

SOCIAL WATER MANAGEMENT AMONG MUNDA PEOPLE IN THE SUNDARBAN



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Preface & Acknowledgements

The institutions that made possible the implementation of the “Social water management among indigenous Munda in the Sunderban Forest area” research project are:

• **The Institute for Sustainable Development (ISD)** a research institution of the University of Liberal Arts of Bangladesh, ULAB, motivated by social responsibilities, moral concerns, socio-environmental challenges to provide present and future generations with relevant knowledge and expertise for a better citizenship both in Bangladesh and the global world. The ISD also aims to execute interdisciplinary research in diverse areas that cover socio-environmental issues including: integrated resource management, renewable energy, natural hazards, climate change adaptation, green business, gender equity, and good governance and policy.
URL: <http://www.ulab.edu.bd/Course-Catalogue-of-ISD/institute-for-sustainable-development-isd/>

• **The Bangladesh Resource Centre for Indigenous Knowledge (BARCIK)** is a non-governmental non-profit development organization, established in 1997. BARCIK has been involved in exploring and incorporating indigenous knowledge and local practices into contemporary development programs. Some of the key advocacy issues which BARCIK has been involved in include: Seed Rights, Genetic Resource, Disaster management and Local/Indigenous Knowledge, Water Rights, Climate change adaptation and local/indigenous knowledge, Gender and access to natural resource. BARCIK has been actively conducting various research initiatives and studies involving issues of agro-biodiversity, livelihood change and access to natural resources.
www.barcik-bd.org

• **Sunderban Adivasi Munda Shangashta (SAMS)** is an association formed by Munda people, in order to promote their rights and culture, its mission is to “rebuild the spiritual world of cultural and religious values of the Munda in order to do away with untouchables, caste discrimination, and poverty”. It has been founded in 2003 with the support of Father Luigi Paggi, a Xaverian Missionary, by 5 young Munda men. In 2009 the association has been registered at the Social Welfare Ministry, currently is processing the permit at the NGO Affair Bureau in order to be recognized as an NGO.

Some of the actions SAMS in implementing are: education tuition programs, management of drinking water, solar panels distribution and houses rehabilitation after Ayla cyclone.

The staff that has been working in the research was composed by:

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Bangladesh
Resource Centre for
Indigenous Knowledge



SOCIAL WATER MANAGEMENT AMONG MUNDA PEOPLE IN THE SUNDARBAN

Chapter 1 Research Perspective & Approach

1 Research Perspectives & Approach



Picture 1.1. Social mapping, men group, Srifalkati, 4th October 2010.

1.1. Background

The thirteen emerging major agro-ecological constraints in Bangladesh listed in the Operational Manual for Agricultural research component edited by the Bangladesh Agricultural Research Council (BARC) in 2008 are all directly or indirectly related to water management.

In the same document we read that “enhancing the farmer’s capacity to use and conserve natural resource (agro-biodiversity and water management) and indigenous knowledge in an efficient and sustainable manner is an important issue in agriculture” (p.13).

BARC asserts that farmers’ participation is decisive in view of the increasing water scarcity and states that efficient and sustainable management of water resources with focus on local-level community management is an important related topic.

Moreover, the document underlines that global warming is becoming an important issue for sustainable agriculture and that understanding its effects and developing adaptation and mitigation strategies should receive attention. Many UNDP papers about Bangladesh and the National Action Plan for Adaptation insist on the necessity to build capacities for adaptation to climate change at local level.

The increasing attention of governments and international agencies on local communities empowerment and valuing indigenous knowledge are linked to the growing academic literature on participative approach in development projects and on social aspects of natural resource management (Participatory Rural Appraisal, PRA; Community Based Natural resource Management, CBNRM; Traditional Ecological Knowledge, TEK; Social and Gender Analysis in Natural resource Management, SAGA; ...) It is being increasingly felt by nearly all concerned actors that any

¹ Drought in *kharif* and *pre-kharif* seasons, 2 Nutrient mining from arable lands, 3 Coastal salinity and brackish water problem, 4 Arsenic contamination in irrigation water, 5 Poor irrigation system efficiency, 6 Fragile eco-system and environmental vulnerability, 7 Hill and mountain agriculture constraints, 8 Low productivity of rain-fed agriculture, 9 Land fragmentation and degradation of land resources, 10 Agriculture diversification constraints, 11 Poor market network and high post-harvest losses, 12 Inefficient input management system, 13 Threats of global climate change and global warming.

development or adaptation initiative needs to be anchored on the popular wisdom and local practices.

Therefore, local cases and examples of Indigenous Ecological Knowledge need to be documented and disseminated for designing appropriate developmental policies and adaptation strategies at regional or broader scale.

1.2. Research rationale and justification

"In order to identify and understand the Religio-ethnic Minorities groups inhabiting the southwest region of Bangladesh, we are left with no other alternative than to venture undertaking a sort of base-line survey among them, to be followed by a series of in-depth first hand studies. It is believed that only such a study could enable us to address them and their development needs and concerns in both social and economic sectors."

Tutu Ahsraful Alam²

"Research studies on indigenous knowledge are extremely limited in Bangladesh"³, especially regarding the issues of social and cultural aspects of water management; as a consequence, this affects the opportunity to promote experiences in enhancing viable and sustainable linked practices.

Experience has shown that the social environment plays a crucial role in the functioning of natural systems (cf. M. Kalindekafe, IDRC). Nonetheless, many institutions take action on natural resource management without spending time or money on accurate identification research of local knowledge, thus their intervention's sustainability is at risk because of consequent lack of involvement and ownership by the "beneficiaries", especially if they are members of ethnic groups: "As far as development activities are concerned, the indigenous peoples of Bangladesh have little or no voice in decision making. They do not have control over their own development. They are turned into the target groups and become the passive "beneficiaries" of a project. Social discrimination operates at various levels and in various ways even where measures are undertaken by Government agencies or NGOs for indigenous people. In general the proposed beneficiaries are seldom consulted prior to the formulation of development projects or in the process of implementation" (Munda K. 2009:3).

Generally speaking, academic literature on Traditional Ecological Knowledge is scarce. Moreover, indigenous groups in the geographic area our study focuses on are under researched. "Most of the mid-20th century and recent studies deal with the REM (Religio-Ethnic Minorities) communities inhabiting the Chittagong Hill Tracts (CHT), very few deal with those of the northern region and almost none with those of the southwest region of Bangladesh"⁴. In particular, among the groups living in the south west coastal region, the cultural practices of Munda people living in the Sundarban area have not been paid any attention by the academic researchers or development professionals. "Various tribal communities in Bangladesh have been deeply studied by anthropologists and social scientists: no studies or research have been done so far on this group of people. Only a few articles have appeared now and then on newspapers both in English and in Bengali" (Munda K. 2009:8). Actually, the academic literature related to the ethnic groups in Bangladesh considers only the Munda communities living in the Northern part of the country, while the ones living in the southern part are not mentioned at all.⁵

² "Indigenous people in the south-west coastal region of Bangladesh" <http://www.cdp.20m.com/indigenouspp1.html>

³ Prof. Abdul Mannan in "Khan, N.A. and Sen Sukanto "Of popular wisdom: Indigenous knowledge and practices in Bangladesh", Bangladesh Centre for Indigenous Knowledge, Dhaka, 2000, Foreward.

⁴ Tutu Ahsraful Alam, ibidem

⁵ See chapter 3 of this document.

Coherently with the ISD and BARCIK objectives and principles, the knowledge generated through the research presented in this report aims to achieve a practical significance, representing the baseline for possible development interventions. Because of the occurrence of Ayla cyclone in 2009, many relief interventions have been already implemented in the area, but very little consideration was given not only to Munda culture but even to the recognition of their existence. We feel that any possible project (governmental or not) related to natural resource management and climate change adaptation in the area must be able to answer the following questions:

- How do Munda people view what we call water management, how do they culturally and socially interact with water?
- Are there flexible, cost effective, sustainable and efficient practices related to water protection that could be considered for future interventions?
- If the actual practices do not meet these requirements, can we assume them as a base for introducing new strategies, respecting local culture?

"Research on the role of culture, values and worldviews in both generation of and responses to climate change should become a top priority. [...] This conclusion argues for a new, larger role for the social sciences and humanities addressing the challenges of climate change, and suggests the need for a truly interdisciplinary and integrated research agenda that places climate change in a much richer and deeper societal context."⁶

In this perspective, the present research wants to be a catalyst instrument through which Munda people give their own answers to the above questions.

1.3. Objectives of the research

- Broad

To survey the social and cultural variables in indigenous water management

- Specific

a. Apply social and cultural perspectives in a natural resource management research:

Collection of reliable data about cultural and social logics underlying water management practices among indigenous Munda living in five villages in the Sundarban area.

b. Assemble and share baseline information with Munda people about their social practices and Indigenous Ecological Knowledge related to water through participative processes, avoiding extractive data collection approach:

Horizontal communication processes through the implementation of participative activities in five Munda communities in Shyamnagar area.

c. Provide a route map towards a participative design of appropriate water management strategies for the area, in order to achieve local environmental goals.

Discussions among Munda people about the viability or adaptability of local water management practices as adaptation strategies, the valuation of existing viable water management practices, and the reflection about the eventual need of changing some attitudes or introducing more sustainable ones. Visibility of the study results among local stakeholders.

⁶ O'Brien and Heyd in Richardson K. et alii, "Syntesis Report. International Scientific Congress: Climate Change: Global Risks, Challenges & Decisions" 10-12 March 2009, University of Copenhagen, p 31.

1.4. Indigenous Ecological knowledge: definition and relevance

Current literature provides several definitions of Indigenous Ecological Knowledge (I.E.K.), also referred to as Traditional Environmental or Ecological Knowledge and Indigenous Technical Knowledge⁷, and close to the concept of "Social Memory"⁸.

The descriptions we found more coherent with our research perspective are the following:

"Traditional knowledge is practical common sense, good reasoning, and logic built on experience. [...] The wisdom comes in using the knowledge and ensuring that it is used in a good way. It involves using the head and heart together. Traditional knowledge is dynamic, yet stable, and is usually shared in stories, songs, dance and myths." (Roberts 1996: 114 in Mc Gregor⁹)

"It is the heritage of a practical everyday life, with its functional demands, and is fluid and constantly changing being dynamic and subject to ongoing negotiation between people and their environments" (Sillitoe et alii 2005:4)

The three main aspects we want to underline here are:

1 I.E.K. is **syncretic**: it is a mix of knowledge from various sources and must be studied from a multidisciplinary perspective. Natural resource management is often seen as concerning just natural scientists, forgetting the importance of its social and cultural dimensions. Indigenous people transmit environmental knowledge through generations using symbolic languages such as myths, rites and music.

"A sympathetic consideration of such idioms may be central to appreciating some practices and to achieving understanding of how people manage their natural resource" (ibid: 23).

2 I.E.K. is **dynamic** and **scattered**: it has no repository and it is continually influenced by the interactions among different social actors (from inside or outside the community) through history. Thus traditional culture can't be seen as a static and closed system but needs to be analyzed in a



Picture 1.2. Focus Group, Datinakali 2d of October 2010.

⁷ cfr Sillitoe, Jhonson, Mc. Gregor, Grenier, 2005.

⁸ "Social Memory, is captured experience with change and successful adaptations embedded in a deeper level of values, and actualized through community debate and decision-making processes into appropriate strategies for dealing with ongoing change" (Folke, C., Hahn, T., Olsson, P. & Norberg, J. (2005) 'Adaptive Governance of Socio-Ecological Systems', Annual Review of Environment and Resources, 30:441-473 in Ospina A.V. 2010, <http://nicdd.wordpress.com/>).
http://www.idrc.ca/es/ev-43097-201-1-DO_TOPIC.html

historic and multi-stakeholder perspective.

3 Acknowledging the dynamic nature of I.E.K. involves recognizing its potential for **driving change**: indigenous practices generally have a problem-solving focus, thus they are the key for linking past experiences with present and future actions, allowing novelty and innovation.

This last aspect is particularly important dealing with projects intending to build resilience to climate change.



Picture 1.3. Implementation of the Problem Ranking Activity in Srifalkati, 4th October 2010

1.5. Methodological approach

In order to be coherent with the features of I.E.K. described above, the approach of the research is *anthropological* and the methodology adopted is *participative*.

Being anthropological, this study focuses on social and cultural variables in Munda water management, recognizing that these are continually being renegotiated and need to be analyzed in a historical/dialectical perspective. This kind of anthropological study does not want to contribute to the accumulation of sterile and exotic ethnographic documentation but aims to generate shared knowledge, which stresses on action and problem solving.

In this sense, beside participatory observation of local rituals¹⁰, PRA methodology has been chosen as a suitable instrument to capture dynamic systems involving different stakeholders. It is horizontal and generates mechanisms of self-reflection within communities where activities are organized, but also on people who are leading the process, both at a professional and human level. The aim of using such an approach is to promote among the observed communities a process of valuation of local knowledge related to water management and to contribute to the sustainability of any future development intervention related with natural resource or climate change adaptation.

¹⁰ For the definition of Indigenous People see chapter 2 of the present paper.

¹¹ On 16th of August 2010 the research leader participated together with the local staff to the Monsa Puja in the village of Datinakhali, the 7th of November 2010 to the celebration of the Goal Puja and Narota Puja in the same village.

This bottom up approach is chosen because it is people-centered and seeks to identify local management strategies and build alternative options supporting local ongoing processes. In this sense the researchers' team "seeks to catalyze and facilitate reflective action and act as a conduit to report the findings to policymakers, planners and politicians" (Sillitoe et alii 2005:12). Moreover, having both Munda people and the local staff of Barcik actively involved in the research team, brought to this study a local perspective avoiding much of the ethnocentrism that formal methods might involve. The relevance and reliability of the qualitative information has been thus improved by the familiarity with the topics and the sites of the local and indigenous members of the research staff and by their comprehensive contextual knowledge.



Picture 1.4. Social Mapping, women group, Srifalkati 4th October 2010.

1.6. Data collection and management

According to the participative approach, both data collection and analysis are undertaken by participants, with the researchers acting to facilitate rather than to control these processes.

Since the research priority was to develop collegiate rather than consultative activities with the participants, the main core of the process has been communitarian PRA workshops complemented by semi-structured interviews among Focus Groups, (the detailed transcription of PRA activities in every community is available in Annex-1). To be coherent with the aim of empowering local people through transfer of useful methodologies, training on PRA activities has been given in the month of August to the local Munda staff and to Barcik Staff; in the same occasion the semi-structured interviews contents have been tested with the entire team.

To ensure a gender sensitive perspective, attention has been given to guarantee a relevant representation of women in the Focus Groups and communitarian meetings. Moreover, in some of the PRA activities (mapping, problem listing) men and women have been gathered separately, in

order to enable them to express their needs and to collect different perspectives regarding daily water management according to gender.

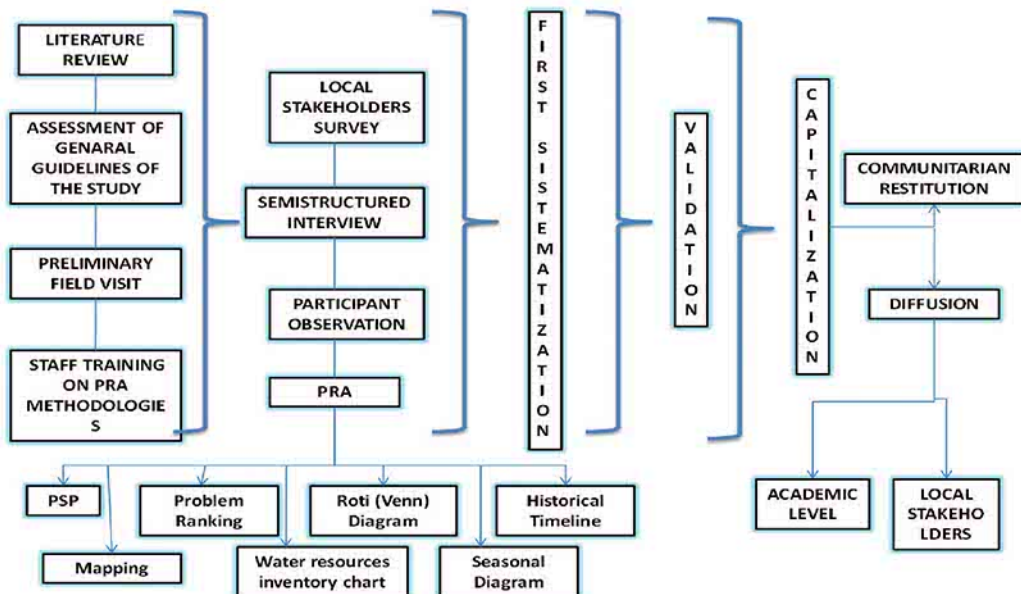
The field activities have been organized during the period of the year in which employment opportunities are very scarce (end of rainy season) in order to be in good conditions to involve people in the research process¹².

All the methodologies employed yielded qualitative data, whether in textual or graphic form; such qualitative data cannot be analyzed using the standard approaches and analytical tools of conventional natural science" (Sillitoe et alii:47). The trustworthiness of the information presented here relies basically on the participants' checking, obtained through direct and immediate feedback from the different stakeholders. The diagrams, maps, charts and photos of the research participatory activities held in October were presented in November to a new focus group to share information, enhance further discussion at different levels among the members of the community and provide additional crosschecking. This helped to take the information generated on natural resource to a higher level and acted as a triangulation procedure to cross check all significant information, as well as to add more information provided by other sources.

Contrary to other research methodologies, the participative one not only collects information of excellent quality and quantity, but also restitutes it to the communities and discusses it with them contextualizing in a critical, analytical and constructive way. In this sense, the job of the researcher is not to create the information but to facilitate the community members to construct it as a group.

As a complementary methodology to the stakeholder analysis conducted in the communities using the Venn diagram instrument, a survey has been implemented among 40 relief and development organizations and foundations based in Shyamnagar in order to have a proper perspective on their field of action, area of intervention, and eventual interaction with Munda people (see paragraphs 2.5. and 4.8.).

Figure 1: Research Process



¹² "For almost three months (September-October-November) the Mundas have to spend the days in their villages doing nothing at all" (Munda K:26).

1.7. Study Population and sampling

There are no data about the number, composition and location of indigenous communities in South west Bangladesh, nor is a proper census available specifically about Munda people.

The present research has been implemented among Munda people living in five villages in Sundarban Forest area, in the District of Satkhira, Shyamnagar Thana.

According to a census done in 2003 by father Luigi Paggi and Krishnapodo Munda in three Police Stations or Thana (Koyra, under Khulna district; Tala and Shyamnagar, under Satkhira district) the local Munda population consisted of around 695 families and around 3675 people scattered in 29 villages.

Table 1. Munda Population in Koyra, Tala and Shyamnagar Thana, 2003

P.S.	VILLAGES	FAMILIES	PEOPLE
KOYRA	12	240	1270
TALA	3	70	380
SHYAMNAGAR	14	385	2015
TOTAL	29	695	3675

We have excluded the Munda living in Koyra and Tala police stations and focused on the Shyamnagar area, where we have considered the 5 villages of Sapkhali, Kalinchi, Kashipur, Srifalkati, Datinakhali, (respectively composed by 54, 18, 30, 15 and 30 households).

These communities have been chosen because of the potential availability of data regarding traditional Munda natural resource social management¹³. While choosing the sample with the local staff, an effort has been made to achieve a fairly representative sample of informants taken from the study population including gender, age cohorts, as well as households in different locations and with different access to water resources. With regards to educational level, occupation or socioeconomic categories, the Munda people present a very low variability, most of them being illiterate, landless and working as migrant and day laborers¹⁴.

During the month of September 2010, 15 people were interviewed in a Focus Group meeting in each of the five villages by the local staff and in October at least¹⁵ other 15 people were involved in the PRA activities (total 150 people). During the month of November another focus group of 15 people in every village was involved in the participatory validation (additional 75 people).

¹³ Tala and Koyra are not that close to the forest, moreover the villages in Shyamnagar present a high number of aged inhabitants, which are depositary of Munda traditions and practices. Furthermore, the co/researcher Krishnapodo and the local facilitator Boruna both come from another village in Shyamnagar (Chunu-Burigoalini) so they contributed with their own knowledge about their village's traditions.

¹⁴ With regards to socio-economical and educational condition of Munda people see here paragraph 3.4. and Munda K. thesis, pages 26-31.

¹⁵ In all the villages a part from the 15 people selected to participate to the PRA, all the village families showed interest in participating in the activities and discussions, so basically all the households were covered.



Picture 1.5 Photo restitution, Datinakhali, 5th November 2010.

1.8. Dissemination of the Results

With regards to Munda communities, all the information raised during the participative activities has been checked and confirmed by local people during the research process, enhancing dynamics of appropriation and valuation of local knowledge at different levels.

In April 2011, all the knowledge collected during the focus groups, the PRA activities and the validation meetings, and the booklets produced after their systematization, will be restituted to the local communities through a communitarian workshop (using the traditional communication systems: songs, dances and myths telling). The solutions proposed in the participatory activities that reflect possible mechanism of action will be discussed. By having all the information raised at their disposal, the communities will be able to continue on their own the process and they won't feel that they are losing control of their own knowledge.

