therefore, the appropriate objectives for development interventions should be related to what a specific community value and have reason to value. WASH interventions should take into account the cultural context and be tailored to people's understanding of well-being. As one size does not fit all, a baseline study of the particular characteristics of the community and their valued functionings is recommended.

- All aspects of development are interconnected and policies cannot focus on one aspect of development, but see it as a whole. As Sen argues, "There are many different interconnections between distinct instrumental freedoms. Their respective roles and their specific influences on one another are important aspects of the process of development" (1999:43). Therefore, WASH interventions, to maximise their contribution to people's development, should have a broader scope than health gains, and consider aspects such as literacy or income earning opportunities.

- Gender inequality is a barrier for development and it should be addressed in any development intervention. Sanitation policies and strategies should not neglect the power structures and gendered dynamics of a given community and WASH interventions should tackle the underlying causes, so that they expand the capabilities of all individuals equally.

Limitations and bias

Sample size and selection

At all times, in one of the tea gardens, we were guided and escorted by the managerial staff and therefore, some bias might be present in the selection of the households to answer the survey and participate in the interviews.

Also, the size of the sample and the fact that purposively all respondents were only women and adolescent girls, makes it difficult to generalise results to the whole tea community. However, the results could be useful for other tea communities with similar characteristics.

Language barrier

Our inability to speak Assamese or the language spoken by the tea tribes impeded us to directly interview the respondents, which had to be done through translators, and fully understand and accurately interpret their responses. The interviews were, afterwards, transcribed and translated, which could have led to a translation bias, as before, being translated, the interpreter had already filtered and interpreted the information. Moreover, some translators and the person in charge of the transcription/translation were not familiar with some of the subtleties we needed to know from the interviews.

Accuracy and reliability of the answers

We realise the sensitivity of our subject and that taboo and shame in relation to sanitation and hygiene might have biased the answers given. We also realise that some answers might have been amended to please us.

Literacy level barrier

For some of the respondents some questions related to well-being were difficult to understand and these had to be modified and adjusted to their level of understanding. Misunderstandings might also have biased the participants' answers.

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References and bibliography consulted

ABITA zone-1 (2016). *Water Sanitation & Hygiene Programme. Swacch Cha Bagan*

Assam online portal (2016). *Tea industry*

<http://online.assam.gov.in/web/guest%20/industries?webContentId=175376> [accessed on 28/12/16]

Agarwal, B., Humphries, J. and Robeyns, I. (2007). *Capabilities, Freedom and Equality. Amartya Sen's work from a Gender Perspective*. New Delhi: Oxford India Paperbacks

Alkire, S. (2005). 'Why the Capability Approach?' in *Journal of Human Development*, 6:1, 115-135

Census (2011). *Dibrugarh District: Census 2011 data*

<http://www.census2011.co.in/census/district/149-dibrugarh.html> [accessed on 28/12/16]

Centre for Workers' Management (2015). *Brewing Misery. Condition of Working Families in Tea Plantations in West Bengal and Kerala*

<http://www.laborrights.org/sites/default/files/publications/Brewing%20Misery%20-%20A%20report%20on%20tea%20plantations%20in%20WB.pdf> [accessed on 28/12/16]

Fukuda-Parr S. (2003). 'The Human Development Paradigm: Operationalizing Sen's ideas on Capabilities' in *Feminist Economics*, 9:2-3, 301-317

Gogoi, D. and Handique M. (2014). 'Girl Child Education among Tea Tribes: A Case Study of Rajgarh Tea Estate of Dibrugarh District of Assam' in *Vidyawarta*, Vol. 5, Issue 8

Gogoi, S. (2014). 'Status of water supply, Sanitation and Hygiene practices among the Tea Garden population of Assam-A case study in Barbaruah and Jamira Tea Estate of Dibrugarh District, India' in *International Research Journal of Social Sciences*, Vol. 3(12), 46-53

Hazarika, K. (2012). 'Tea Tribes are lagging behind in the Process of Urbanization: A Study on Selected Tea Gardens of Jorhat District, Assam' in *International Journal on Trends in Economics Management and Technology*; Vol. I, Issue 6

Joint Monitoring Programme (JMP) WHO/UNICEF (2015). *Data and estimates*.