Apart from the research final report, that will be distributed among the institutions directly involved in the research project (ISD SAMS, BARCIK) and made available online on the website of the ISD, a booklet containing an abstract in both English and Bangla of the document will also be diffused to institutions running ongoing initiatives related to natural resource management, nearby local communities, government technical services, NGOs, development projects, rural media, community organizations and research organizations.

It will include information about the participative methodology that has been used to approach Munda communities and it will illustrate their actual relevant practices and needs related to water management.

This is seen as a way to:

- underline the importance of socio-cultural perspective and participative approach dealing with natural resource management;
- allow Munda communities to build linkages with other stakeholders acting in the area and enhance their opportunity to claim to be considered as “existing people with existing rights” in local governmental and nongovernmental interventions.

The booklet will be presented:

- in a public seminar held at ISD- ULAB
- in a public seminar held in Satkhira District, in order to be able to invite the governmental and nongovernmental stakeholders acting in the area.
- attending local, regional or international conferences/seminars, workshops related with the topics touched by the research (indigenous knowledge, natural resource/water management, environment..).

Opportunity to publish the study findings in peer-reviewed journals will be sought.

SOCIAL WATER MANAGEMENT AMONG MUNDA PEOPLE IN THE SUNDARBAN

Chapter 2 General Context of the Research

2 General Context of the Research



Picture 2.1. Old Munda men, Datinakali village.

*"First of all we want to talk about our identity. We are Bengali citizens but we are not member of the Bengali nation, if you look at our face you will understand that there are some physical differences between Bengali people and us. Our skin is darker, our lips are thicker and our nose is flatter than yours and we have a different language. Our dances and songs are also different from the Bengali ones. In any of our social occasions we need beer which is prepared by us and we also eat some food which you don't like. We have been living together with the Bengali people for long time and nevertheless we have been conserving our customs and culture and we will try to keep it in our heart and soul."*¹

2.1 Tribal Castes, Adivasi, Hillman: how to define Indigenous People in Bangladesh?

Giving a unique definition of Indigenous People is a hard task which is not included in the aims of this paper. Usually, anthropological usage of the term "indigenous" refers to the early or even first settlers of a given territory. This usage corresponds to the one found in international human rights law. The United Nations Permanent Forum on Indigenous Issues says, "there does not seem to be one definitive definition of indigenous people, but generally indigenous people are those that have historically belonged to a particular region or country, before its colonization or transformation into a nation state, and may have different—often unique—cultural, linguistic, traditional, and other characteristics to those of the dominant culture of that region or state."² Thus, a part from the actual or previous association with a territory, it should be also taken into account the existence of a collective name, a myth of descent, a shared history and distinct cultural traits.

¹ Speech given by a representative of Adivasi Munda Unnayan Shangoton in Tala, on the 9th of August 2010, International Indigenous Day.

² Discourses on Policy Perspectives on Land Rights and Adibashis of the Plains of northwest Bangladesh, by Gina Dizon, Published by VSOB, 2008

The ILO Indigenous and Tribal People 169 Convention, Article No 1 applies to:

“(a) tribal people in independent countries whose social, cultural and economic conditions distinguish them from other sections of the national community, and whose status is regulated wholly or partially by their own customs or traditions or by special laws or regulations;
(b) people in independent countries who are regarded as indigenous on account of their descent from the populations which inhabited the country, or a geographical region to which the country belongs, at the time of conquest or colonization or the establishment of present state boundaries and who, irrespective of their legal status, retain some or all of their own social, economic, cultural and political institutions.”

Thus, considering the diversity of indigenous people, the general academic and international law understanding of this term is based on the following principles:

1 **self-identification** as indigenous people at the individual level and accepted by the community as their member;³

2 **historical continuity** with pre-colonial and/or pre-settler societies.

Even trickier is to get a unique definition of Indigenous People in Bangladesh. In this culturally, religiously and linguistically diverse country, there is a variability of terms according to the everyday language used by the common people, the self perception of ethnic groups, the general literature, the media and the official government documents.

If we consider those people whose linguistic and / or cultural background is different from that of the mainstream population of Bangladesh, they are usually commonly referred to as “Tribals” (in Bangla language *Upajati*) but the people belonging to ethnic groups often do not like the use of those terms to refer to them, on account of its pejorative connotations, being associated with “primitive,” “backward” and so forth⁴. At the same time, indigenous groups in Chittagong Hill tracks are often defined as Pahari, hill people.

Since 1992, when the International Year of the Indigenous People was declared by the United Nations, more and more indigenous people, both from the hills and the plains have started to increasingly refer to themselves as indigenous in English, and as Adivasi in the national language. But according to some authors also the use of those terms is confusing, “particularly in those cases where it is hard to establish whether the group in question is the indigenous people of the area they inhabit or they migrated to that area from somewhere else” (Khaleque K. in: Gain P. et alii, 1995: 3).

As a result of the described fuzzy scenario, today the terms “Ethnic minority,” “Adivasi,” and “tribal” are used interchangeably within documents and literature in Bangladesh.

2.2. The legislative frame about Adivasis and Indigenous Knowledge

If we have a glance at the national official documents and law texts looking for a clearer approach we won't find any: government perspectives on the issue are varied too.

“In the Constitution of Bangladesh everybody is equal in front of the law, there is no mention of indigenous people, there are only backward sections of the society. The way usually indigenous are officially mentioned

³ The same ILO Convention reads “Self-identification as indigenous or tribal shall be regarded as a fundamental criterion for determining the groups” to which the provisions of this Convention apply.

⁴ “We had no opportunity not to civilize or educate as the Bengali society but we think that that negligible term is not appropriate for our community, so we don't want to hear the word Buno or Upajati.” Speech given by a representative of Adivasi Munda Unnayan Shangoton in Tala, on the 9th of August 2010, International Indigenous Day. Cfr also Khaleque K. in: Gain P. et alii, “Bangladesh land forests and people,” Society for Environment and Human Development, Dhaka, 1995, p.2, 3; Durnnian T. 2007:30 and <http://srpbypst.blogspot.com/2010/06/adivasi-rights-in-bangladesh-where-have.html>; and Roy R. D., 2007:8



Picture 2.2. Munda women during the celebration of the Goal puja, Datinakali, 7th November 2010

by government acts is Upajati, Tribal"⁵.

The East Bengal State Acquisition and Tenancy Act of 1950 ("EBSAT ACT, 1950") uses the terms *aboriginal tribes and castes* to refer to the Adivasis of the plains⁶. The CHT Regulation of 1900 uses the term *Hillman* to refer to the adivasis of the CHT. Similar wording has been used in the national Budget Act of 1995 (Act 12 of 1995)⁷.

In the National Poverty Reduction Strategy Paper adopted by the Government of Bangladesh in 2005, the term "Adivasi/ethnic minorities" was used. In recent years, this was the first time that Bengali equivalent of indigenous or aboriginal appeared in a formal government document. In the PRSP-II, adopted in October 2008, the terms "indigenous communities" and "indigenous people" were both used⁸.

On the other hand, Bangladesh is signatory to the 1957 ILO Convention on Indigenous and Tribal Populations, but refused to sign the 1989 ILO Convention NO.169 concerning Indigenous and Tribal People in Independent Countries. Moreover, the position of the Bangladesh government delegation at the UN Working Group on the Draft Declaration of Indigenous People (WGPD) in

2006, says, "The government of Bangladesh supports

the Draft in its present form. However it will not be applicable in Bangladesh as there are no indigenous people in the country" (The Independent, November 24, 2006). The recent position of Bangladesh government abstaining from the UN Declaration on Indigenous People's Rights aligns its earlier position to the Bangladesh government's report submitted to the UN Committee on Elimination of Racial Discrimination in May 2000 which categorically denied the distinct identity of Indigenous People. The report reads: "Bangladesh's geographical location and history have made it a home to people of diverse origins, races, colors, and descent. The assimilative character of Bengal civilization combined with the intermingling of inhabitants has resulted in a composite society which has racially and culturally turned into a melting pot over the millennia"⁹.

Eventually, the law no. 23, emitted on 12 of April 2010 introduced a new nomenclature, using the new definition "small anthropological group" (*kudro nri-ghosti*) including in this definition 27 groups.

⁵ Mr Sanjeeb Drong, Bangladesh Adivasi Forum, personal conversation.

⁶ This act forbids the transfer of lands by 'aboriginal' to non aboriginal person without the expressed consent of the Government's District Officer.

⁷ <http://srpbypst.blogspot.com/2010/06/adivasi-rights-in-bangladesh-where-have.html>:

⁸ Cfr Roy R. D., 2006:7

⁹ Source: Discourses on Policy Perspectives on Land Rights and Adivashis of the Plains of northwest Bangladesh, by Gina Dizon, Published by VSOB, 2008 <http://kordilleraautonomy.blogspot.com/2009/08/evolving-definition-of-indigenous.html>

Considering the specific issue of Indigenous Ecological Knowledge, "Although there has been cursory mention in the Constitution of Bangladesh regarding the need for conservation of cultural heritage, detailed governmental programmatic action and practical strategy are still to come" (Khan, Sukanta 2000: 18).

Bangladesh has signed in 1992 and ratified in 1994 the UN Convention on Biological Diversity (Rio de Janeiro 1992), whose main goals are the conservation of biodiversity and the sustainable use of its components. The article 10c of the mentioned convention encourages States "as far as possible and as appropriate: to protect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements".

"This article may provide a strong basis for recognition of the connection between local and indigenous communities and conservation and uses of biological resources. [...] The Convention on Biological Diversity Secretariat has thus recommended that in order to comply with their obligations under this article, States must ensure that national legislation and national policies take into account and recognize, among others, indigenous legal systems, corresponding systems of governance and administration, land and water rights and control over sacred and cultural sites." (Unnayon Onneshan 2007:2).

A very interesting text is the "Biodiversity and Community Knowledge Protection Act", which was drafted in 1997 and presented at the UNCTAD Expert Meeting on Systems and National Experiences in Geneva in 2000 by the Bangladesh Agriculture Research Council (BARC). Its main objective is "protecting the sovereign rights of the Communities that have knowledge of biodiversity, and have managed, maintained, conserved, reproduced and enhanced biodiversity, genetic resources and traditional knowledge, culture and various forms of practice related to these resources and to create the legal and institutional environment"¹⁰, but no real binding legal document based on this draft has been emitted so far.



Picture 2.3. Munda house in Kashipur

¹⁰ Farin Uddin Ahmed, in UNCTAD expert meeting, http://www.unctad.org/trade_env/tk.htm, p 6. The full text of the act is available <http://www.elaw.org/node/1587>

2.3. Number and location of ethnic communities in Bangladesh

"The Bengalee population as a whole had till recently been largely unaware of the tribal question. The dismally poor illiterate agrarian Bengalee population, beset with its own problems of making both hands meet, has little opportunity or time to know about the problems of others. This is also true about the mutually insulated classes or communities among the Bengalees themselves separated by religion, sect, caste or professions. Among the many disadvantaged classes and groups of people the tribal are just another category and the process of exploitation and deprivation is pretty much the same in all cases following from the 'system' or structure of society. [...] There is ignorance even about the correct number of tribal population." (Mahmud Shah Qureshi, 1984:369)

To obtain realistic estimates of the total number of Indigenous People in Bangladesh is quite utopist, considering that the 2001 national census did not include any space or column in the form for collecting data on indigenous issues. The 1991 census did collect data on Adivasi people and gave the total population as approximately 1.2 million¹¹. On the other hand, some documents suggest that the minority ethnic groups make up approximately the 2 percent of the total population of the country¹².

The accuracy of the total calculated in the 1991 census is questioned by many sources as registration differentiated on the basis of religion instead of ethnic status, so Christian or Hindus indigenous people were registered as Christian or Hindus and only the Adivasis claiming to adhere to the indigenous religious were merged in the unspecific category "other". Moreover, in the 1991 census only 27 groups were identified: as we have seen, the same number is indicated in the act of 12 April 2010, whilst according to Qureshi (ibidem) the ethnic communities are 29.

With regards to the representative of Bangladesh Adivasi Forum, Mr. Sanjeeb Drong, he states that the number of Adivasi groups in the country is around 44, and another text affirms that there are "more than 45 unique and rich ethnic groups of which Bengalis are the largest"¹³.

These are just examples of how the number of ethnic communities can present a wide variation according to the source, due to several reasons. For example some statistics list the same group as two separate ethnic communities, where the same ethnic community is known by different names or is divided in subgroups confused as principal¹⁴; the value changes as well according to the chosen definition of what an ethnic group is (should Bangla population be counted in or not? Are Adivasis that became Christians still Adivasis?). Another source of incertitude is the fact that an increasing number of low caste and socially marginalized groups has started to identify themselves as indigenous¹⁵. Some people could blame that this is just a way to get rid of Hindu caste discrimination or to attract more attention and funds than the "other undistinguished poor people", but we should keep in mind that "the problem in Bangladesh is not so much one of pretenders seeking indigenous status, but more one of denial of identity and rights of genuine indigenous people" (Roy R. D., 2006:8).

Generally it is written that most indigenous people live in remote areas of Bangladesh along the border regions of the country, in North Bengal (western Rajshahi Division), Greater Mymensingh (northern Dhaka Division, Greater Sylhet (northeast and southeast of Sylhet Division), and in the Chittagong Hill Tracts (CHT) of Chittagong Division, where highest population of Adivasi people lives.

¹¹ According to the government statistics (in Kamal M. 2007:xvii) "the total number of Adivasis is 1.205.978".

¹² Durnnian T. 2007:18.

¹³ Durnnian T. 2007:.

¹⁴ See Khaleque K. in: Gain P. et alii, 1995:3.

¹⁵ In recent years, members of tea estate workers – largely descendants of migrant workers of indigenous descent from neighbouring areas of India, who remain among the most socially, economically and politically marginalized sections of Bangladeshi citizens– have also chosen to participate in forums of indigenous people" Roy R. D., 2006:8.

But we must observe that, as a consequence of the existing uncertainty about definition and number of ethnic groups in Bangladesh, the data describing their location is also vague. Especially the groups living in the South west region of the country are not well documented (and many times not even mentioned¹⁶). As an example, here we copy one of the tables available in the literature that describes the location of Adivasi communities and we observe that the information related to the group object of our study, the Munda, is inaccurate.

Munda are correctly mentioned to live in North Bengal, while incomplete information is given about the groups actually living in the South-West part of the country. We find the unclear denomination "*Bagdi (Buno)*" which is quite confusing, where *Bagdi* is an indigenous group often confused with a low caste (for many local people today the word *Bagdi* simply means "fisherman") and *Buno* is not even the name of an ethnic group, but a pejorative term by which Munda are often referred as by Bangladeshis ("the word *Buno* stands for uncivilized, jungly, barbarian, savage: is this word fit for us?"¹⁷). Moreover in the table there is no mention to other ethnic groups living in the area, the Mahato and the Oraon.

Table 2. Location of Adivasi communities.

Location	Adivasi Communities		
Greater Mymensingh (Mymensingh, Tangail, Netrokona, Jamalpur, Sherpur districts)	Garos Hajongs Kochs	Barman Dalus Hodis	Banai Rajbangshi
Gazipur	Barman	Koch	Garos
Coastal Area (Patuakhali, Barguna and Cox's Bazar districts)	Rakhain		
Greater Sylhet (Sunamganj, Moulvibazar, Sylhet, Hobiganj districts)	Monipuri Khasias Garos	Hajongs Patros Kharias	Santal Oraon
Chittagong Hill Tracts (Bandarban, Rangamati and Khagrachari districts)	Chakmas Marmas Tripuras Bawms Pangkhus	Lusais Tanchangyas Khangs Mrus	Asams, Gurkhas Chaks Khumis
South-West (Jessore, Satkhira, Khulna districts)	Bagdis (Bunos)	Rajbangshi	Santal
North Bengal (Rajshahi, Dinajpur, Rangpur, Gaibandha, Nonagon, Bagura, Sirajganj, Chapainawabganj, Natore districts)	Santal Oraon Munda Malos Mahalis Khondos	Bedias Bhumij Koles Turi Bhils Karmakars Mahatos	Muriyar Musohors Pahans Paharias Rais Sings

Source: Solidarity 2002, Bangladesh Adivasi Forum in Durnnian T. 2007:19

¹⁶ See Gain P., 2005:3 and 2008:75.

¹⁷ Speech given by a representative of Adivasi Munda Unnayon Shangoton in Tala, on the 9th of august 2010, International Indigenous Day. More details about Buno word in Munda K.2009, p.22.



Picture 2.4. Char Land in the Sunderbans

2.4. The Sundarban Forest: blessing and curses

The Sundarban forest is the largest mangrove forest in the world and constitutes the southernmost part of the Gangetic Delta on the Bay of Bengal. It is formed by the confluence of the Ganges and the Brahmaputra and Meghna rivers across southern Bangladesh and West Bengal, India. It comprises the seasonally-flooded Sundarban freshwater swamp forests that lie inland from the mangrove forests on the coastal fringe. Mangrove forests are among the most productive ecosystems on the planet. The forests support a high diversity of marine and terrestrial life through food web interactions, and act as refuges and nursery grounds for many species of fish, shellfish and crustacean. One third of the area belongs to India, two thirds to Bangladesh. On 6 December 1997 UNESCO declared the Sundarban the 798th World Heritage Site.

"It has always been difficult to trace a real demographic data on the Sundarban as no separate population census had been taken on the area even during the British period" (A.H.M. Zehadul Karim in Khan 2000:119), thus the number of inhabitants and their composition (Bengali Hindus or Muslim, ethnic communities) is not well defined. Furthermore, even if demographic data are not certain, what is certain is that all the inhabitants of the area, no matter their religious belief, share the devotion to Bonbibi, the Goddess of the Forest.

"Sundarban's villages have both Hindus and Muslims, but in truth they are just children of the forest. The Musholmans pray five times in a mosque and the Hindus do their temple aarothi, but when it is time to go to the forest, we are together in our prayers to Maa Bonbibi. The Muslims tuck their beards and sit arm in arm in front of an idol with the Hindus who have no qualms about praying to a Muslim deity. Even when riots have spread across the Bengals, the Hindus and Muslims of the Sundarbans have lived as brothers... because the forest forces us to remain human, remain humane and stay in touch with what religion was meant to be... a source of strength, a divine bond, with our Khuda, our soul and our neighbor. A night in the forest is enough to teach you that"¹⁸.

Forest communities, hail Bonbibi to protect them against the weather and the attacks from the

¹⁸ <http://loklfolk.blogspot.com/2010/03/lady-of-legend.html>

tigers. No local people will enter in the jungle without seeking her blessing (in particular honey collectors and wood cutters are the one that more often cross the territory of the wild)¹⁹.

The Bangladesh part of the Sundarban is estimated to be about 2316 square miles (GPRB, 1978), of which about one fourth is occupied by water bodies in the forms of river, canals and creeks of width varying from a few meters to several kilometers. The interconnected network of waterways makes almost every corner of the forest accessible by boat. The forest lies under four administrative ranges: Chandpai, Sarankhola, Khulna, and Burigoalini, Satkhira. As mentioned in the first chapter, the studied population of our research lives in Satkhira district. On 25 May 2009 this area was struck by Cyclone Ayla²⁰ which left thousands of people without home, farmland and domestic animals in Shyamnagar, Kaligonj, Assasuni and Dakope areas, as tidal waves leaping up to 5 meters high rolled onto those coastal districts. The waves damaged river and flood-control embankments and dykes, which was not possible to repair immediately because of the monsoon. As a result, many villages remained submerged during several months and saline water continued flooding the household areas. The presence of saline water on the farming soils that were not lost made them unsuitable to grow any kind of crop, while the contamination of the pukurs (community ponds where rain water is harvested and then used for productive and human use during the dry season) made them unusable. This problem lasted up to the current year, since before the arrival of the new monsoon in the pukurs there was still saline water²¹.

Nonetheless, in the Sundarban villages of Bangladesh the problems of saline water intrusion, changes in soil composition and pollution of water supplies were well known long before the advent of Ayla because of the progressive introduction of shrimps farming.

Starting from the 1980s, large tracts of agricultural land have been taken away from farmers (in many cases with serious human rights violations²²) and inundated with saline water in order to create shrimp ponds. This form of aquaculture took over farmland and forest, causing direct impacts on biodiversity, crop productivity, food security, health and livelihoods of rural farming communities. The social negative impact provoked by the loss of employment in the agricultural sector²³ and the disruption of local traditional water management practices, due to the blocked access to channels and ponds that used to be communitarian, have also to be mentioned.

Thus, Ayla just worsened in a drastic way a situation that was already dramatic: many local farmers are strongly aware that the damages that the cyclone provoked were so huge also because of the presence of shrimp farming. It is unequivocal that the shrimp aquaculture weakened the river embankments year by year because of digging canals and cutting mangroves: this has increased drastically the vulnerability of the Sundarban communities to tidal waves and cyclones.

¹⁹ It is believed that the demon king, Dokkhin Rai (the lord of the south), an arch-enemy of Bonbibi actually appears in the disguise of a tiger and attacks human beings. "Legends of the goddess were first mentioned by Krishnaram Das in the 17th century. Later, the tales were retold in late 19th century in the Bonbibi Johurnamah (Glory to Bonbibi) by Abdur Rahim, who wrote them in Bangla, but in the way of the Arabic script – right to left" (ibidem). "The story shows an interesting mixture of religious influences. It is Hindu by nature, but always starts with the Muslim word 'Bismillah'; Archangel Gabriel plays a role, when he sends Bon Bibi and her brother from Mecca to Sundarbans, to defeat the nasty god Dokkhin Rai." www.worldcook.net/Worldtravel/.../Sundarbans.html

²⁰ Which intensity was comparable to the cyclone SIDR, which in 2007 affected mostly other districts and damaged about a quarter of the Sundarban mangrove forest, researchers said mangrove forest Sundarban will take at least 40 years to recover itself from this catastrophe.

²¹ "Non-availability of drinking water is one of the most crucial and burning problems in Dakope and Shyamnagar since the natural and usual source of water supply (community ponds) is fully disrupted due to inundation by saline water" <http://cccm.iom.org.bd/file/pdf/34.pdf>

²² "Shady dealings and violence have surrounded the prawn business ever since it began more than two decades ago" Ash L.

http://news.bbc.co.uk/2/hi/programmes/crossing_continents/4270657.stm

²³ "Sometimes micro credit is given to start up such farms. But often, better off entrepreneurs buy the land from the rice farmers. Sometimes they also lease it for small amount. They put the land under a layer of saline water, thus decreasing the rice harvest for the neighboring land, which gives them the opportunity to buy this land cheaply and extend their shrimp farm. The leased lands become unusable for any kind of agriculture, and thus lease price remains low. The income for shrimp hatching is better than from rice growing but it is far less work intensive, and many people become jobless."

www.worldcook.net/worldtravel/.../Sundarbans.html

Therefore, ecological and socio-economic sustainability is at stake and a whole lifestyle and livelihood based on access and exploitation of natural resources is under threat. "In the coastal mangroves of Sundarban, an estimated 1 million of *Bawali* (wood cutters and thatch collectors), *Mouali* (honey collectors), and fisherfolk communities depend on the forest resources. Depletion of forest and destruction of habitats leads towards the loss of livelihood of these poor people traditionally dependent upon forest resources. Many members of these occupational groups are also from the minority low caste Hindu population. Therefore loss of their livelihood brings forth questions of equity and human rights for such vulnerable groups" (Syed Zahir Sadeque, July 2000:15).



Picture 2.5. Shrimp fields in the surrounding of Kashipur

2.5. Relief and development intervention in Shyamnagar area

The results of the survey that was implemented among 40 local NGOs, whose headquarters are in the city of Shyamnagar, are summarized in the following tables.

Table 3. Number and location of local NGO's intervention.

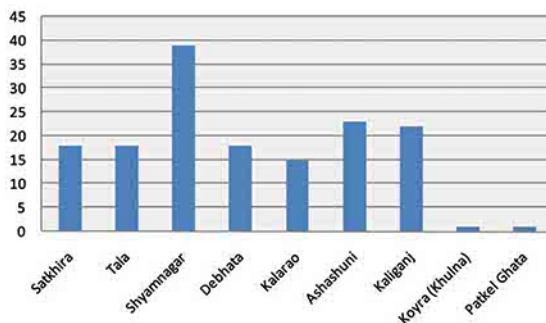


Table 4. Percentage of NGOs implementing activities related to water issues.

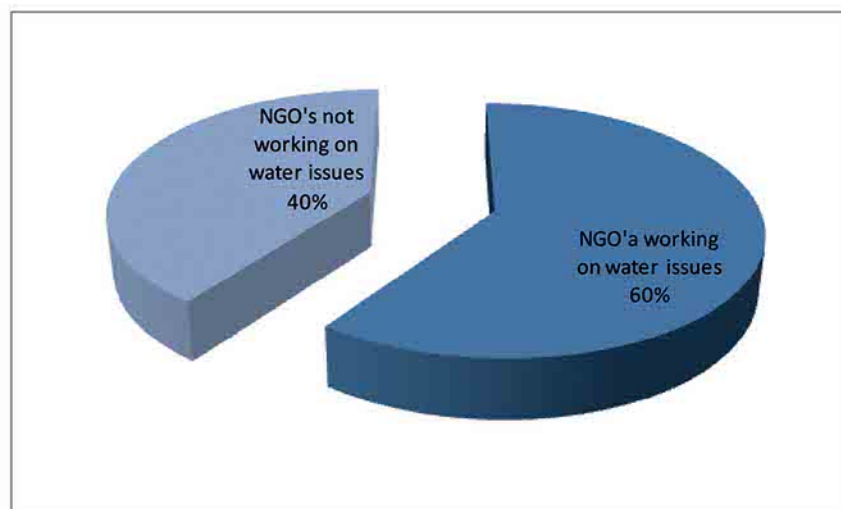
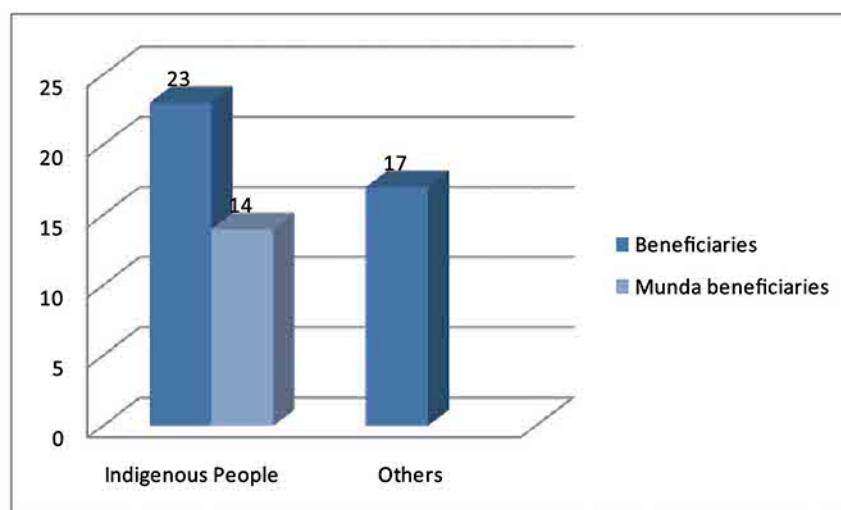


Table 5. Direct beneficiaries of interventions.



We can observe that from the survey data collected, it was found that about 60% of the NGOs are conducting projects related to water issues²⁴. Out of those that participated in the survey, about 58% said to have indigenous people among their direct beneficiaries: out of these 58% of NGOs, about 52% mention the Munda group (Caritas, Agrogoti, Dalit, Gano Unnayan Federation, Islamic Relief Worldwide Bangladesh, JOAR, Paritran, Progoti, Rupantor, SETU Bangladesh, SODESH, Solidarite Bagladesh, Sudipti and SUS).

²⁴ The name of the organization are: Barcik, Concern, Gonoprograti, Agrogoti, DALIT, Gano Unnayan Federation, Islamic Relief Worldwide Bangladesh, JJS, JOAR, Leaders, Muslim AID, Nakshikatha, NGF, Pratik Trust, Progoti, Rupantor, SETU Bangladesh, SODESH, Solidarite Bangladesh, SUDIPTI, SUS, Sushilan, Uttaran, Varasha.

SOCIAL WATER MANAGEMENT AMONG MUNDA PEOPLE IN THE SUNDARBAN

Chapter 3 Munda People in Sundarban

3 Munda People In Sundarban



Picture 3.1. Celebration of Goal Puja in Datinakhali, 7th November 2010.

3.1. Munda people in India and in Bangladesh

Munda people claim to be original from Chota Nagpur, a 600 m high plateau covering 18,000 square kilometers, which forms the southern part of the State of Bihar. Here, in pre-British times, they cleared the dense forests, and made "that beautiful lace-work of thousands of acres of terraces fields for their basic foods, growing cotton for their clothing, gathering in the forests remedies for their wounds and illnesses" (Hans in Ponette, 1978:19). Today, a large portion of this group continues to live in the hilly east-central areas of India, mostly in southern Bihar or in neighboring parts like Orissa, Madhya Pradesh and West Bengal, where they migrated during the British period "as indigo-plantation laborers, and later were recruited as hewers of wood and drawers of water in the jungles of Sunderbans" (Shashi 1994:68).

The Munda languages belong to the Austro-Asiatic section of the Austric language family. They include the *Santali*, the *Munaari*, the *Ho*, the *Kherwari*, the *Savara*, the *Korku*, the *Mundari*, the *Kharia*, the *Birhor*, the *Gadaba*, the *Bhumij*, the *Turi*, the *Asuri*, the *Agari*, the *Birjia*, the *Mahili*, the *Korwam* and the *Juang*¹. According to Bhattacharya, (in Mahmudh Shah Quresi 1984:27) "Munda is the oldest form of speech still current in the sub-continent, having preceded Indo-Aryan, Dravidian and Tibeto-Burmese". M.S. Qureshi also notices that "there is good reason to suppose that Munda linguistic influence underlies not only Bengali but also the Hindi of the central Ganga plains, Oriya and perhaps to some extent Assamese" (ibid: 31). We should underline, as a peculiarity related to

¹ See Van Exem, 1981:12

our research subject, that among the large number of words that Bengali language borrowed from Munda, it appears to be also *Ganga* (water- River).

Small contingents of Munda speaking people went to Bengal plains in British times for labor (Mahmud Shah Qureshi, 1984:18), specifically the *Santal*, the *Mahili*, the *Ho* and the *Mundari* or Munda (the name of this large Indian tribe has been applied to the whole Munda language group).

According to Tone Bleie (2005:7), "it is possible that the ancestors of present-day Santals, Kurukhs (Oraon) and Mundas had common myths of descent, lived within certain vast, fuzzily defined, partly common and partly neighboring forest-clad territories (unlike well-defined homelands), had distinctive languages, maintained clan exogamy, shared knowledge of a forested environment and maintained similar but separate religious and political chiefly functions and similar mixes modes of economic adaptation".

In the available literature concerning indigenous groups in Bangladesh² and in official maps, Munda people (we will refer from now on to "Munda people" just considering the *Mundari* group) are documented to be 2.132 (1991 Census) and to live in "Dinajpur, Rajshahi, and Bogra Districts" (Qureshi, 1984:18) or more vaguely "in North Bengal of Bangladesh and tea gardens of Sylhet" (Kamal M. 2007:267). The small groups of Mundas scattered in the south west of the country, however, are not even mentioned (see Table 2 and paragraph 2.3.).

Even though for many years SAMS has been systematically collecting available documents and bibliography about Munda groups living in that part of the country, there are only few brief sources mentioning the Munda in Sundarban Area. These include some articles in Bangla newspapers³ and on the web⁴, the anthropological studies made by A.H.M. Zehadul Karim in Khulna district (in Khan 2000), the small questionable booklet written by Milon Das (2002, Paritran)⁵, the Workshop Paper of the "National Consultative Workshop on Customary use of Biodiversity and Traditional Cultural Practices in the Sundarbans" (2007, Unnayan Onneshan), the research paper of Marina Juthi (2005, Coastal Development Partnership) and the recent article by Roy A. and Akhter S. (in Sen S., 2010)⁶.

3.2. Sundarban's Munda: history of an almost unknown group

"Among the low caste fishermen communities of the Sundarbans, in some place of lower Bengal, especially among the lower class people of the society, one can occasionally come across short people with very dark complexion, wooly hair, upturned thick lips and flat nose. They appear to be the product of Negroid blood" (Nihar Ranjan Sarkar, 1899)⁷

There are no official historical records about the arrival of the Munda people in south-west Bangladesh because of the significant vacuum of information in official and academic literature. The traditional myths, tales and songs still diffused in the actual communities help a little in providing detailed information about their origin and early history.

² Cfr Mahmud Shah Qureshi 1984; Ramkanta Singha 2002, Kamal Meshba et alii 2007; Durnnian T. 2007; Gain P. et alii, 1995; Roy R. D., 2006 and other references listed in the Bibliography of this paper.

³ Ex. Mashudur Rahman Sk.: "Aborigines of the Sundarban" Daily Star, January 28, 2000. The authors of those articles have been demanded to write them by Father Luigi Paggi, in order to increase the civil society awareness about the existence of this group.

⁴ <http://www.cdp.20m.com/indigenousspl.html> gives a panoramic view on ethnic minorities living in South west Bangladesh, giving a short description of Munda but using the pejorative term *Bunos* to refer to them. Moreover the article does not mention the Mahato indigenous group. With regards to the page http://www.hrtribune.com/Munda/Munda_part-I.html the information given have not been taken in to account in this study because we did not consider it reliable. According to our informants most of the data of the articles are incorrect; no mention is done to the methodology by which the information have been raised and the purpose of the article is far from academic: the text has a clear fund raising objective, transmitting to the reader an univocal and superficial image of Munda people as desperate and hopeless tribes ("Little children face the cruelty of the world since the beginning of their age" ... "Note: HRCBM needs your help, please support us to extend help to Munda tribes in Bangladesh. Help us save this important tribes from Annihilation" moreover, no clear description is provided of how this help would be used).

According to the "Encyclopedia of Indian Tribes" (Shashi 1994:67), the name "Munda" has a Sanskrit origin and means "headman of a village" (the word "*mundu*" in Munda language means head). On the other hand, during semi-structured interviews in the observed communities we found another possible linguistic root and consequent meaning of the word "Munda". According to the participants its origin can be found in the term *Murha*, which means "root of the tree". Different related myths have been told during the validation meetings. In Kalinchi the old participants explained that "once upon a time, in the District of Ranchi in India⁸, all the people of all religions lived together (Hindu, Muslim, Munda, Christians, Buddhist...). One day, the king of Ranchi declared that he would give one of his books as a gift to each religious group, in accordance with their preference. The king invited all the groups to a ceremony to donate his books. But, that day the Munda people failed to appear, because they were busy drinking Haria Mod and forgot about the royal invitation. The other groups arrived on time and chosen its book, but Munda people came only the following morning. The king was very angry to see them appearing so late and reproached them using bad words. Among the words he used, was the word *Murha* (roots of a tree) but Munda people understood Munda instead of *Murha* and they kept it as their name". In Sapkhali a different story is told: "The indigenous Munda people used to eat the raw meat without cooking it, but once in the forest they saw the fire generated by the friction of two stones and they collected many roots of trees from everywhere in order to use it as fuel; they collected only the roots and not the branches, the roots are called *Murha*. Then king and other people in Ranchi for that reason called them *Murha*." Eventually, in coherence with both the "roots" semantic field explained by the observed communities and the "headman of the village" meaning mentioned in the literature, we also found that the name used in ancient times to refer to the village leader in the observed area was *Murha*.

What is known is that during the nineteenth century, Indian *zamindars* (landlords) received allotments of Sundarban forest land from the British East India Company and brought indigenous people to clear the jungle to make it cultivable. According to the data collected by A.H.M. Zehadul Karim, Munda groups were a part of those peoples brought to Sunderban from Ranch (which is exactly the district of Bihar mentioned in the myths and rituals in the communities we worked with), 150 years ago, by landlord from Calcutta: "This is evident from the statement of a 70 year old Munda, named Motital, who provided us with an ethno historic evidence on their settlement here in Sundarban. While refreshing his memories he stated that one Debendra Sarkera *zamindar* from Calcutta had brought them here to clear the jungle in the Sundarban and make it cultivable" (Khan 2000:122). Tutu A. A. reports that after the completing the land-clearing work, the Munda people "were left to their own devices, and they stayed on as laborers"⁹.

Another perspective comes from Atiar Parvez, who in an article that appeared in the journal "Lokjon" (6th year, 9th issue, April, 1998)¹⁰ confirms that the Munda people arrived to Sundarban from Bihar. However, he asserts that they arrived a lot earlier and were driven by a different cause, mainly conflict. Parvez cites a 100-year-old Munda man named Jiten Munda of the village of Bagkhali (Tala thana of Satkhira district) "as saying that their forefathers came to this region over two centuries ago from the Ranchi region of Bihar, and they claim to belong to the Sirum clan.

⁵Where Munda cultural aspects are described as "abnormal"...

⁶Here Munda people in Bangladesh are indicated to live in Satkhira, Khulna, Magura, Norail, Dinajpur, Rajshahi, Nowgoan, Bogura, Chapawanabgonj, Rangpur, Panchagor, Natore, Thakurgoan, and tea estate of Sylhet, but this information is given without mentioning the source it was taken from.

⁷In Munda K. 2009:7

⁸Ranchi is one of districts that compose the State of Bihar.

⁹Tutu A.A. <http://www.cdp.20m.com/indigenoussppl.html>

¹⁰In Tutu A.A. <http://www.cdp.20m.com/indigenoussppl.html>

According to Jiten Munda, Munda chief Sachinya lost in some conflict and fled to the Sundarbans to seek refuge." (ibid)

We accept the evidence provided by both studies, since there is no reason to exclude the possibility that different groups of Munda people could have arrived at different times driven by different causes.

The commonality between those groups today, however, is that most of their families have no land. Apparently, one hundred years ago, Munda people living in the Sunderban area possessed some plots of land they cleared, called *Hatkata* ("cut by hand") and had to pay a tax to the *zamindar* that allowed them to occupy those lands¹¹. Nevertheless, with the passing of years, that land has become fragmented through generations (the father's land is equally divided among all the male sons) and has gradually been taken away from the Munda families by the arrival of Bengali settlers, "to such an extent that now the Munda do not even have the land on which to build their shelter" (Munda K.: 2009:8).

Many tricks were used by the new settlers to misappropriate the indigenous families of their lands. The Bengali used to produce fake documents (stronger than indigenous unwritten rights), or convinced Munda people to change their surname with the excuse of acquire prestige (in order to outfox the East Bengal State Acquisition and Tenancy Act of 1950¹²). Moreover, the Bengali took advantage of the fact that most of the indigenous were not speaking Bangla: "At that time the tribal Munda could not understand Bengali properly...so they used to do whatever the Hindu or Muslim neighbors would suggest....if a Munda gentleman would agree to sell a 'bigha' of land the good Hindu or Muslim neighbor would tell him that the correct Bengali word for a *bigha* of land is an *ekor*" (where an *ekor*-acre- is a unit of measurement that is three times as much as a *bigha*)¹³.

Only in recent years, local authorities have officially recognized the existence of the Munda people (before they were just considered as some Hindu untouchable caste community¹⁴). This recognition comes thanks to the pressure put on government actors by the Xaverian Missionary Luigi Paggi, by SAMS and the NGO Coastal Development Partnership, which invited journalists to the area in order to raise the awareness of the civil society about the existence and the conditions of the ethnic group. As a result, starting from 2007, government has been annually assigning some funds from the financial program called "Special Support for Indigenous people" specifically for the Munda living in Shyamnagar Thana¹⁵.

Even human rights and indigenous peoples' organizations have only recently showed to be aware of the Munda presence in the Sundarban area. As previously mentioned, books published by SEHD (Society for Environment and Human Development) do not mention the south-west Munda ethnic groups among the Adivasi people living in Bangladesh. At the same time, however, in a personal conversation, the General Secretary of Bangladesh Adivasi Forum recognized that the Forum is mostly working with the indigenous groups in Chittagong Hill Tracts (CHT) and Sylhet, and is not in much contact with the groups in the South west of the country; just recently they have been started interacting with SAMS¹⁶. Hopefully, this situation of strong isolation will gradually be overcome¹⁷, as more civil society organizations begin to recognize the Mundas and other

¹¹ See Munda K. 2009:18

¹² This act forbids the transfer of lands by 'aboriginal' to non aboriginal person without the expressed consent of the Government's District Officer, see chap 2.2

¹³ Probash Chandra Munda, from Gabura Village, Shyamnagar Thana, in Munda K.2009:19

¹⁴ "Only recently Bangladesh Government has officially recognized the cultural identity of this tribe which has been living for more than two centuries near the kingdom of the Royal Bengal Tiger" (Munda K. 2009:4).

¹⁵ The amount was 120.000 taka in 2007, 239.000 taka in 2008, 330.000 taka in 2009, 390.000 taka in 2010.

¹⁶ For example providing them a precious support with regards to their ongoing registration as an NGO, and giving them printed material for the organization of the Indigenous World day on 9th of August.

¹⁷ We hope that this paper will be a contribution in this direction.

South west ethnic groups' existence and rights through events such as the "Regional Consultation on ILO Conventions and Indigenous Peoples' Issues in Bangladesh" held on 2nd of August 2010. This event was organized by Kapaeeng Foundation and Bangladesh Adivasi Forum, with the support of International Labor Organization at Sushilan Training Center in Shyamnagar, district. "Around 100 participants from Munda, Mahato and Bagdi of indigenous communities and mainstream Bengali population attended the consultation [...] It is mentionable that in Satkhira district few indigenous communities have been living with their distinct culture, language and customs for centuries with no communication with other indigenous communities in Bangladesh. Local authorities and NGOs have noticed their existence in that region recently. Indigenous peoples' organizations [...] have realized the need to connect with three communities (Munda, Bagdi, Mahato) living isolated in that Satkhira district and to experience the kind of problems that they face as indigenous peoples there"¹⁸.