<http://www.wssinfo.org/data-estimates/> [accessed on 21/12/16]

Kashem, A. (2015). *Health and Sanitation Behaviour of the Tea Garden Labourers: Crises and Deprivation* https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2560822 [accessed on 28/12/16]

Mara D., Lane J., Scott B. and Trouba D. (2010). 'Sanitation and Health' in *PLoS Med* 7(11)

<http://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1000363> [accessed on 10/12/16]

Mehta, L. (2014). 'Water and Human development' in *World Development*, Vol. 59, pp. 59-69

Nussbaum, M. (2000). *Women and Human Development. The Capabilities Approach*. Cambridge: Cambridge University Press.

Robeyns, I. (2003 a). 'Sen's Capability Approach and gender inequality: selecting relevant capabilities' in *Feminist Economics* 9(2-3), pp. 61-92

Robeyns, I. (2003 b). *The Capability Approach: An Interdisciplinary Introduction*

https://www.researchgate.net/publication/228867656_The_capability_approach_an_interdisciplinary_introduction [accessed on 21/12/16]

Robeyns, I. (2005). 'The Capability Approach: a theoretical survey' in *Journal of Human Development*, 6:1, 93-117

Roma, E. and Pugh, I. (2012). *Toilets for Health*. London School of Hygiene and Tropical Medicine

- Sen, A. (1999). *Development as freedom*. Oxford: Oxford University Press.
- Strunz, E., Addiss, D., Stocks, M., Ogden, S., Utzinger, J., and Freeman M. (2014). 'Water, Sanitation, Hygiene, and Soil-Transmitted Helminth Infections. A Systematic Review and Meta-Analysis' in *PLoS Med.* 11(3)
- Tea Board of India (2016). *Plantations Labour Act 1951*
http://www.teaboard.gov.in/pdf/policy/Plantations%20Labour%20Act_amended.pdf
 [accessed on 21/12/16]
- The Eastern Today (2016a). *ABITA implements social welfare programs in Assam With its decade old partner UNICEF part I* <http://www.eastern-today.com/entries/op-ed/-abita-implements-social-welfare-programs-in-assam-with-its-decade-old-partner-unicef> [accessed on 28/12/16]
- The Eastern Today (2016b). *ABITA implements social welfare programs in Assam With its decade old partner UNICEF part II* <http://www.eastern-today.com/entries/op-ed/blog-post-67> [accessed on 28/12/16]
- UNICEF India (2012). *Partnership profile 2012. UNICEF's partnership with the Assam Branch of the Indian Tea Association.*
https://www.unicef.org/partners/Partnership_profile_2012_ABITA_India_V2_approved.pdf
 [accessed on 28/12/16]
- UNICEF (2015). *Report on National Level Conference on Protection of Child Rights in Tea Plantations of India* <http://www.nluassam.ac.in/docs/ccr/Report-%20PLA%20conference-2015%20Assam.pdf> [accessed on 28/12/16]
- UNICEF (2016). *Assam Tea Garden Atlas* <http://www.dataforall.org/portals/assamteagarden/>
 [accessed on 10/12/16]
- WaterAid (2016). *Caught Short- How a lack of toilets and clean water contributes to malnutrition*
<http://www.wateraid.org/what-we-do/our-approach/research-and-publications/view-publication?id=3622f9e3-33b2-4da3-99f5-227d10e38d5b> [accessed on 03/12/16]
- WaterAid (2015). *It's No Joke: The State of the World's Toilets 2015*
<http://www.wateraid.org/what-we-do/our-approach/research-and-publications/view-publication?id=c8e9d0b5-3384-4483-beff-a8efef8f342a> [accessed on 03/12/16]