To deeply explore with the Munda people their own perceptions about the relative importance and the impact various institutions working in the Shyamnagar area have on their livelihoods, a stakeholders' analysis has been included among the PRA techniques implemented along with focus groups in the five observed communities. The results are discussed in the following chapter (paragraph 9).

3.3. Number and location of Munda people in Sundarban

"Many people don't know that there are few indigenous groups in the south west part of Bangladesh. Their name is Munda, Mahato, Oraon, and Bagdi. Among these 4 groups the larger group is the Munda one. The number of Munda people is about 4000 and their geographical location is in Shamnagar, Koyra and Tala"¹⁹.

The exact number and location of Munda people in south west Bangladesh is extremely difficult to define because of three main reasons:

1. The confused and misconceived perception of indigenous people among general Bengali people hinders distinguishing people from different groups accurately. For example, in the observed area, Bagdi is considered as a term to define low caste fishermen and until a few years ago Munda were also confused as being a type of lower caste Hindu people. Further, both Munda and Mahato people have been referred to as *Buno*.

SAMS is also aware that some indigenous people also live in the districts of Magura, Jinaida, Kustia, Faridpur, Gopalganj but the organization was not able to acquire factual information or contact the various groups. They were also informed about some groups called *Buno* by the local people in Khulna District, but apparently those groups no longer have a distinct culture or language.

2. The lack of a detailed and an updated census. We have already mentioned in paragraph 2.3 the census done in 1991, which only considered the Munda people living in the northern districts of the country.

3. The constant movement of Munda families who constantly migrate from one place to another, following labor opportunities or fleeing natural disasters.

¹⁸ Kapaeeng Foundation, Report on Regional Consultation on ILO Conventions and Indigenous Peoples' Issues in Bangladesh ", Shyamnagar, 2 August 2010.

¹⁹ Adivasi Munda Unnayan Shangaton, Speech held in the International Indigenous Day, 2010 in Tala.

The only data we dispose is the census done in 2003 by Krishnapodo Munda and the Italian missionary Father Luigi Paggi in three Police Stations or Thana (Koyra, under Khulna district; Tala and Shyamnagar, under Satkhira district), according to which the local Munda population consisted of around 695 families and around 3675 people scattered in 29 villages. The following table summarizes the results of that census.

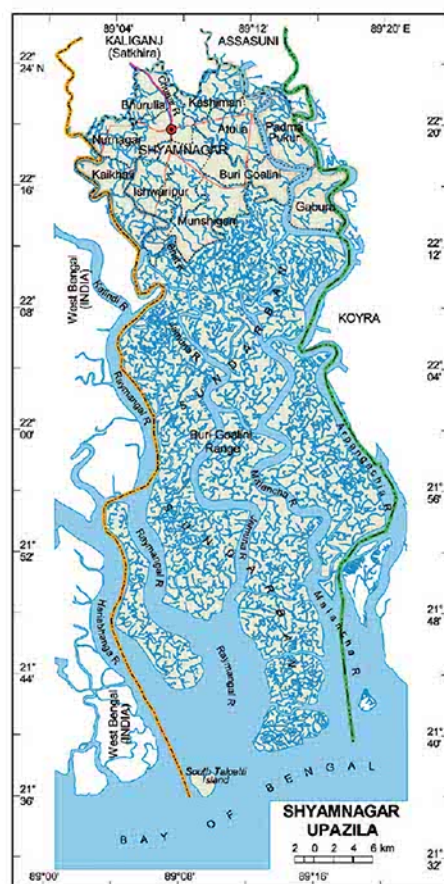
Table 6. Location and number of Munda villages in Satkhira and Koyra Districts

P.S.	VILLAGES SAMS Census 2003	VILLAGES Our Assessment 2010	FAMILIES SAMS Census 2003	PEOPLE SAMS Census 2003
KOYRA	12	11	240	1270
TALA	3	5	70	380
SHYAMNAGAR	14	16	385	2015
TOTAL	29	32	695	3675

During our assessment visit to the field in August 2010, we were able to update the number and location of some of the villages but not the number of actual families and people.

In **Koyra** there are actually **11** villages (one was seriously affected by the cyclone Ayla and no more Munda families currently live there), in Tala the number of villages increased to 5 because several families (around 500 people) migrated to this area after the cyclone (the Xaverian mission and the local NGO Rishilpi financed the construction of new houses in this area), in Shyamnagar there are 16 villages (some families migrated from some villages to others within the same area).

Apart from the recent movements mainly due to the Ayla natural disaster, Munda families generally have high migration rates because of a lack of work opportunities. For example, some of the Munda living in the three villages of Tala came around fifty years ago from both Koyra and Shyamnagar. They were brought over by rich farmers to work as laborers on their fields with the promise of some land ownership. However, the promise was never maintained. Another more larger migration appears to have happened around forty years ago, when a big portion of the Munda people living in the South Western Part of Bangladesh decided to emigrate to India, to a small town near Calcutta called Bongaon²⁰.



²⁰ Cfr Munda K.2009:11

3.4. Economy, education level and food habits

Traditionally, Munda are agricultural communities, “this is evident when we find that a predominant majority of their fathers and grandfathers were also farmers” (A.H.M. Zehadul Karim in Khan 2000:123).

“The Munda are proud of their vocation to farming. Farming is sacred. This is not only reflected in their annual cycle of feasts but also in their social attitudes: in order to feel that one fully belongs to the tribe, one has to own some land” (Van Exem A. in Ponette P., 1978:91). This sentence, referring to the Munda people living in India, shows how different the actual landless condition of the groups currently living in the Sunderbans area is from the original situation of these people. Hunting is also an activity traditionally linked to this ethnic group: we found that many clan myths of descent describe Munda’s forefathers hunting in the forest (see Annex 2) which is supposed to be the one that covered the Chota Nagpur plateau²¹

In Munda society, both men and women are involved in income generating activities. This indigenous group has a reputation as hard workers, but most of the time Munda people are exploited and paid half of what is considered a fair wage²². Nowadays, the main occupations of male members are day and seasonal labor (earth or jungle cutting, dig *pukurs*, road constructions, farming, shrimps cultivation) fishing and, rarely, share cropping. Munda women, apart from housework, are also engaged as day laborers in agriculture or shrimp farming. They generally do not have the opportunity to work as maids in houses of Bengali people, because they are discriminated as low-caste and impure²³.

The invasion of saline water described in the former chapter is seriously undermining the realistic opportunity for this ethnic group to keep on practicing agriculture or being employed to cultivate other peoples’ land, because of a lack of basic assets like cultivable land and sweet water. “12 months a year Munda villages are surrounded by salty water and wherever there is salty water no agriculture is possible, no domestic animals can be kept... not to say anything about shortage of drinking water all the year round”²⁴.

This situation has disastrous consequences on the indigenous households’ economic condition, rendering most of the Munda families poor or landless. But it also has deep repercussions on their traditional practices, which are still strictly linked with agricultural activities. Many of the social habits transmitted by the ancestors are being abandoned because of Munda’s everyday life is more and more alienated from the cycles of nature they used to connect with and celebrate.

With regards to the general level of education among Munda people in Sundarban area, our only source is the census done by Father Luigi Paggi and Krishnapodo Munda, according to which most of the ethnic group is illiterate: “among more or less 3500 Mundas, those who have been able to acquire some literacy skills must be not more than two hundred people” (Munda K. 2009:29). The two main reasons why this group is being deprived of basic education are the discriminatory attitudes of government school teachers and pupils towards the indigenous children²⁵ and the language barrier. Initiatives have been taken in some villages by SAMS and Father Paggi in order to allow education of Munda communities’ children in their own language, establishing some

²¹ See the paragraph “Social History” in the Ponette P. (Ed.), “The Munda World, Hoffman Commemoration Volume”, Catholic Press, Ranchi, 1978, p 6-8.

²² In Yuthi 2007 (paragraph 3.12) a Munda woman explains that for 12 hours of daily labor she normally gets 60 to 65 tk and that she does not even have the certainty to be paid every day (normal day labor wage correspond to 150 - 200 BDT for 8 hours).

²³ No one of their neighbor will ever accept to eat food prepared by Munda, and actually the fact that our research team was sharing food with the indigenous, has been a source of big astonishment among the Muslim and Hindu neighborhood.

²⁴ Munda K. 2009, p.22

²⁵ It often happens that other children refuse to seat nearby or play with a Munda pupil and insult him/her (see Yuthi M. 2005 paragraph 3.12).

schools run by young indigenous teachers. However, from the communitarian discussions held during our research, we learned that the number of local teachers is still insufficient to meet actual needs. The people involved in our research underscored in many occasions (especially during the implementation of the Problem Solution Possibility Chart) that education is an extremely important instrument. Not only they consider that proper education would allow to increase the number of indigenous teachers and would guarantee better job opportunities for the Munda youths, but they also feel that it would made possible to overcome the strong discriminative attitude that Bengali people have towards their people, “so that one day we can live together like brothers.”

The participants involved in the semi structured interviews underscored that food habits are a relevant element of Munda identity. As one member said, “we eat rats and squid, so we claim ourselves as Munda”²⁶. At the same time this identity is a main cause for discrimination from the mainstream society who considers what indigenous eat as impure. When paddy fields were still available in the areas surrounding Munda villages, during seasons where rice and other crop availability was scarce, they used to supplement their diet with rats (from which special oil is extracted and used to cook), frogs (during the rainy season), tortoises, water hyacinths, snails, hill fish, sea oyster and squid. Due to the intrusion of saline water associated with the introduction of shrimp cultivation, these animals cannot be found anymore.



Picture3.2. Ritual site dedicated to Monsa in the Munda village of Datinakhali.

3.5 Social dimensions of the community's space

The focus group discussions and the participative mapping²⁷, both corroborate that the spatial organization of the Munda Village (or *Para*) and of its houses is based on the cardinal points, which have symbolic value.

²⁶ Datinakali, semi-structured interview

²⁷ In every village the participants started designing the map by setting the cardinal points.

The burial ground has to be situated in the northern side and when a dead person is buried his head is oriented towards the north. For the forefathers living in India, the burial ground was extremely important because their tombstones were considered as proof of their rights to the land that they had reclaimed from the forest: "the village burial ground was exclusively reserved to the clan members who had made the field and built up the village.[...] The Mundas could therefore rightly claim that their title-deeds were those tomb stones, which had ever been the silent witnesses of their ownership" (Ponette P., 1978:9). The actual situation of Munda people living in Shyamnagar is completely different because they do not even own any land on which to build their houses and so it is even more difficult to find villages that dispose of a graveyard (among the observed villages only Datinakhali has one)²⁸.

Munda people in Sundarban usually do not use temples. Every family prays daily in the evening at their home, in front of pictures of Gods and in a special corner (*Bhitar Ghar*) dedicated to the spirits of the ancestors, where only the members of the family can enter. This corner is oriented towards the east (sunrise) and north. Just recently in some Munda villages in the area²⁹ temples have been built and people use it to celebrate their religious festivals (*pujas*). Nonetheless, in every village there are some outdoor ritual places. From the participatory mapping activity we observed that in all the five communities involved in the research there is ritual space on the ground dedicated to the goddess of snakes, *Monsa*, and some have also dedicated space to *Bon Bibi* or *Kali*. These ritual sites are always oriented towards the east and are normally situated close to water (*pukur* or river). When a new house has to be built, Munda people wait for the proper day and time according to the moon calendar. On the chosen date, four wooden posts are planted by the head of the family into the ground where the house will be built. In one corner, called *Nishan*, some gold, silver and bronze, three fistful of rice, some grass called *Durba* and a post of bamboo with an arrow sign are put by the head of the family under the ground (approximately 1 hand deep). Then a clay pot full of water is situated in the same corner and kept there for about three or four days. If the house's door will be positioned on the east side, the *Nishan* is placed on the north-east corner; if the door is on the southern side, then the *Nishan* is placed in the south-east corner. When the construction of the house is finished, a small ceremony in honor of the ancestors' spirits (*Bura-buri puja*) is arranged and a rope is burned in the *Nishan's* corner, wishing happiness for all members of the family.

The mentioned posts do not have an architectonic function but do have a symbolic power since they are considered as a protection for the house and its inhabitants against bad spirits; once the house is completed it will continue to remain under the soil. It has in fact been noticed that the social space of a Munda *para* involve the presence of different kinds of bad or good spirits that dwell in the houses of the village (see paragraph 3.6).

3.6 Kinship and leadership system

According to the participants involved in our research, there are three large, known Munda tribes: the *Compat*, the *Kharia*, and the *Mankin*. The groups living in the south-west region of Bangladesh

²⁸ During the Problem ranking participatory activity, the lack of burial ground as emerged as a relevant problem in almost all the communities.

²⁹ In Betkhali they have a Bon Bibi Temple, so they perform the Bon Bibi Puja there (in Kalinchi they perform it nearby the river and also in a Hindu Bon Bibi temple) and in Kashipur they have a Rada Krishnu Temple.

belong to the *Compat* tribe, while the Mundas living in the northern regions of the country belong both to the *Compat* and the *Kharia* tribes³⁰. No marriage is allowed among people belonging to different tribes.

The *Compat* Mundas living in the observed area are grouped in different clans (*Gotro*). The ownership to a clan is transmitted through a patrilineal system. As people from the observed area explained to us, they inherited clan names from their forefathers from Ranchi and these are transmitted from generation to generation like water flows in a river.

Members of the same clan cannot marry each other because they are considered relatives but they can marry people belonging to any other clan, without any distinction or hierarchy. People of different clans live together in the same village and there are specific celebrations in which clan ancestors are celebrated (*Paharia* and *Sarhul Puja*, see paragraph 3.7.).

In the Annex 2 we are listing the Munda clans living in the observed area, including a brief mention about the myths that concern these groups and the specific behavior or taboo (as they were told to us in the five communities during the semi-structured interview and the validation meetings)³¹. We can observe that all the myths are related to the ancient times where Munda people used to live in the forest and that most of them are related to their hunting activity. Every clan has specific rules to follow during the celebration of the rituals of *Sarhul* and *Goal puja*, regarding the number and kind of cocks or hens to sacrifice and detailed food restrictions. In the event that these rules are not followed by someone, he/she is threatened to face either sooner or later health problems and his/her family will have to organize another ritual as a compensation for the spirits of the forefathers that have been offended. The myth explaining why different clans have to sacrifice a different number and kind of chicken during the rituals has been told to us in *Sapkhal* village: "a group of Munda in Ranchi District was walking to go to a celebration, when they found on their way many hens' feathers of various colors and they collected them. From that time different clans use to offer for their puja hens of the same colors of the feathers that they collected: if one person for example collected a brown, a red and a black feather, then his clan has to offer a brown, a red and a black hen, in the case another collected five, his clan will have to offer five hen of the same colors, etc."

Every village has a traditional leader, the *Mattbar* or *Sordar*, which is the person people go to if some problem appears in the community. In ancient times the Munda term used to refer to the leader was *Murha*, whose meaning was explored in the paragraph 3.2. There are two ways by which a man can hold this position (which lasts for his whole life): by inheritance (his father, his grandfather etc were leaders too) or by public decision within the village (both men and women decide). It is not required to be a member of a specific clan to become a leader, therefore different *Mattbar* in different villages come from different *ghottro*. All villagers obey the *Mattbar*, and all the village leaders obey the King, *Raja*: there is one King in Tala Upazilla (whose name is Nepal Chandro Munda), one in Shyamnagar Upazilla (Kudiram Munda) and one in Koyra Upazilla (Girendra Nath Munda)³². If a big social problem arises (for example a Munda girl marries a non Munda boy) the King is the one that take the final decision.

As indicated by the people that participated in the participative stakeholders' analysis, in every observed village apart from the *Mattbar*, the members respected by the community are the

³⁰ According to Fuchs S. (in Ponette P., 1978:69), the origin of Kharia tribe can be found in the folktales of the Indian Mundas: their histories describe how they had to fight with various invaders of their homeland. A portion of Munda made peace with Oraon people, marrying their women and adopting their rites of spirit worship "they thus formed a new tribe, the Kharias".

³¹ See also the transcription of Stakeholder Analysis in annex 1.

³² Apparently once there was just a king for the whole area, but nowadays for practical reason Munda decided to follow the administrative partition in Upazilla and have three kings.

traditional healer (*kabiraj*), the general and clan ritual celebrant, *Pahan* (in every community, but also in every clan in that community, there is a male person who is the repository of the ritual practices transmitted through generations by the forefathers: he is in charge to lead the celebration of, respectively, the communitarian or clan rituals and his name in Munda language is *Pahan*) and the village teacher/s³³.

As we have mentioned, Munda people follow tribe's endogamy (where Munda people can only marry other Munda people who are members of the same tribe), clan's exogamy (where it is considered incestuous to marry among members of the same clan) and monogamy. In the observed area, people from this ethnic group use to live mainly in extended families. Marriage is virilocal: women go to their husband's residence after the wedding and live with his parents and brothers. The wedding is arranged after parents consult the horoscope, who then announce their decision to the village leader, who in turn announces it to the villagers. A relevant problem in Munda communities is the persistent habit of arranging child marriages, resulting in a high rate of child and maternal mortality³⁴.

Apart from the traditional kinship and leadership system, in recent years, in the Thana of Shyamnagar, Koyra and Tala, some young Munda are forming organizations in order to claim their rights as indigenous people.

In Shyamnagar, the *Sundarban Adivasi Munda Shangashta* (SAMS) has been founded in 2003 and in 2009 the association has been registered at the Social Welfare Ministry. SAMS is currently processing the permit at the NGO Affair Bureau in order to be recognized as an NGO. Until 2009, the association had been publishing a newspaper on a monthly basis covering cultural issues like the celebration of religious festivals, articulating the main problems of the villages (including water issues like salinity and drought) and raising awareness against the child marriage practice. With the support of SAMS, in the village of Kalinchi the *Kalinchi Munda Para Cultural Group* composed of twelve people has been formed. The objective of this group is to perform Munda songs and dances during various occasions, as they hope to be invited to represent Munda culture.

In Tala, in 2010 five other young Munda men have founded the *Adibasi Munda Unnayon Shango-ton*, and in Koyra in the same year rose the *Indigenous Development Shangashta*³⁵. The leaders of the three organizations have periodical informal meetings to share their future plans with each other. The International Indigenous Day on the 9th of August has been celebrated by Munda in Shyamnagar in the last five years, with input from SAMS. All the Munda living in Koyra and Tala used to gather for a rally in Shyamnagar. In 2010, apart from the usual Shyamnagar event, parallel rallies have been organized for the first time in both Tala and Koyra, with the participation of more than 200 people in each event³⁶.

3.7. Munda spiritual world

Today, in the Sunderban area there aren't any Muslim nor Christian Mundas³⁷. The way they call God, is *Sing Bonga*, the literal translation of which is Sun-Spirit, which explains why in the spatial

³³ In the complete transcription of the Stakeholders' analysis in the annex 1 are available the name of the villages leaders, the *kobiraj*, the *pajari* and the teacher of each community.

³⁴ It must be noticed as a worrying fact that in any of the observed communities "child marriage" was mentioned while discussing the list of the problems that affected the village.

³⁵ In Koyra there is also the Koyra Adibasi Union Porishad, which is headed by Mahato people but also involves Munda in their activities.

³⁶ In the annex 4 it is possible to read the speech given during the event in Tala.

³⁷ Just few families in a Dudler Char village joined a Christian Church about ten years ago, hoping to be better treated by their Bengalese Christian neighbors. But in this way they were rather cutting themselves off from the traditional system of Munda social relationship and thus they were no able to arrange proper marriages for their daughters (neither in their traditional group nor in the new church community that did not welcome them as they were hoping). Eventually to solve this important practical problem they left Christianity and asked to their clan to be admitted back to it.

organization of the villages towards the east is so important³⁸. The moon and the stars are considered living witnesses of their rituals and special devotion is dedicated to the Karam tree (which saved their ancestors hiding them while they were fleeing from the enemy, see more details in the next paragraph). They also worship some Hindu deities (*Saraswati*, deity of Education, *Laksmi* goddess of Wealth, *Monsa* goddess of the snakes, *Ganga* deity of water and *Kali*, goddess of the power). The hero Birsha Munda (1875-1900), also named *Birsha Bhogovan*, considered as God among the Munda people of India³⁹ has not been mentioned in the observed communities. Like all Sundarban inhabitants, Munda people of Shyamnagar villages also believe in and pray to *Bon Bibi*, the goddess of the Forest "because we are all her children"⁴⁰.

Actually, during the semi structured interviews, when the participants were asked who the object of their worship was, immediate answer always was "our ancestors" or "the past generations," "the dead people". They pray and call them especially during lifecycle rituals and have special celebrations dedicated to their forefathers. It is considered as compulsory for every clan, before performing a ritual, to remember their forefathers and the places where they came from (Ranchi) otherwise their worship would be meaningless: "the ancestor spirits are the tribe in survival, its prolongation in a subliminal condition" (Ponette P., 1978:126).

As a consequence, Mundas believe in bad and good spirits or ghosts (*Bhoot*) and invoke them through *mantras*; the good are called to help somebody when he is sick, and the bad are called when somebody wants to damage another person. "The spirits are propitiated, prayed to in order to obtain their intervention in warding off impeding harm, or to appease their displeasure caused by the negligence of their living relatives in offering them timely food and drink" (Ibidem, 122).

All the families in the five observed communities believe in and propitiate during ritual celebrations (pujas, especially *Sarhul* and *Paharia*) different kinds of bad or good *bhoots*, usually four. Their type and number varies according to the history of the family and what their forefathers used to celebrate, but it is generally perceived that the number of ghosts is decreasing by the day because the family members no longer take care of them like before. The spirits are believed to inhabit mostly the houses and the trees of the forest, sometimes also the ponds.

The *Curin Bhoot*, is the spirit of a woman that has died during her pregnancy and is considered by all to be a good spirit that protects the family and is favorable for housework⁴¹. In Sapkhali, when they buy new clothes, they take off one thread of cotton and offer it to this ghost. On the other hand, when a woman dies during the delivery, she is said to become *Dakin bhoot*, who is bad. Another common *bhoot* is *Murkhata*, who is extremely bad, with no head and just an eye in the middle of his chest. According to the people of Sapkhali this ghost came from an episode where two people were quarreling and one cut the head of the other. The beheaded is said to have become *Murkhata*. *Darha* is also a bad ghost: when a woman is pregnant and her husband dies, it is commonly believed that he becomes *Darha Bhoot*.

³⁸"The name Singbonga must be taken symbolically. Though the Mundas, influenced by their Hindus neighbors, greet every day the rising sun, not one of them will ever aver that the sun is his God, or even that he dwells in it. The sun is for him a symbol of Singbonga's power, majesty, splendor. It is not a divinity in any respect whatsoever." (Ponette P., 1978:122)

³⁹Birsa Munda (1875-1900), was the leader of an important messianic movement among the Mundas in Bihar. He presented himself as the messenger sent by God to liberate his tribe from the British domination. He claimed to possess miraculous powers and instituted a new liturgy, forbidding the veneration of deities and spirits. Later he proclaimed to be god himself and is therefore known with the name of Birsa Bhagawan. He planned several armed rising but the only one that took place, in 1899 he played a rather non heroic role and was able to escape. Eventually he was caught and taken to Ranchi where he died of cholera soon after having been jailed. The Mundas groups in India still venerate him and his memory is sacred. A small group of his followers (the Birsaites) still observe the rules of life Birsa had introduced. (For more details about Birsa Munda movement and the history of Munda tribes in India see Munda K. 2009 chapter 3).

⁴⁰For example in Datinakali there is a man which is famous to be very brave since he faced the tiger twice (he is a honey collector). While describing both episodes he underlines that he was not having fear because he was praying Bon Bibi, "because we are all her children".

⁴¹The Curin bhud is also mentioned in the literature related to Munda living in India, but as a bad one (see Van Exem, 1981:76).

Serdeoa ghosts are good for every member of the family and bring income, rice and vegetables; they can assume the form of a small cat and live in the house in a small clay pot. The name of the good spirit Bagud has to be honored before entering in the forest, where he dwells, so that he will protect and allow people to come back safely. Others good spirits are: *Karma*, *Bicchu Buria*, *Samburi Buria*⁴² and *Charma*.

Muchni spirits are very harmful for the livestock. This is why they are specifically remembered during the celebration of the *Goal puja*, which is performed to obtain the welfare of the cows. In Sapkhali it is believed that these spirits inhabit the pond.

In Kalinchi and Sapkhali *Latkan* and *Latkin Bhoot* were also mentioned; the people dedicate a specific puja to them, according to the myth that tells: "Once upon a time God came in the jungle disguised as an old man and arrived in a village. In that village there were seven brothers living together and also an old couple (the woman's name was Latkin and the man's name was Latkan). God went first to visit the seven brothers family and told them "You have to honor me by making puja" but the seven brothers ignored him. Then God went to the old couple and told them "You have to honor me by making puja" and they accepted and celebrate it. Then God came back to the jungle. During the following days the seven brothers were facing many problems (their crops and livestock decreased day by day), while on the other hand the other family's wealth increased. Thus, the seven brothers planned to destroy the livestock and crops of the old couple. One day they called the couple and told them "we will do a game: if we win this game you will have to leave this village, if you win it then you will be able to remain". The rules of the game were that they had to stand and in front of them at a fixed distance there were three eggs, one black, one red, and one white; the two teams had to throw sticks in order to break the eggs and win. The seven brothers failed and the old couple won because of the help of the disguised god. When the three eggs were broken by the sticks thrown by the old couple, many hens of different colors born. The seven brothers understood that the disguised old man was God, so they celebrated together with the old couple the *Puja*. That is why the Munda people celebrate the *Latkan* and *Latkin puja* and use hens in their *pujas*"⁴³.

Apart from the family related *bhoot*, there are also general spirits that come from outside the community, called *Dain*, which are bad. In order to protect the village from their incursion, in Sapkhali the *kabiraj* performs *Gram Chara Puja* in the month of *Ôgrohaeon* which guarantees protection to the village for a period of six months until to the month of *Asharh*. The celebration of *Kali puja* is also aimed to keep the bad spirits away from the houses.

The ghosts can negatively affect the health of the people, especially when they get angry if somebody does not respect the rules for celebrating *pujas*, (see annex 2 – List of clans) or when the spirits appear and somebody gets frightened. As a result of the scare (not only caused by the appearance of ghosts, but also the appearance of other ghastly beings like snakes or tigers) people get sick⁴⁴. The common symptoms are fever, weakness, lack of appetite, tossing in sleep (having scary dreams with animals or ghosts), and strange behavior (shouting, being afraid of staying alone and scared to go everywhere).

In these cases the family brings the sick person to the *kabiraj*, who understands that the patient got scared by holding his wrist and checking his eyes. If the disease is not very serious then the

⁴² Buria in Munda language means "old woman".

⁴³ This old couple is also mentioned in the literature related to the Munda tribes living in India: the Lutkum would represent the mythical progenitors of the Munda tribe. (see Van Exem, 1981 pp 56,71).

⁴⁴ This is not the appropriate document to do it, since is not an investigation on ethno-medicine, but it would be really interesting to explore in deep the characteristic of local sicknesses related to fright. It is extremely interesting to notice the fact that "Fright" is also a characteristic and well studied ethno-sickness of indigenous people in the Andes (which experience the same symptoms described among the Mundas...) but also in Central America.

healer cures the person by reciting sacred formulas. Sometimes he also breathes on mustard seeds and wraps them in a piece of fabric that he then hangs on the patient's waist. After 3 days this remedy is removed and thrown into the water. If the patient does not recover with these methods, then the *kabiraj* will need to dedicate one or more chicken in the name of the ghost that has caused the illness (the traditional healer is the only one that can understand which ghost is responsible).



Picture 3.3. Celebration of Goal Puja in Datinakhali, 7th November 2010.

3.8. Ritual practices and cultural celebrations

The forefathers transmitted to the Munda people a varied universe of festivals and rituals, *pujas*, which dispose of specific practices, songs⁴⁵ and dances. The cycle of celebrations traditionally follow the annually recurring socio-economic activities of the tribe (the prayers and the sacrifices are connected with the agricultural activity) and is related to the moon calendar (see "Seasonal frame of reference" paragraph 4.3.); rituals are performed by the single families, the clans or the entire community in order to obtain welfare and prosperity and protection from disasters.

The female members of the households are in charge of the daily domestic oblations⁴⁶ offered in front of the deity images and it is also their duty to honor the spirits of the ancestors by lighting a candle in the *Bhitar Ghar* every night. The *pujas* celebrated at the household level are lead by the senior male family member, while the master of ceremonies of the clan's *pujas* is the *Pahan* of each clan. With regards to the religious festivals celebrated by the whole village, their implementation is lead by the community *Pahan*. During the rituals the celebrant wears a *dhoti*, a *gamcha* (a napkin

⁴⁵The musical instruments that Munda use are the same played by Bengalese people (Dhol, Kortal, Khonjoni, Ghumur, Harmonium), it exists also a specific Munda instrument called Madol, but people in this area does not use it anymore, it can be found only among Munda living in the northern part of the country.

⁴⁶Usually composed by water, flowers, and food .

made by hand loom) and a *shuta* (chain made of white knit). The expenses related to the oblations in the familiar pujas are borne by the head of the family, while every participant family contributes to the clans' and communitarian festivals with food or a fixed amount of money. During the celebration of all rituals and festive occasions the traditional rice beer, *Haria Mod*, also called *Sita*, is shared among the participants⁴⁷.

A list of all the pujas celebrated in the five villages, with the transcription of some of related songs and details about the performed dances and myths have been annexed at the end of this report (annex 3)⁴⁸.

The main pujas celebrated in all the observed villages at the household level without clan distinction, are especially dedicated to the spirits of the ancestors (*Sohorei*, *Bura Buri* and *Sarhul*) and are performed in the *Bhitar Ghar*. The *Sarhul puja*, celebrated during spring season, is particularly important and is performed offering new fruits to the ghosts of the forefathers and in their honor sacrificing different kinds and numbers of hens and cocks, depending on the clan. It is documented to be a prominent celebration also among Munda tribes in India⁴⁹ and even among the *Oraons* in Bangladesh⁵⁰. The ritual of *Bura Buri* (celebrating the ancestors by sacrificing chickens) or *Murgi Puja* is also celebrated in occasion of the rites the passages and when a new house is built.

To celebrate the single clans and honor their past generations in order to obtain prosperity for the future ones, *Paharia* or *Boro Puja* is organized every three generations offering a big amount of food to the ancestors' spirits and inviting all the people belonging to that clan (actually, this is one of the most expensive festivals, thus many clans in the observed villages do not manage to celebrate it in the proper time).

Another very big and expensive celebration is the *Karam Puja* which should be performed by each clan every three years. It is especially performed by unmarried girls in order to have a nice husband, honest and innocent children and abundant crops and livestock. During this celebration some seeds of rice and mustard are sown, and on the seventh day, when the small plants have grown, the main part of the ritual takes place.

This festive occasion is linked to important myths. The first, which actually has to be told during the seven days of the ritual, describes how the *Karam* tree saved the life of their forefathers and the king hiding them in the jungle, explaining why the Munda people honor this tree as a God. The second myth explains why people have to dedicate a *Puja* to the *Karam* God: "Once upon a time there were 2 brothers, named Karma and Dharma. Once Dharma had a dream in which the *Karam* God came and told him to celebrate and arrange a *Puja* in his honor. In change, he will have many crops, livestock and become rich. The following day Dharma described this dream to his elder brother Karma but he did not consider this dream as relevant. After few years Karma became poor, whilst Dharma became rich. Eventually Karma understood that Dharma was telling the truth about the dream, then together they celebrate this *Puja* and also Karma became rich. From that time *Karam puja* is celebrated".

⁴⁷For its preparation, rice is cooked, than mixed with the juice of 2 trees that easily can be found in every community, Buj and Kuj, small balls are made of it and then the rice is spread and put in a Hari Kolchi, a special pot, and then covered with clothes for 3 or 4 days. After that the pot is open and the beer is served mixing it with hot water.

⁴⁸It must be noticed that the list does not cover in a systematic and exhaustive way all the details of each celebration. That challenging task would require specific investigations and goes beyond the scope of our work; we are just reporting the information risen in the communitarian meetings, conscious that no similar data have been collected so far on this ethnic group, hoping to enhance future research.

⁴⁹See Srivastava M. "The sacred complex of Munda tribe" <http://www.krepublishers.com/02-Journals/T-Anth/Anth-09-0-000-000-2007-Web/Anth-09-4-000-07-Abst-PDF/Anth-09-4-327-07-417-Srivastava-M/Anth-09-4-327-07-417-Srivastava-M-Tt.pdf>

⁵⁰Gain P., 2008 and Caritas 2005.

The Karam puja is documented⁵¹ to be celebrated also among the Oraons, who believe in a similar myth where the Karam tree also protected their people fleeing from Bihar.

Among the religious festivals celebrated at a village level, the bigger are the *Monsa Puja* and the *Bon Bibi Puja*, which are particularly important for the villages nearby the forest. In particular, *Monsa Puja* is related to the advent of the rain, as we will be explained in the next chapter (see paragraph 4.7.).

The family rituals specifically related to particular events of the agricultural calendar are *Bhelua Phara* (celebrated before cultivating the paddy), *Guchori* (before sowing the plants in the fields), *Nawa Puja* (before cutting the new paddy), *Shakrai* (the most important, to celebrate the cutting of the new paddy and crops, making cakes and different kinds of food with the new rice), and *Pan Phul* (to welcome the seasonal fruits), while the *Goal puja* is organized in order to honor the cattle.

Unfortunately, having the daily life of Munda people become more and more detached from the ancestral activity of farming, some of the rituals related to agriculture are being abandoned (ex. *Guchori* in Kashipur or *Goal* among the family that don't own any cow...) or are gradually being deprived of their meaning because many people in the communities are forgetting the related songs and dances⁵². In particular, we must notice that the songs performed during the *pujas* are not only fundamental components of the celebration but also powerful instruments that allow the transmission of the ritual itself through generations. Many of the lyrics constitute in fact a sort of "musical instruction manual" of the rituals, describing in details what people have to do during the different phases of the ceremonies; in this sense, the progressive forgetfulness that is being experienced in the Munda communities regarding the traditional songs is a huge damage to the collective memory of this ethnic group.

It is interesting to notice that there is a relation among dreams and *pujas'* occurrence: it might happen that people realize that the time of celebrating one specific ritual is coming when they dream about specific animals (snake for *Monsa*, buffalo for *Kali* and chicken for *Bura Buri*)⁵³.

All the mentioned *pujas* are celebrated just by Munda people, with the exception of *Monsa*, *Kali* and *Bon Bibi*, that are also celebrated separately by the neighbor Hindu community in a different way (with regards to songs, dances and food) and on different dates⁵⁴.

The rituals are an important occasion of social cohesion among Munda people, renewing the communitarian ties among the people living in the same village and consolidating the connection between the current generations and the ancestors of the tribe. Before starting the celebration of the *pujas* held at the village level, all the adults (men and women) have a meeting with the village leader in order to discuss the eventual social and relational problems existing among the families and solve it before celebrating the ritual. Once all the possible conflicts have been discussed, the ceremony can start. The bonds that are created during this kind of communitarian events can be so strong that they linger on even in case of migration. Although many villages have been fragmented due to migratory movements, people that used to live in the same village still gather there to celebrate the communitarian or clan *pujas* (for example the people of Datinakhali and Burigolaini celebrate the *Monsa Puja* together, because the Munda families that are living in Burigoalini migrated there after cyclone Ayla, but were initially part of Datinakhali community).

⁵¹ Gain P., 2008 and Caritas 2005.

⁵² For example in our transcription of the conversations held during the validation meeting in Srifalkati we can read that *In the celebration of Goal puja today they have no dance, but when they still used to sing the "cow song" all women and men used to dance while singing this song. Today they have no more cows and goats, that is the reason why they are forgetting the songs.*

⁵³ Among Munda people, "What is seen in dreams is a part of the reality which is invisible in our waking hours. They must be true, but since we are blind, it is not easy to grasp their meaning." (Van Exem S.J., 1981:96). The time of the dream is important: dreams between 3 and 5 o'clock are held to be very significant and more likely to come true (Datinakhali, validation meeting 1/11/2010).



Picture 3.4. Celebration of Narota in Datinakhali, 7th November 2010.

3.9. Life cycle rituals

The main rites de passages celebrated among Munda people living in the observed area are related to the birth, the marriage and the death of a person.

3.9.1. Narota Festival

When a baby is born, its umbilical cord and the placenta are placed in a hole in the earth in front of the house so that once the child has grown up he will keep contact with his home and nature. During the first days of life, the baby and his mother are kept isolated in a room where nobody can visit or touch them, because they are considered as impure (only the mother of the woman can bring her some food)⁵⁵. On the ninth or eleventh or thirteenth day, this isolation ends and an occasion called *Narota* is celebrated⁵⁶. The day this celebration is held, both the mother and the child take a bath with herbal plants (*Neem* and *Neshindi* trees leafs) and wear new clothes, while a barber is called in order to cut for the first time the hair of the new born. The razor that has been used is touched by all the members of the house with one finger for good luck.

The paternal and maternal grandfathers sit in the yard with a bowl full of *Haria Mod* in front of them. Two pieces of paddy grass or two dried rice grains are put in the beer, one of them representing the paternal grandfather and the other the baby. If, while floating, they come close it means that there will be a good understanding and connection among them during the life of the new born. The same test is done with the paternal grandmother and the maternal grandfather⁵⁷. During this occasion the child is given a name after consultation with the *rashi* (horoscope).

⁵⁴Hindu celebrate the Monosa Puja one month later than Munda, and Bon Bibi with two or three days of difference.

⁵⁵During those days mother take care of the newborn giving him bath, massaging him with mustard oil and sterilizing the place where the umbilical cord was cut using the heat generated by burning the skin of the rice.

⁵⁶On the 7th of November we assisted to the celebration of this ritual in the community of Datinakali.

⁵⁷If the baby is a female the first who does the "proximity test" is the paternal grandmother, if the baby is a male is his paternal grandfather.

Eventually, rice beer and food are offered by the family of the baby to the people attending the ceremony, who give their gifts for the new born and dance joyously Khemta and Jhumer dances. Some of the songs that are sung in this occasion are *"The grandfather of the child go to the market to bring new shirt , new pants, new shoes, new bracelets, new necklace , and flute for the child"; "The grandmother of the child go to the market to bring new shirt , new pants, new shoes, new bracelets, new necklace , and flute for the child"; "In the Haria Mod there is too much water and it has more taste of water then of Haria."*

During the night of that same day, the child's family celebrates the ancestors performing the *Bura Buri Puja*.



Picture 3.5. Dance during the celebration of the Narota Puja in Datinakhali, 7th November 2010

3.9.2. Wedding

A girl and a boy get married according to their parents' choice with the help of a *Ghatak* (matchmaker). There is no dowry system in Munda society. During the meeting where the marriage is officially accepted by both families and the date of the celebration is fixed, a watch or a gold ring is given as a gift to the future groom by the girls' parents and a jewel is given to the future bride by the boy's parents. On the other hand, among this ethnic group, there is a tradition of bride price which consists of approximately 15 takas paid by the groom's brother-in-law to the bride's brother-in-law on the day of the wedding celebration, when the boy reaches the girl's house.

To decide on a suitable day for the wedding ceremony, Munda people take into account the date and time of birth of both, the girl and the boy, the moon calendar and their horoscopes. Moreover, there are some specific months in which marriage celebrations are avoided: in *Bhadro* month

(autumn) wedding can be celebrated only during the evening (*Godhuli Lagna*) just in the case a suitable date can be found, while no marriage can be celebrated during the months of *Poush* (winter) and *Choitro* (spring).

The wedding ritual is composed of a complex sequence of different ceremonies which is outlined below:

a. *Turmeric paste*

A branch of a banana tree is cut and brought in the yard of the groom's house and he has to sit under it. The unmarried girls of his family spread a paste made of turmeric and mustard on the groom's body and when this paste dries the married female relatives collect its remains and wrap it in a piece of fabric. Then he has to take a bath and wear a *dothi* and a *punjabi*.

At the same time in the bride's house, before she gets dressed with a sari, her unmarried male relatives spread her body with the same paste and the married men collect it. After the wedding celebration the fabrics containing the paste are put in the water of the *pukur* of the groom's house.

b. *Marua Puja*

The celebration starts at sunrise at the groom's family house, where a hole is put in the right ear of the groom. Then a structure called *Marua* is prepared: three posts of *Goran* tree are planted in the yard and with some bronze coins under the central one, some turmeric and betel nut are also situated under the ground. The posts are then wrapped using mango leaves, paddy straw and bamboo leaves, while some designs are done in the ground using rice powder. One clay pot full of water of the *pukur* is situated in the middle of the *Marua*. This *puja* has to be finished in the morning and the parents of the groom are not allowed to have breakfast until the end of this ceremony. During the *Marua Puja*, the *dhardhara* dance is performed.

c. *Murgi Puja*

In the yard of the groom's house a hen is sacrificed in honor of the forefathers to obtain blessing for the boy. The blood of the animal is spread on the ground and the groom has to step on it before starting his walk towards the bride's house.

d. *Cutting of the water*

When the groom has reached the bride's house, the "cutting of the water" ceremony is performed. This is a ritual where neither the bride nor the groom is present, only the brothers of the groom and the sisters of the bride go together to the pond and they cut the water with a sickle. Some of this water is collected in two aluminium pots, one carried by the brother of the groom and the other by the sister of the bride to the place of the *Marua Puja*. The groom and the bride then take a bath with the water that has been cut.

e. *Blood bonding*

The couple sits and in front of them a small *pukur* (one foot per one foot) is dug and filled with water. Here the vital part of the wedding rituals is celebrated where blood is taken from the little fingers of their left hands and put in two different mango leaves as a sign of the bonding created among their families.

f. *Seven rounds*

The groom stands on a platform and the bride walks around him seven times with a small pot of water. At the end of each round she has to spread some water on the feet of the groom and to bow down before him. When the seven rounds are finished, she reaches the boy on the stand and the couple exchange a chain made of colorful papers. Then the female members of the bride's family welcome them with betel leaves, sweets, and a small metal pot filled of water. Afterwards, they hold a fabric and make a circle with it, surrounding the parents of the bride and the guardians⁵⁸ of the couple.

g. *Vermillion on the forehead*

The mother of the bride asks to the groom "Would you be able to give my daughter food, clothes, health and support?" if the boy gives an affirmative answer she replies "Thus you can put vermillion in the forehead of your wife".

The head of the couple is covered by a piece of fabric and under it they exchange sight for the first time. The groom and the bride hold the mango leaves containing their blood in one hand while with the other the groom puts vermillion on the bride's forehead and she spreads mustard oil on the boy's body. Then they exchange the leaves containing each other's blood.

h. *Food*

Food is served to the couple (who up to this moment was fasting) and to all the people. Everybody then dances and drinks *Haria Mod*. Gifts are given to the couple.

i. *Bura Buri puja*

In the night *Bura Buri puja* is celebrated in honor of the spirits of the forefathers to bless the new couple.

j. *Following day*

The guardian of the bride tells the guardian of the groom, "I am entrusting her to you, take care of her", then the husband brings the wife to his house. Here, the mother of the groom who was not assisting with the ceremonies held at the bride's place, welcomes the couple and serves them syrup, gives jewels to the bride, who then bows down before her. Afterwards, the girl has to play a game going under four branches of a banana tree that have been planted in the yard. Here she has to find *kouri* (shells) that have been hidden at every corner. After few hours the female members of the family bathe the new couple and give them new clothes to wear. The leaves with their bloods are thrown in the *pukur*. Eventually *Bura Buri puja* is performed, sacrificing hen in honor of the ancestors.

k. *Seven days*

After 7 days, relatives from the bride's house come to take the bride and the groom and bring them to the girl's house. Then after five or seven days, five or seven members of the groom's family bring the couple back.

⁵⁸Both the bride and the groom have one guardian, usually the father the mother or the elder brother.

3.9.3 Death celebrations

The same day a person dies, Munda people bury him or her either in some land of their own, or in *char* (silt land) or in *khas* (government land). Before the burial, the dead body is given a bath with water, soap, and scent. Before putting the defunct in the grave, in Datinakhali, the elder son of the dead person (or the eldest in the family) takes a wooden stick wrapped with a piece of fabric imbued with mustard oil and puts it on fire. Then he has to stand beside the dead body (not facing him) and touch the face of the dead three times with the burning stick. In Sapkhali the elder son, followed by the other sons and daughters put their hand nearby the fire and then give the heat to the face of the dead.

The ten days that follow the burial are called *Dosh Kaman*. During this period of mourning, the sons and daughters-in-law of the dead have to follow food restrictions where they can only eat plain rice or mashed potatoes once a day. They are to avoid oil, spices or any kind of seasoning and this food is to be served in special clay bowls named *Malsha*. They also have to follow a special dress code: the men have to wear white *dhoti* and the women have to wear white *sari* with red borders and are not allowed to change their dress. They also cannot shave or cut their hair.

On the eleventh day, the relatives of the dead shave, take a bath and wear new clothes. Then they call a Brahmin from the Hindu community to celebrate the *Shraddha* (Hindu ceremony in which fruits are dedicated in honor of the defunct). All the neighbors and relatives share food and *Haria Mod* and dance together.

SOCIAL WATER MANAGEMENT AMONG MUNDA PEOPLE IN THE SUNDARBAN

Chapter 4 Social Water Management

4 Water Social Management



Picture 4.1. Pukur in the new Srifalkati Munda village.

"Remembering plays an important role in times of change. It provides us with the necessary experience to move forward and with sources to seek renewal and re-organization, which in turn are crucial for building resilience and strengthen the capacity of vulnerable communities to adapt to the effects of climate change. Social memory is key for linking past experience with present and future adaptation actions, and in turn allows for novelty and innovation."

(A.V. Ospina, 2010 <http://niccd.wordpress.com/>)

From the implementation of the participatory methodologies and the semi-structured interviews in the communities we were able to understand that Munda people have a deep knowledge of the surrounding ecological environment. They know the different species of birds, fishes and wild animals that used to live in the forest, they distinguish among the several kinds of trees that are found in the Sundarban, and they know the cyclical behavior of climate and its manifestations (rainfall, wind, tides, storms...) and the corresponding availability of vegetable, fishing and hunting species. This regularity in climate components is reflected in the regular occurrence of ritual celebrations through the year, linked to the moon and agricultural calendar (*pujas* related to the advent of the rain, *pujas* related to the rice harvesting, to the ripening of the new fruits etc). The Focus Group Discussions gave an opportunity to enhance open discussions about the Munda Ecological Knowledge, about their perception of the changes that the entire ecological system is experiencing, and their opinions about the possible causes and implications for their people. We don't have neither the will nor the proper scientific background to assess the validity of the knowledge that Munda were sharing with us, we are just presenting the information as it was explained to us by the communities, considering it as a useful baseline for any actor interested in studying or intervening on natural and water resources management among this ethnic group.

4.1. Natural resources historic frame of reference

The “Historic Timeline” PRA instrument has been implemented in order to acquire a dialectic perspective on the natural resource management practices of the observed five communities. Considering Munda culture to be far from a static and closed system we felt it important to ask the participants to underline the relevant events that shaped the history of their communities, especially related to natural resources. For each period, the community members discussed the changes in availability and quality of water sources and explored the techniques and practices in water harvesting. Through the implementation of another participatory method (Seasonal Diagram, see next paragraph), it was found that Munda people perceive there to be a strong correlation between the presence of trees in the forest and the amount of rainfall, thus the Historic Timeline instrument has been updated including also information about the quantity and quality of the trees available in the different historic periods¹.

The events that have been indicated as important by the five communities have been organized in the common timeline below, where the historic episodes in bold are the ones that have been mentioned in all the communities.

- 
- British period , *zamindar* system, Kashipur foundation
 - 1873 Sapkhali, foundation of the Munda Para
 - 1942 Datinakhali, Foundation of Munda *Para (Hulo)* by people from Gabura and Padma pukur
 - **1943 Famine**
 - 1947 (Division of Hindustan and Pakistan) Sapkhali, many Munda people emigrate to India
 - 1948 Sapkhali, Joakhali river's embankments are broken
 - 1950 Sapkhali, Epidemic of cholera, 13 people dead
 - 1950 Srifalkati, breaking of embankment and water entering in the entire Gabura union
 - 1962 Kalinchi, foundation of Munda Para by people coming from Koyra, Khulna district
 - 1970 Kashipur, *Razakars*² plundered all the houses
 - **1971 freedom fight**
 - 1972 Kashipur, few families migrated to India
 - 1973 Kalinchi, big storm, destruction of crops
 - 1975 Kalinchi, two tigers entered in the local area, 12 persons attacked
 - 1979 Kalinchi, big storm, many houses destroyed
 - **1980s-90s starting of shrimp farming**
 - 1980s Datinakhali, some family migrated to Burigoalini village
 - 1984 Sapkhali, Epidemic (only among Munda population), 3 people died
 - **1988 Big Hurricane in the southern regions of Bangladesh**
 - 1990 Datinakhali, some families emigrated to Satkhira and Khulna
 - 2007 Kalinchi, Sidr Cyclone, many trees destroyed
 - 2008 Srifalkati, breaking of embankment and saline water enter in all Gabura Union
 - **2009 Cyclone Ayla: big flood and invasion of saline water**
 - 2009 Foundation of Srifalkati Munda *para* by Munda people from Gabura

As we can observe, the collective memory of every community is mostly marked by dramatic occurrences, especially natural disasters: flooding, storms, cyclones, tiger attacks and breaking of embankments. The common instances are the big Famine of 1943, the Freedom Fight in 1971, the big Hurricane in 1988 and the Ayla cyclone in 2009. All the communities also mentioned the advent of shrimp farming in their area, which happened either in the eighties or in the nineties, depending on the village.

With regards to the period in which Munda villages were founded, different epoch were mentioned: in Kashipur the exact year cannot be remembered, so people mentioned the general "British period", while the village of Sapkhali mentioned 1873, Datinakhali 1942, Kalinchi 1962 and then Srifalkati 2009³. Migration is another aspect that shaped the history of every village: every community was founded either by people brought from India by the *Zamindars* or later by people coming from other villages and many communities experienced the emigration of some families to other areas (in Bangladesh or India) in different epoch of their histories.

With regards to rainfall, with the exception of the year of the famine, where the drought provoked the loss of all the crops, the communities experienced good average amount of rainfall during the seventies, eighties and nineties, with punctual fluctuations and peaks (heavy rainfall is remembered in every community in 1971 and even more in the big storm of 1988). All communities denounced a decrease in rainfall in the last years, especially after the occurrence of cyclone Ayla.

In every village Munda people were able to provide a detailed list of the different kinds of trees in the surroundings according to the historic period⁴, explaining the gradual changes in their availability and quality: not only the quantity but also the species have been changing, where today mainly the species that can grow in saline waters are the only surviving.

The trees originally growing in the forest during the British period (like *Hetal*, *Golpata*, *Gewa*, *Poshur*, *Silua*, *Chanda*, *Sunduri*, *Keora*, *Chanda*, *Kakra*, *Gorjon*, *Horcocha*, *Goran*, *Bine*, *Hudo*, *Khalisha*, *Ghau*, *Joddupal*, *Nonajodu*, *Khalisha*, *Dhundal*, etc) experienced a gradual decrease that ended with their disappearance in different epochs and in different areas (for example in Sapkhali *Poshur*, *Sunduri*, *Gorjon*, *Kakra* trees weren't available even in the 30s). This decrease has been indicated as the result of the use of their wood as fuel by the local people and then because of massive cutting due to the shrimp cultivation in the 80's.

In the meantime, new species not originally present in the forest spread, some during the 40s (Palm *Tal*, *Bablah*, Date, *Khoi*, Rain tree, banana tree...), and others during the seventies (*Margosa* -Neem-, Tamarind, *Kul* -Jujube-, Guava, Coconut, *Sofeda*, Pomegranate, Mango, Jackfruit, Woodapple...). Nonetheless, even those new species were affected by the salinization of waters due to shrimp cultivation, and their presence started to decrease after the 80's.

As a result, today the Munda inhabitants of Sapkhali perceive that only ¼ of the original amount of trees are available; in the surrounding of Datinakhali the only few trees left are some *Horcocha* and *Keora* while the people of Srifalkati indicated that in their former village palm is the only specie still existing. Today in Kalinchi only the species that can bear saline water can grow, such as *Gewa*, *Bine*, *Keora*, Date, Coconut, *Kul*, Rain tree; In Kashipur Palm, *Sishti Phul*, Date, *Margosa*, Coconut, *Sofeda* and *Khoi*.

¹This is a clear example of how flexible PRA methodology is: the instruments can easily be adapted at the last moment to the particular context, according to the information risen in the ongoing discussion among the participants.

²Islamist East Pakistani militia that aided the Pakistan Army during the Bangladesh Liberation War.

³The old people that today are established in the new Munda village in Srifalkati were born in Gabura Union and don't remember the exact date of the foundation of their former village. It must be a very ancient, since also people from Datinakhali migrated from that Union in 1942.

⁴All the species names and the specific periods of disappearance can be found in the complete transcription of the Historic Timeline Instrument in the annex 1.

From the community discussions it has emerged that Munda use follows the traditional rule, shared among all the people that live nearby the Sundarban, which forbids cutting trees in the forest on Friday. At the same time they demand a special permission in order to be allowed to collect some wood in the forest for their domestic use: "They [Munda people] consider themselves as part of the forest. As they currently don't have access rights to the forest they feel that they are isolated from their soul." (Unnayan Onneshan, 2007: 13).

All along their history, Munda communities were disposing of different canals, *pukurs* and water filters: the ownership and control over those sources will be analyzed in depth in the next section.

4.2. Ownership and control over the water resources

According to the different historic periods taken into account by the participants, every observed village presented a different situation concerning the ownership and control over the different water resources.

In **Datinakhali** the available *pukurs* are all owned by a Bengali family who resides in Dhaka and managed by a Muslim family in charge. The landlord in 1942 convinced some Munda families to come to his lands from the Gabura Union in order to cut the forest and obtain some land as a compensation for their work. To date this land has not yet been given to the families, who currently live beside very precarious embankments and without any land ownership. When the Munda arrived in Datinakhali one *pukur* was already there, then during the seventies two more ponds were dug by them under the request of the land lord. Today the indigenous families can freely use the water from the PSF –Pond Sand Filter⁵– installed in 2000 in one of the private *pukurs* (but they are not given permission by the manager to bath in the pond as it is a source of drinking water) and if the filter has problems, Munda families help the manager repair it. They don't have access to the other private *pukur* while the third one is open for them to bath in and is also used for fishing cultivation by the landlord. As Munda people in the focus group observed: "fish is for them, but water is ours". Both female and male Munda people clean this pond. With regards to the canals, when the Munda families settled in Datinakhali, there were four canals naturally created by the forest, whose water was freely used by all the families for irrigation purpose. Around 1985, the landlord got involved in the shrimp cultivation business and filled three canals with earth (leaving just some water for the shrimps) and raised boundaries in order to forbid the public access to the canals. The only one remaining was used to supply water for the shrimp cultivation, but also that canal little by little became *char* (silt land) and then plane land. As a result, from the late eighties up to nowadays, the village does not dispose of any canal.

Today in **Kalinchi** there are three private tube wells, two owned by Munda families and one by a Bengali one. These were developed in 2009 with government support and with the personal economic contribution of the owner (one of the two Munda owners also collected an amount from each family in the village). No permission is needed to make use of their clean water and either labor or expenses sharing are done if they are damaged. When the community settled in 1962 there were no ponds, then year by year some families started digging their own one and

⁵A PSF is "a package type slow sand filter unit developed to treat surface water, usually pond water for domestic water supply. Slow sand filter is installed near or on the bank of pond, which does not dry up in the dry season. The water from the pond is pumped by a manually operated hand tube well to feed the filter bed, which is raised from ground, and the treated water is collected through tap(s)" (http://www.wateraid.org/documents/plugin_documents/psf_guideline.pdf)

today there are 18 *pukurs* in the community, the water from which is saline because of the flooding in 1988, and the cyclones in 2007 and 2009.

In 1962 there were four natural canals which were open to all the people in order to take water, bath and catch fish. Nowadays in the village there are the same four canals but their access has been restricted at the end of the eighties by local landlords in order to start shrimp cultivation, so the common people has not free access anymore. Moreover, shrimp cultivation caused the salinization of the water.

The Munda people of **Kashipur** make use of two PSF made (one in 1995 and the other in 2005) by the local NGO Sushilan in two nearby villages without needing any special permission. The institution has a committee that deals with the monthly maintenance of the filters and asks each family five taka each month for this service. There is also a rain filter (*Akash Filter*) given in 2005 by SAMS that is used during the rainy season. From the British period up to the seventies the community disposed of two ponds dug and owned by Munda people, then in the following years others seven *pukurs* were dug by other families. At the beginning the nineties, the local landlord took possession of three of the nine ponds and filled them with saline water for shrimp farming purpose. Today the six remaining *pukurs* are filled with saline water. The starting of the shrimp's cultivation coincides also with the disappearance of two of the four natural canals available since the British period because the same landlord took possession of it.

At a distance of half kilometer from **Sapkhali** village, there is one private *pukur* that disposes of a PSF that has been given by the organization Sushilan in April-May 2010. Munda people have free access to this clean water, and when the owner has to do some maintenance operation, every family contributes with 2 to 5 taka. The community also disposes of an *Akash filter* given by Sushilan after cyclone Ayla. The number of family owned *pukurs* increased from two in 1873 (date of the foundation of the community) to twenty-four today, but all are actually filled with saline water. Up to the eighties the community could freely use nine canals that disposed of clean water; afterwards five of them were privatized for shrimp cultivation. After cyclone Ayla the four public canals present saline water.

The Munda people settled in **Srifalkati** in 2009 after that cyclone Ayla destroyed their houses in Gabura. The land where they built their new village has been bought by SAMS. Here three *pukurs* were dug by the new settlers but the water is salty and viscous. SAMS also made, with the support of the Upazilla Administration, a tube well with the objective to provide the community drinkable water, but it is not deep enough so its water is saline. Thus, the Munda families get sweet water from a PSF one and half km away built in 2009 after Ayla mainly by Sushilan with a small contribution of 20 taka from each family. There are two canals surrounding the community at half kilometer away, whose water quality is defined as fine (in their former villages the canals available were saline because of natural disasters and shrimp cultivation).

Observing the history of Munda villages related to the control and ownership over water we notice it is shaped by two primary factors. On one side we find the incidence of natural disasters that caused flooding, breaking of embankments and penetration of saline water in canals and ponds. The occurrence of this natural disaster has usually been followed by the intervention of government and local NGOs that provided *Akash* or PSF filters whose maintenance is generally

shared among the users. The other relevant factor is the progressive privatization of canals due to the advent of the shrimp farming activities, as a consequence natural public canals that provided sweet water for multiple purposes disappeared or were filled with saline water and their access to the local settlers has been forbidden.



Picture 4.2. Implementation of the Seasonal Chart in Kalinchi, 9th October 2010.

4.3. Seasonal frame of reference

In order to explore the actual seasonal variations in water availability and quality, rainfall and climatic conditions, and the consequent changes in agricultural, hunting and fishing activities, labor migration, and ritual calendar, the Participatory Seasonal Diagram instrument has been implemented in the observed communities during the community workshop. This methodology has been the base for a discussion on the reasons behind changes and implications for the people involved⁶.

⁶More details on the seasonal variations of rainfall, climatic conditions, water availability and quality, agricultural, hunting and fishing activities, labor migration activities and destinations, and ritual celebrations for each community can be seen in the Seasonal Diagram complete transcription in Annex 1.

The Munda communities use to divide the year following the Bengali calendar, which is organized in six seasons, respectively composed by two months each, as can be observed in the table 7.

Table 7. Bengali Calendar.

SEASONS	<i>Grishsho</i> Summer	<i>Bôrsha</i> Rainy season, Monsoon	<i>Shôrot</i> Autumn	<i>Hemonto</i> Dry season	<i>Šit</i> Winter	<i>Bôshonto</i> Spring
MONTHS	<i>Boishakh</i> (April-May)	<i>Asharh</i> (June-July)	<i>Bhadro</i> (Aug-Sep)	<i>Kartik</i> (Oct-Nov)	<i>Poush</i> (Dec-Jan)	<i>Falgun</i> (Feb-March)
	<i>Joishtho</i> (May-June)	<i>Srabon</i> (July- Aug)	<i>Ashshin</i> (Sept-Oct)	<i>Ôgrohaeon</i> (Nov-Dec)	<i>Magh</i> (Jan-Feb)	<i>Choitro</i> (March-Apr)

According to the information provided during the community workshops, during **Grishsho**, the summer season, especially in *Boishakh* month, there are a lot of storms, which are increasing in comparison to the past time. Rainfall has on average decreased due to the changes in weather conditions and the progressive reduction of trees in the forest. During this season the sunlight is very strong and the temperature is quite hot, much hotter than in the past, because of the reduction of trees, less fresh wind and because of the advent of saline warm wind from the shrimp's fields.

Because of the high summer temperatures the demand of drinkable water is high, but its availability is scarce because the level in the tube wells and in the ponds is low. The little water in the pukur and canals presents bad quality, viscosity and salinity thus there is the risk of catching scabies from bathing in the ponds. During this period in the river there is a lot of saline water because of the southern wind. To maintain the level in the shrimp fields some water is taken from the river through pipes.

During the past, when paddy fields were surrounding all the communities, they were dry during the summer months. Today in most of the villages there is no more land to cultivate, the inhabitants of Sapkhali still practice some share cropping and during this season they use to cut *Irri* variant of paddy. In the villages that dispose of domestic gardens during Grishsho the following vegetables can be found: *Aram*, *Data*, *Edible bulbous* plant (*Ol*), *Creeper* (*Pui*), *Lady's finger*, *Gourd*, *Tarul*, *Cucurbitaceous* (*Ginga*), *turi*, *lalshak* and *datashak*.

With regards to the fishing activity, during the summer months fish and crab are available in a small amount, less than it used to be in the past, when women used to catch a lot of fishes in the canals. People of Kalinchi consider that one of the reason of this decrease is the fact that the owners of the shrimp cultivation take the female-fishes in their own pukur so they don't lay eggs anymore in the river, while the people of Srifalkati consider that the complete absence of fishes in their area during all the year is due to the massive use of pesticides.

During the past Munda people used to catch several animals using bow, arrow, and sling. In this

season they used to hunt Snail, *Bhanga*, *ManikJor*, Jackal, *Khatash*, Porcupine (*Sajaru*) and various kind of birds like *Bok* (heron) and *Shonkal*, that there were available in big quantity, but at present there is nothing left to hunt.

With regards to labor migration, people of Datinakhali and Kalinchi stay in their villages during the summer months. In Kashipur male members of the family previously used to dig mud to make houses in the village, but at present they go to other districts to cut paddy, to cut earth or make roads. This same migration situation is found in Sapkhali and Srifalkati.

In this period the villages of Datinakhali and Kalinchi used to celebrate the *Bhelua Phara puja* in order to have a good level of income and welfare; this *puja* is traditionally performed before cultivating the paddy (in Sapkhali and Kashipur this *puja* is performed in *Asharh* month).

During *Bôrsha*, the rainy season, the climate is colder than in the former season and because of the monsoon there are a lot of clouds, rain and storms. People notice that, compared to the former years, rainfall is decreasing and weather is changing.

Because of the frequent rain the level of canals and *pukurs* is high and usually the quality of the water is good. The level of the saline water in the river is also high, depending on the cyclical tides (during the first seven days of the tide the water level is high, then in the following seven days the tide decrease and the water level is reduced; this happens twice a month, for a total of 28 days).

When paddy fields were still surrounding the Munda villages they were filled with rain water during this season, and the water in excess was distributed among all the fields and then let to flow in the canals and eventually in the river. The field embankments were cut according to the need, in order to let the water drain away. At present the rain water mostly fills the shrimp's fields. The shrimps need salty water to grow, so the sweet rain water is made to flow away through drainage systems, while saline water is brought from the river. In the share cropping fields in Srifalkati and Sapkhali in this period they saw *aman* variant of paddy and the same vegetables as the former season can be found in domestic gardens, more Esculent root (*Kochumukhi*) and *Borboti*.

This is the season when generally there is abundance of fish which come to the shallow water to lay their eggs. In the past there was a greater variety of species, which they used to catch by harpoon and wicker basket (*polow*), a present they only catch *Telapia* fish by fish-hook (*borshi*) from the canal.

From *Boishakh* to *Bhadro* crab is less available than in the former season and from *Asharh* and *Srabon* to *Bhadro* there is a lot of shrimp because of the abundance of water.

In the past, during these months they used to hunt different types of birds by bow and arrow (*Shonkal*, *Manikjora*, Crane) but at present only catch *Bok* in Kashipur, mixing the soda they use to clean the clothes with sleeping pills and putting it in the mouth of a fish as bait for the heron.

In this season most of the male members of the Munda families stay at their villages, catching crabs or working in the shrimp cultivation or (in the case of Sapkhali) sawing paddy in the share cropping fields. Only in Datinakhali the males members of the families migrate to Khulna and Gopalganj to cut earth (digging ponds, making roads), and to cultivate paddy.

The religious celebrations performed during the rainy season are the *Asharhe Puja* in *Asharh* month which is performed in Datinakhali and Kashipur in order to have good health for the domestic animals. In the same month in Sapkhali *Bhelua Phara Puja* is performed before cultivating the paddy and the *Gram Chara Puja* is celebrated in order to avoid different type of diseases.

In *Asharh* month in Kalinchi they celebrate the *Marua puja*, taking off the posts that were planted all around the year in the yards of the houses where wedding celebrations were held. At the end of *Srabon*, *Monsa Puja* is celebrated in Datinakhali and Sapkhali in honor of the snake Goddess, to be safe from the snakes and in order to get rid of any problems. It is believed that if any bad things happen, people will be able to overcome it after doing this celebration. Usually, if it rains the day of the celebration it means that the puja will be effective and that crops will grow very well. In *Srabon* month *Guchori Puja* used to be performed in Kashipur, before sowing the plants in the field. In Srifalkati *Kali Puja* is performed in order to have protection from the ghosts and to be safe during travels.

During *Shôrot*, autumn, there is some fog, a lot of clouds and less rain than the rainy season. People remember that in the past during this season the river was full of water and there was a lot of rain but this does not happen anymore. In the past the regularity of the rain and tides behavior used to coincide with the regularity of the celebration of the *Pujas*, that follow the moon calendar. For example the people of Kalinchi clearly remember that one week before the performance of the Hindu *Durga puja*, in the night of *Ama Bossha* (dark moon) it used to rain a lot and there was a big tide.

The temperature in the past during autumn was cold because winter was arriving, but at present it is still hot, sunlight is quite strong and there are much more thunders. The reasons for all these changes in weather behavior are believed to be climate change, the diminution of trees and the presence of saline areas. The wind in this season blows from the north, in Kashipur they remember that once it used to bring the smell of flowers and of crops and there were many birds, but at present the saline water is all around so the wind is warm and insalubrious.

The amount of water in rivers, canals and *pukurs* is still quite abundant. The river level continues to depend on the cyclical tides like in the former season and at the same time in this period it starts to decrease because of the northern wind. In most of the observed villages the water in the *pukur* and in the canals is still sweet, but in Kashipur, which is completely surrounded by shrimp cultivation, the water is saline.

During this season no agricultural activity takes place, in Sapkhali however they grow the same vegetables as the previous season in their home gardens and in Srifalkati they cultivate some potatoes, cabbage, cauliflower, chili, *brinjal*, spinach, *lalshak*, radish, tomato and pumpkin.

With regards to fishing activity, in Datinakhali during this season the amount of fish decreases a little but the crab availability is good because of the slightly cold temperature and the fog, that make the crabs of the forest come to the river. In Kalinchi from *Ashshin* to *Falgun* month there are a lot of crabs available while in *Ashshin* there are few fishes. In Kashipur during the past they used to catch local fish, like walking fish (*koi*), a variety of catfish (*magur*) and Live fish (*jeol*) by spear in the canals. Crabs used to live in the river. At present there are just a lot of *Telapia* fish and there are few crabs in the shrimp fields.

In this season in Sapkhali in the river and in the shrimp's field there are few crabs, while in *pukurs*, canals and river a lot of fishes are available. In the surrounding of Srifalkati, in this season usually there were many fishes in the sweet water but at present, because of the use of pesticides and fertilizers, there are no fish anymore.

During the past in this season it was possible to hunt snail and different variety of birds such as *Kuchbok*, Crane, *Dhari Bok*, White Crane, *Manikjor* by sling, today there are no birds left; only in Kashipur they still catch *bok* by net.

Generally during autumn there is no much work available in the other districts, so the male members of the family stay at their villages, only some people from Srifalkati migrate to plant paddy to Bagerhat and Khulna.

In Kalinchi, Kashipur, Sapkhali (the families that did not celebrate it in the former season) and Srifalkati *Monsa Puja* is performed at the end of *Bhadro* Month.

Karam puja is celebrated in *Bhadro* or in *Ashshin* month (according to the moon calendar) in Datinakhali, Kashipur, Sapkhali and Srifalkati: it is performed especially by unmarried girls in order to have good husband, children, family and crops. In Datinakhali in this season it is also celebrated the *Bissho Karma* (the divine creative architect) *Puja*, in order to get rid of any problem.

During the dry season of *Hemonto*, the rainfall is even less than during summer. In the past it used to rain up to the end of *Kartik* month (people remember that during the Hindu celebration of *Khali Puja* in *Ama Bossha* night, it used to rain and storm, and that the level of the river increased) but nowadays rains stop in the middle of this month. In general people perceive that, compared to the past, during this season rainfall has decreased, while the occurrence of storms and cyclones has increased.

The temperature starts slightly to decrease but is much hotter than it used to be, especially in *Ôgrohaeon* month. This irregularity in climatic condition is seen to be due to the weather change, the decreasing of trees and the presence of the saline area.

During *Ôgrohaeon* the amount of water in the *pukurs* starts to decrease slightly and the water level of the river diminishes because of the drop in rainfall and the wind coming from the north.

The water quality starts to decrease too; in Datinakhali, Srifalkati and Sapkhali sweet water is still available in *pukurs* and canals, but in Kashipur and Kalinchi the ponds presents saline water because of the infiltrations from the nearby shrimp cultivation.

In the same season there is no agricultural activity going on in the communities, only in Sapkhali In *Ôgrohaeon* or *Poush* month they cut *aman* variant of paddy and cultivate chili, *brinjal*, potato, tomato, onion and garlic in the land of share cropping. In Srifalkati they have some potatoes, cabbage, cauliflower, chili, *brinjal*, spinach, *lalshak*, radish, tomato and pumpkin in their home gardens.

During the dry season the amount of fishes in rivers, canals and *pukurs* decreases because of the lower level of water and the northern wind. In Kashipur there is still quite a lot of *Telapia* fish available. The amount of crab is good especially in the rivers because of the colder climate and presence of fog.

During the past, in this season a big variety of birds were available and people used to hunt them by sling and trap, turtle was caught by harpoon; at present no more animals can be found in any community, only in Kashipur they catch *Batcho* and *Bok* by flying trap or with the soda bait system. Once in the dry season they used to catch fishes and cut paddy in the field surrounding their communities, but nowadays, with the exception of Sapkhali that still cut paddy and cultivate vegetables in the sharecropping fields, all the male members of the communities we worked with leave their villages from *Kartik* up to the spring month of *Choitro*, mainly to work in brick field or to cut paddy or earth in different districts of the country.

All the communities celebrate in *Kartik* month the *Goal Puja*, hoping to obtain good health for their cows and domestic animals. In Kalinchi, the day before the celebration of the *Goal puja*, *Sohorei Puja* is performed to celebrate the spirits of the ancestors. In *Ôgrohaeon*, before cutting the new paddy, all the villages celebrate the spirits of their ancestors performing the *Nawa* or *Bura Buri Puja*, offering them *chira* (flattened rice) in order to obtain welfare for all the members of the family and the future generations.

During the winter, *Šit*, it naturally rains in very low quantity (both in the past and in the present) and the temperature decreases a lot. In Sapkhali and Kashipur people perceive that at present the weather is hotter than in the past because of the saline area, while in Kalinchi they consider it colder because of climate change.

The level of water in ponds, canals and rivers keeps on decreasing because of the drop in rainfall and because of the northern wind. In this period the shrimp fields are filled with water from the river using shallow machines (which take the water from the ground). The quality of the water in the ponds keeps on being sweet in Datinakhali and Sapkhali, while in Srifalkati it presents an increasing turbidity; Kalinchi and Kashipur have saline water because of infiltrations from the shrimp cultivation.

No agricultural activity is implemented during this season in the villages, only in Sapkhali in *Magh* month they cultivate *Irri* variant of paddy and the same vegetables as the former season in the share-cropping fields.

In these months there is a big abundance of crabs in the river because of the colder temperature and the fog, while the availability of fishes is scarce because of the low level of water and the northern wind. Some *Telapia* and *Vetki* fish can be found in the *pukurs* especially in Kashipur.

This is the only season where people in Datinakhali do some hunting, catching *Bok* using trap and arrow. In Kashipur they also use to catch the same bird by net, but they remember that in the past they used sling, bow and arrow to hunt Dove, Parrot and *Mynah*. Another method used to catch parrot was putting a bamboo stick with glue on a tree as a trap. At present these birds no longer live in the area. Munda people in Kalinchi used to hunt different kind of birds during this season in the past, but for the last thirty years they have been engaged as day laborers in shrimp cultivation so they no longer hunt. In Sapkhali people used to catch fish from the canal by hand, rats from the agricultural fields by sickle and squid by scythe. At present they don't hunt any animals.

During winter, men from Sapkhali migrate to other districts to cut earth and paddy up to spring, as many people of the other Munda villages were doing already starting from the former season.

All the observed villages perform the *Shakrai Puja* either in *Poush* or at the beginning of *Magh* month in order to celebrate with joy the new paddy and crops, making cakes and different kinds of food with the new rice (e.g. *chira muri*). In Sapkhali during the celebration of *Shakrai* they also celebrate the *Can puja*, where two earrings are put to unmarried girls and boys (this *puja* can be performed also before the wedding celebration). In *Magh* month the *Bon Bibi Puja* is celebrated in Datinakhali and Srifalkati (here it is also called *Basto Puja*) in order to have plenty of fish and crab and to be able to come back from the forest in good health: as *Bon Bibi* kept them free from any accident the former year, they pray to her hoping that she will behave the same way during the following one.

During **Bôshonto**, spring, the rainfall is scarce (and even less than it used to be in the past) and it starts slowly to increase during the end of this season. According to the people of Kalinchi, on the 15th day of *Choitro* there is a storm called *Kal Baishaki* (it occurs every year in present and past times) that indicates the beginning of the rainy season.

The temperature starts to become hot again because of the wind coming from the south. That's why in Srifalkati and Sapkali people indicated these seasons as hot. On the other side, according to the people in Kalinchi and Kashipur at present the weather is much colder than in the past and the explanation given is that during these months the owners of the shrimp cultivation dry up the fields and then pump water from the river by shallow machines: from this water it rises a cold wind.

Low water availability and quality is most acute during this season. In all the observed communities the level of water in the *pukurs* and canals is extremely low, especially in *Falgun*. Its quality is low in all the villages, especially in Kalinchi, Sapkhali and Kashipur where the salinity is very high. In *Choitro*, with the advent of the southern wind, the amount of the water in the river starts to increase.

No agricultural activities are implemented during these months in any of the Munda villages.

With regards to fishing activities, in *Choitro* generally the amount of fishes and crabs increases because of the advent of the southern wind. In Kashipur the local species of fish that were usually available during this season are not found any more because of the salinity of water and because of the drainage system of the shrimp's field. In Sapkhali the people remember that in the past they used to catch *Ili* Fish from *pukurs* and canals by sickle and other local fishes by hand from the canals, at present they are not able to catch anything.

Hunting activity is not done in any of the villages during *Bôshonto* because of the disappearance of the birds (like *Kuchbok*, White Crane and *Hartiti*) from the trees and the fields.

In *Choitro* Munda men usually come back to their communities after a long stay in other districts of the country because of labor migration.

During this season all the villages, with the exception of Srifalkati (they cannot afford it), celebrate the *Paharia* or *Boro Puja*, a very big clan based celebration performed every three generation to pray to the forefathers for the welfare of the future generations of their clan. In this occasion they also remember the place where they come from in India.

In *Choitro* month every community celebrates the *Sarhul* or *Murgi* or *Bura Buri* (ancestors) *Puja* which is another very important event in the religious celebration calendar. It is performed offering the new fruits to the ghosts of the forefathers and sacrificing in their honor different kinds and numbers of hens and rooster depending on the clan, to obtain good health for the family for the following year. In Kashipur they especially hope to get rid of the scabies after having celebrated this *puja*.

In Sapkhali in *Choitro* they also perform the *Pan Phul Puja* in which they celebrate the new fruits.

Honey collection is not a traditional activity among Munda people and it is very rare today among the villages involved in the research; just some people used to do it in the past, when its availability was bigger. At present only a few individuals collect honey starting from the beginning of spring up to the beginning of summer season.



Picture 4.3. Woman of Kashipur at the Pukur.

4.4. Actual use of water sources

According to the discussion coming from implementing the Water Resources Inventory Chart instrument among the observed communities, the common use of this resource include drinking purposes, personal hygiene (taking bath and going to the toilet), washing clothes and dishes, watering and cleaning animals, performing daily *pujas*, house cleaning, building and maintenance, cooking and preparing local beer.

In every community we found a separate use of different water sources according to the purpose: the best quality water available (which means water that is not saline, dirty or viscous, provided by Pond Sand Filters, rain harvesting, sweet ponds or tube wells, depending on the community) is generally used for drinking, watering animals, performing *pujas*, house building and maintenance⁷, cooking and preparing *Haria Mod*. The washing dishes and clothes activities sometimes imply a combination of both bad and good quality water (the first wash with saline or dirty water and the last one with better one). Moderately saline or viscous water from the ponds or from the rivers is used for personal hygiene while the worst quality water available is used for toilet and washing animals.

Due to the lack of cultivable land in most of the communities, the use of water for irrigation purposes has been mentioned in only three communities: in Kalinchi and Srifalkati it has been indicated that rain water is utilized during the monsoon season for domestic gardens, while in Sapkhali, where Munda still practice seasonal share-cropping, both rain water and local canal water is used. In this community the water of the canal is drawn either by pumps or with a method called *Samot*, which consists in using a triangle of tin supported by ropes to collect the water from the canals and bring it to the field.

⁷It is very important to notice that the participants underlined that saline water is not good for house building and maintenance.

Depending on the villages, the distance to get the resource varies: the good quality water is taken from tube wells in the same village in Kalinchi, from a PSF 300 meters far away in Datinakhali, from two PSF one km away from Kashipur, from a PSF half km from Sapkhali and from a PSF one and half km from Srifalkati.

With regards to the location of medium or bad water sources, every community dispose of a variable number of *pukurs* which usually presents saline water (according to the period of the year, see paragraph 4.2.) and have rivers or canals in the surroundings⁸.

The person in charge of getting the water for the different uses are the adult female members of the family, who are the ones who daily wash clothes and dishes, clean the house, perform *pujas*, cook and according to the occasion prepare *Haria Mod*. Both male and female members of the households deal with the daily drinking of domestic animals and their seasonal cleaning, at the same manner, both work together when building or repairing the house is needed.

4.5. Rain harvesting and water preservation

Given that water is the main focus for our research and its scarcity one of the main problems that the communities we worked with have to face through the year, particular attention has been paid to the Munda knowledge related to rain harvesting and water preservation.

Three traditional techniques of rain harvesting have been described in the five communities:

1. Using a cortex or a leaf of a Banana tree as a tube to collect the rain from one corner of the roof of the house and funnel it into a clay pot, the mouth of which is covered by a piece of fabric in order to filter the water;
2. Hang a rectangular piece of fabric in the court, placing four wooden posts to hold it up at the corners. In the middle a brick or a stone is placed in order to make the water converge to the center and be strained into a clay pot situated in the floor under the structure.
3. Paddy seeds are sown in a special high lying portion of field protected by mud walls (ail). Here, after ten days from the seeding, when the plants are one and half feet high and there is shadow, the water is fresh and suitable to be used for drinking purpose for about 20 days. Afterwards, the seedlings are collected and planted in the surrounding fields in lines.

Some adaptation and changes have been made to these techniques along the years. With regards to the first one, starting from 90s, if people can afford it, plastic tubes or iron gutters are used instead of the banana' cortex; the second technique is nowadays implemented using polyethylene papers (available since the 80s) instead of fabric. Plastic buckets or aluminum vessels have been gradually introduced starting from the late 80s and they are often used instead of the clay pots.

The third method is no more applicable in any of the communities, for two reasons: on one hand the introduction of shrimp farming caused the disappearance of paddy cultivation and, on the other, in the case where some agricultural land is still available (Srifalkati), the use of fertilizers and pesticides make the seedlings water undrinkable. Moreover, rainwater in recent years has been

⁸For more details about the name, number and location of ponds, PSF, canals and rivers in every community, about the seasonal and historical variations of water quality and availability and about the amount of water consumed everyday by each community for every single use, see the complete transcription of the PRA activities in Annex1.

decreasing, thus even the first two methods are losing relevance as effective practices to face the lack of drinkable water.

All the communities clearly understand that the increase in the salinity of their canals and ponds, which heavily affects the availability of good quality water, is due to the presence of shrimp field. The advent of the shrimp farming also affected the traditional water management that used to be implemented for paddy fields irrigation: local people used to cultivate rice on low lying land during the rainy season by building temporary dykes to prevent tidal incursion and by constructing temporary sluice gates to let out surplus of water. After the harvest, the dykes and sluice gates were dismantled and tides were given free play again. At present, the sweet rain water is useless for the shrimp ponds, so it is let to flow away through drainage systems, while saline water is pumped in from the river. This new water management system and the related pipes and excavations often endangers the solidity of the embankments that breaks up more easily in case of violent storms and flooding.

Due to the increasing scarcity of good quality water, the Munda show a preserving attitude by practicing the mentioned distinction of the sources according to the different uses (see paragraph 4.4.). In particular women do not use soap or detergent directly in the *pukurs* when the water level is particularly low, and animals are washed outside the rivers or ponds not to contaminate their water. Moreover, women avoid taking bath in the common ponds when they have their menstruation period.

Another interesting aspect related to the conservation of water resources is the common practice of responsibilities sharing: labor or economic contribution is given by all the families in case of maintenance needs of the common tube wells, PSF, or *pukurs*. The family owned *pukurs* are managed by the head of the household, who decides when to engage his family in cleaning and maintenance operations. Usually the male members of the community or of the single families clean the ponds two or three times per year, during the summer season (cleaning the grass around the *pukur*, eradicating invasive water plants, extracting putrid mud). The water of the pond is protected by using vegetables fences and high mud embankments.

It must also being noted that Munda people are experts in digging ponds and that earth cutting is one of the main task they are engaged in during the seasonal labor migration to other districts.

4.6. Knowledge about weather behavior and perception of climate change

As we have observed in the Seasonal Frame of reference (paragraph 4.3.), Munda people have a deep knowledge of the climate behavior and of the relationship between the weather and their surrounding living environment. It has been observed that rivers' water level usually depends on the tides cycle, and also on the winds: the southern wind (it starts in spring and lasts up to autumn) explains the increasing level of the rivers' waters, while the northern one (blowing during autumn, dry and winter season) is considered the cause of its decreasing. Moreover, fish availability rise with the wind from the south and drop with the northern one. Crabs are indicated to increase with the colder weather and the presence of fog during autumn and winter season.

With regards to traditional climate indicators, we can assert that the *pujas* calendar is a useful reference, because the annual ritual celebrations follow the moon calendar and it used to coincide with the regular occurrence of rainfall and tides cycles. Apart from the *pujas* occurrence, Munda people use other mechanisms to recognize and forecast the weather behavior. As emerged in Kalinchi, on the 15th day of *Choitro* there is a storm called *Khal Boishaki* that indicates the beginning of the rainy season.

Several other indicators are observed in order to understand whether it is going to rain or a strong storm is coming:

- when the sky is red during the sunset: *rain*
- when the dove, or *Tal Chora* or *Kora* birds or many frogs sing louder than usual : *rain*
- when the insect *Jiji Poka* calls: *rain*
- when the *Ghughu* bird sings from inside of the vegetation they understand that the day after it will rain and if the same bird sings from the top of the trees or from the edge of a branch they understand that it won't rain.
- if the bird *Cartchela* flies in the sky: *rain*
- when the cows sneeze: *rain*
- when they see many stars in the sky: *rain*.
- when many monkeys (*Hanuman* type, which have black skin and big size) shout: *rain*.
- when the rainbow appears: *rain*
- when a big group of black ants brings their food and eggs on their heads or mouth from a lower to an higher level of the ground: *heavy rain*.
- when they see a black circle around the moon during the night: *heavy rain*.
- when *Ting Jor* bird call loudly : *heavy rain*
- usually in the south side of the sky there are 2 big stars that are positioned at the same level, when they appear not to be parallel: *flood or storm*.
- when the goat climb on the roof of the house: strong storm. In Sapkhali people remember that this happened before the occurrence of the big storm in 1988.
- if they see many mosquito's in the day or evening: *storm*

According to the debates that have risen among the participants, the reason that explains the fact that the weather during the last years is not following the usual routine (in some community the concept of climate change was used) and that rainfalls are decreasing is the gradual reduction of trees in the surroundings and especially in the Sundarban forest ("trees attract the rain"). It has been noticed that in order to establish shrimp farming many trees have been cut; moreover the consequent invasion of saline water does not allow many vegetable species that were growing in sweet waters to survive.

The decreasing amount of trees and the insalubrious wind blowing from shrimp fields' saline water are indicated to be also the cause of the increasing temperature during summer, autumn and the dry season.

The local vulnerability to natural disasters (flood and storms) can also been linked to the presence of shrimps field, because their drainage systems weaken the embankments, causing more

flooding and facilitating the infiltration of saline water in the ponds that usually provide drinkable water. At the same time houses are more likely to fall down in case of storms, in the case that they have been built using saline water because no more sweet water was available in the surrounding. All Munda people observe a drastic drop in biodiversity, where a massive disappearance of many species of trees, fishes, birds and wild animals directly affect the agricultural, honey collecting, hunting and fishing activities: in particular, we have seen that hunting and farming are the traditional means of subsistence of Munda people, to which many of the foundation myths are linked (see annex 2, list of clans). During the past, they used to grow paddy using the sweet water of the canals, and they used to alternate three types of crops according to the season: *aman* paddy, from *Asharh* to *Ôgrohaeon*, *Boro* paddy from *Magh* to *Choitro*, *Aush* paddy from *Choitro* to *Srabon*. In the actual condition this kind of crops management is no more feasible. The reasons for this loss in biodiversity are indicated to be the presence of the saline area, the shrimp farming drainage systems, and the use of fertilizers and pesticides.

The drastic change in weather behavior and the disappearance of agricultural activities implies a gradual deprivation of meaning and a consequent neglect of the linked seasonal ritual celebrations⁹, endangering the social cohesion that those rituals involve and alienating the indigenous group from the natural environment which has nurtured them for generations.



Picture 4.4. Offering in the altar during the Monsa Puja, 16th August 2010.

4.7. Social and cultural practices related to water

Considering that Indigenous Ecological Knowledge must be studied from a multidisciplinary perspective and that natural resources management has to be analyzed taking into account its social and cultural dimensions, during our research we have paid particular attention to the myths, rites and music as idioms that transmit environmental knowledge through generations. We are here concerned specifically with the cultural practices related to water and the conditions for their symbolic transmission.

Water plays a predominant role in all the Munda cultural practices and ritual

⁹How long, for example, Munda people will celebrate pujas related to the cutting of the new paddy if this joyous event does not occur anymore?

celebrations. First of all, water is, together with rice, the main ingredient of the traditional beer, which is compulsorily shared among Munda people in all the festive occasions.

Moreover, while analyzing the symbolic organization of the village space (see paragraph 3.5.) we have noticed that during the ceremony that precedes the building of a new house a pot of water has to be situated in the corner of the *Nishan* and that the ritual sites dedicated to *Monsa* and *Kali* are always oriented at the east and are normally situated nearby the *pukur* or the river. Moreover, the ghosts that dwell in every village are indicated to inhabit not only the houses or the trees but also the ponds, especially the *Muchni* spirits (see paragraph 3.7.).

The *pukur* is a focal point in the daily, periodic and life cycle ritual ceremonies, it is the place where every ritual starts and ends: we can state that it is a sort of living witness, almost a social actor itself. The pond (if its water is considered pure) is the source where the water used in the rites of passage, the daily offerings and the seasonal *pujas*' altars is drawn and is the place where the remains of the celebrations are thrown¹⁰.

Before starting any ritual, the venue where the altar (made using earth and water) will be built has to be washed and so the food and flowers that will be given as oblation. All the people that will take part at the *pujas* have to bath. On the altar there is always a clay pot of water from the *pukur* which is used by the *Pahan* at the beginning of the ceremonies to spread some drops on the participants using a small branch of *Tulsi Pata* (kind of basil). In particular, during the celebration of the *Goal puja*, the cows are given a ritual bath and also the cattle shed has to be washed; during the *Paharia* or *Boro puja* people bring water from the pond and give bath to goats and sheep before sacrificing them (when the sacrifice is being realized, water is poured on the animals head) and, after cooking, the ceremonial water from the altar is spread over the food that will be shared among the participants.

We have already observed that there is a relationship among the seasonal agricultural activities, the occurrence of the *pujas* and the regularity of the rain, tides and moon cycles. To conclude the ceremony of the *Guchori puja*, celebrated to bless the fields before sowing the paddy, the ritual water from the altar has to be spread in the agricultural land. On the other side the *Monsa puja*¹¹, which is usually celebrated nearby the river, is particularly related to the rain, and water is the main focus of the ritual. It is considered that if it rains the day of the ritual, it means that the *puja* will be effective and that crops will grow very well. Therefore, one of the songs that are performed during the celebration says "when the goddess will come in the altar then rain and storms will arrive". The deity is represented by a pot of water: all the participants accompany in procession, dancing and singing next to the person in charge bringing the pot from the *pukur*. He or she has to make a complete immersion in the pond, in just one breath, and has to fast that day or even three days before the ritual's occurrence.

Water is a recurring theme in many of the songs that are performed during the *pujas* (see for example *Marua puja* in the annex 3), but there are also other Munda songs related to this resource. For example the one who sings "many wives have gone to bring drinking water, but they have not come back quickly; the morning, the afternoon and the evening came but they have not returned, so the husbands ask very anxiously to the people "have you seen my wife?" (Kashipur) or "Tiny girls of the village have gone to fetch water; Frogs are singing nicely into the water" (Kalinchi).

In particular, in the past women and children used to sing some specific lyrics in order to call the

¹⁰It must be noticed that in all the community people was underlying that the water used during the *pujas* is taken from the side of the pond that has no *ghat*.

¹¹We had the opportunity to take part to this celebration in the village of Datinakhali, the night between the 16 and the 17th august 2010.

rain during the monsoon in case of drought, like the following: “*God gives us clouds, gives us water, our lands are so thirsty, give us clouds, give us water, crops will be grow in our lands, give us clouds, give us water, so that our children can survive*”. While singing the “rain songs”, women used to perform the *Khemta dance*: if the dance did not obtain the desired result, then after five days it was repeated up to when rain arrived. Munda people used also to perform “dances of harvesting” and “dance of fishing” when the harvester or the fishermen was coming back to the village with abundant products of their work. These practices, transmitted by the ancestors through generations and strictly related to Munda livelihood have nowadays been abandoned due to progressive alienation from their traditional economic activities. Today *Khemta Dance* is still practiced during the *pujas* but is no longer related to the rain¹².

In the rites de passage, water is a purifying element used in the various ritual baths that are performed during *Narota*, wedding and funerals ceremonies; moreover pots of water are used symbolically in many focal parts of the rituals (see paragraph 3.9). In particular, the “cutting the water” ceremony, held during weddings, is very ancient and particularly interesting: according to Ponette P. (1978:132), among the Indian Mundas it “symbolize[s] the right of the injured husband to kill the unfaithful wife or her paramour” ratifying absolute reprobation for adultery. Van Exem S.J. (1981: 234) give a softer interpretation of the ceremony stating that it “signifies that conjugal infidelity will be severely punished whichever party is guilty”.

To confirm our statement about the *pukur* as *living witness* of the rituals, it must also being noticed that during the most relevant part of the wedding ceremony, the blood bonding, the couple sits in front of a small *pukur* and the leaves containing the blood are thrown in the pond of the groom’s house.

We feel that all this water linked cultural practices and their deep symbolic meanings, which normally are not an object of interest to the natural scientist, the engineer or the development project planner should be taken into account when planning an intervention concerning water resources and considered as much important as chemical analysis, ponds measurements or logical frameworks.

4.8. Needs of Munda people related to water and interaction with ongoing initiatives

The former chapters and paragraphs have been the occasion to mention many of the difficulties related to water resources access and management that Munda people living in Sundarban have been facing along their history: the vulnerability to natural disasters, the progressive loss of control over natural resources that used to belong to them or to be in common usufruct, the change in climatic conditions (especially the decreasing of rainfall and the consequent trouble to harvest rainwater), the unavailability of water suitable for irrigation, the spread of chemical pesticides and fertilizers, the loss of biodiversity in their natural surrounding environment, the multiple damages brought by the shrimps aquaculture.

During the implementation of the Problem Ranking instrument among the five observed communities, the participants particularly focused on their daily needs related to the water resources.

¹²Other relevant Munda dances are the *Jhumer*, the *Dhardhara* and the *Tushu* dance.



Picture 4.5. Implementation of the Stakeholders' Analysis in Datinakhali, 2d October 2010.

The difficulty that has been ranked in the first position in four out of five villages is the lack of drinkable water, related to another problem indicated on the top of the ranking, the invasion of saline water due to shrimp farming (also linked to the lack of agricultural land). Moreover, scarcity of rainfall and shortage of containers where to collect it, were also issues mentioned in all the communities. The lack of proper toilet infrastructure has been underlined in all the villages, where it is very rare to find cement latrines. River erosion and absence of tube wells for irrigation are water related issues that have also emerged.

Some of the problems listed during the community meetings particularly affect women, who deal with most of the daily activities related to water fetching for domestic use. Female members of the households particularly highlighted the difficulty represented by the distance of the available sources of drinkable water (the isolation of the villages and the absence of

proper ways of communication has been commonly denounced) and on the lack of clean water and suitable places for them to bath.

We have described in the previous chapter the steady process of recognition of the existence of Munda groups in the South-west part of Bangladesh and the gradual rise of awareness about their conditions of economic, political and social marginalization among local authorities, medias and indigenous organizations (see paragraph 3.2.). During the stakeholders analysis implemented in the observed villages, participants have illustrated the institutions that have been implemented some interventions in their communities.

SAMS is the organization with the strongest relations with the Munda villages in the area, intermediating with different actors and donors (like Dalit, Caritas, Swiss Government, Rishilpi) for the implementation of various kind of programs related to water and sanitation (latrine, filters), education, energy (solar panels), credit and relief interventions. In particular, with the funds raised with the help of Father Paggi, SAMS has been buying the lands where the new Munda *para* of Srifalkati (houses, tube wells, ponds) has been built in 2009 and is actually building new houses for the families of Kashipur in the new Munda village of Dolua, in Tala (the powerful local landlord is trying to chase the Munda people from the Kashipur in order to extend his shrimp farming activities).

Moreover, SAMS is the main interlocutor between the Munda communities and the Upazilla Administration, playing an important role in deciding with the local authorities where and how allocate the annual funds that the government provide for Adivasis groups. Usually this money is being distributed among the communities to realize initiatives related to education, water, health (latrine), income generating activities and cultural events¹³.

Caritas has a quite strong presence in some Munda villages in the area (especially Kalinchi and Sapkhali), dealing with housing interventions, credit programs, pond digging (Kalinchi and Sapkhali), school building (Sapkhali), solar energy, relief packages after Ayla, tree plants and vegetable seeds distribution (Sapkhali), while in Kashipur and Srifalkati this organization was not mentioned as relevant. The NGO Sushilan deals especially with water related interventions, providing filters, containers for rain harvesting and concrete ring slabs for toilets. Uttaran has been implementing some credit programs and is supporting Munda people with activities related to the land issue (sustaining people of Datinakhali to claim some *khas* lands from the government and covering part of expenses of the ongoing trial that involves Kashipur against the local landlord that is trying to take possession of the little lands they live on). LEDARS have done an agricultural training program Kalinchi; Sudipti has donated some environmental friendly cookers in Sapkhali. Moreover, several credit institutions are active among the observed villages: GUF, SETU, BRAC and NGF.

¹³The details of what have been done by which organization in which community can be found in the complete transcription of “stakeholders’ analysis” in annex 1.

SOCIAL WATER MANAGEMENT AMONG MUNDA PEOPLE IN THE SUNDARBAN

Chapter 5 Conclusion & Recommendations

5 Conclusion And Recommendations



"In a predominantly agrarian country like Bangladesh, water and bio-mass are the most vital resources for livelihood of the majority of the population. Therefore, their availability and optimum use determines the extent of poverty and inclusion of people in the development process. Failure to derive benefit from such critical resources is therefore inextricably linked with poverty and social exclusion of millions of rural people."

(Syed Zahir Sadeque in *Grassroots voice*, July 2000:10)

5.1. Self driven problem solving approach?

The historically formed knowledge of an indigenous group is essential for them to get adapted to its surrounding environment in the long term. As it usually happens among indigenous people, cultural norms and practices of Munda revolve around the essential elements of nature; the seasons and the elements' cycles play an important role in their cultural models. From the collective discussions risen during the implementation of the participatory activities in the communities we worked with, we clearly understand that the natural environment that moulded those cultural models has been experiencing fast changes and deterioration (gradual disappearance of biodiversity, change in climate patterns, and privatization of previous commonly managed natural resources). As a consequence, many of the social habits transmitted to Munda people by their ancestors are being abandoned because their everyday life is now more alienated by the cycles of nature they were used to be connected with and to celebrate.

The aim of implementing a participative research project among indigenous communities in Sundarban was not to barely document a vanishing world view focusing on the patterns related to social water management. The objective is to support the recognition of Munda ecological knowledge, considering its potential for driving change, being the same dynamic and focused on problem solving.

Therefore, the Problem Solution Possibility methodology has been used with the aim of:

- learning from the participants what technical, economic, social and political constraints related to water their households experience (illustrated in chapter 4.8.)
- exploring which opportunities participants see for enhancing livelihood strategies, building a base to take the action towards an envisioned future.

This instrument has been particularly difficult to implement: when the participants had to indicate the possible ways to realize the solution listed, the common attitude in every community was to suggest having recourse to external help from governmental or nongovernmental actors. We had to be extremely careful not to enhance a mentality of dependence while implementing the methodology, trying on the contrary to promote constructive discussions about the resources Munda already dispose, such as cultural traditions and practical knowledge, in order to valorize them. At the same time, it was our moral duty to maintain a realistic attitude, recognizing main constraints that limit Munda in adopting any kind of initiative, when their everyday life conditions are characterized by strong social discrimination and struggle to meet basic human needs. As a consequence, if we have a glance to the solutions listed in the five villages¹, we notice that most of it consists in external actions aimed to support the communities in obtaining food security, safe housing conditions, and proper access to natural resources (especially drinkable water), to education and to healthcare services.

¹See complete transcription of the PSP implementation in the annex 1.

The emerged actions proposed in order to sort out specifically water management issues are the following:

- To solve the lack of drinkable water: construction of infrastructure such as deep tube wells, *Akash filters* and sweet *pukurs*
- To solve the decreasing of rainfalls: trees have to be planted
- To allow proper rain harvesting: install big containers in every community (e.g. *Gazi* tanks or concrete cisterns)
- To improve sanitation situation: concrete toilet have to be built
- To solve the problems of river erosion, *pukur* contamination, bad management of common waters, bad bathing and shelter conditions: local people have to mobilize themselves and to get organized in order to ask government actors to stop the spreading of shrimps farming and convert the land actually used in this business for other uses relevant to their life.

While implementing the PRA methodology, we realized that the research participants had never taken part in similar kind of participative enquiries. In fact, so far nobody dedicated time and resources in order to elaborate a systematic baseline about local water management practices and related problems in those five communities. In many research projects both in Bangladesh or abroad it happens that the observed population is tired to be asked questions, or is not willing to spend the whole day in meetings with external people. In this case, the inhabitants of the five Munda villages were almost astonished by the fact that somebody had come just to spend some time talking with them about their own culture, traditions and practices.

Development interventions can create the distortion of accustoming people to claim themselves as “poor”, driving them not to take autonomous initiatives, but to demand for projects. This can generate situations where “poor play the role of the beneficiaries”, in order to increase the opportunity to obtain projects and describe their problems to the NGO workers exactly in the way they want to listen to it. This kind of attitude has not been found at all among Munda, as not many people demonstrate interest about how they conceive their needs or even less consider their culture and traditions as worthy of attention.

5.2. The challenge of interventions’ social sustainability

After having provided in the former chapters a detailed description about the social organization, the traditions and cultural practices of Munda people in Sundarbans we cannot naively assert here that the observed communities don’t need any external help just because they dispose of a rich store of social and cultural practices related to natural resource management. What we want to insist on is that any desirable external intervention, in order to be serious and sustainable, should be familiar with:

- 1 How the communities conceive and prioritize the problems and needs they have to face, and the related solutions they suggest
- 2 Local indigenous ecological knowledge and related practices

It must be remembered that the logic by which indigenous people set their priorities is not always coincident with the one of external project planners: with regards to land issue, for example, obtaining *khas* land a Munda community would possibly prefer to realize a graveyard or planting trees instead of dedicate the space to productive activities...²

We feel that is our responsibility to spread the information that the people involved in our research decided to share with us. The Munda knowledge of their surrounding environment and their water management practices should be recognized by the local civil society and by the development organizations operating in the area, also and its potential should be explored to identify practical ways to innovate traditional skills and adapt them with new technologies. Indigenous Knowledge is a suitable strategy for sustainable development which makes much more sense than borrowed concepts.

In particular, we will give here some examples of how it can be practically taken into account in the observed area.

- Any development project planner, especially when dealing with housing and shelter, water and sanitation infrastructure and land issues, has to be aware of the Munda traditional social space organization (paragraph 3.5.) and of the control and ownership that the indigenous communities experienced over natural resources along their history (paragraphs 4.1. and 4.2.).
- Any agricultural related intervention, such as training or seed distribution must be familiar with the annual ritual cycle connected with the farming activities and with the local natural resources seasonal variations (paragraphs 3.8. and 4.3.).
- Any food security project should take into account that this indigenous group has specific food habits, different from their neighbors (paragraph 3.4.).
- Education projects should adapt Munda language and respect local cultural and social patterns (paragraph 3.4.).
- Any program related to health will inevitably have to deal with the local traditional healing systems and understand the complex relationship among people's health and spiritual world (paragraph 3.7.).
- Any climate change adaptation action should be planned valorizing the local knowledge about climate indicators and weather behavior (paragraph 4.6.).
- The project planner dealing with rain harvesting should know the techniques that Munda traditionally used to collect and preserve rainwater (paragraph 4.5.).

²During the PSP the communities were explaining that they would like to obtain *khas* land in order to build graveyard and ritual sites to perform their *pujas*, or to plant trees in order to increase the rainfall, not only to cultivate.

- Any pond should not be dug without realizing the social role and deep ritual meaning that *pukur* has in Munda society, remembering that women are the ones that mostly interact with this “social actor” (paragraphs 3.8., 3.9., 4.4. and 4.7.).
- Social organization and kinship systems, power relations and traditional communitarian problem solving practices must be respected in order not to generate conflict among the community when involved in a project (paragraph 3.6.).
- Opportunities for collective action (any water management requires collective action) might be explored in details, in particular the Munda costume of collective labor (which involves both male and female members of the community) should be considered as a valuable resource in case of interventions that require participation of the beneficiaries in the realization of infrastructures.
- The social cohesion that this indigenous group presents should be not distorted while allocating new tasks and responsibilities randomly during the implementation of a project; the ritual practices that contributed through generations to maintain this social cohesion should not be under estimated as mere folkloric aspects that have nothing to do with the planned intervention.
- Income generating activities should be conceived taking into accounts which are the traditional occupations and specific competences of this group of people (paragraph 3.4.).
- Programs dealing with migrations or re-allocation of Munda families should consider that kinship bonds, renewed through clan ritual celebrations and marriages, survive to and can make the displacements less traumatic (paragraph 3.8. and 3.9.).

5.3. Future steps for Munda organizations and Government Actors

The organizations that young Munda men have been forming in the last years (see paragraph 3.5.) should set up meetings on a regular basis in order to coordinate common actions and to discuss useful means to pursue their goals and petitions before official authorities and overcome social discrimination. They should constantly update and involve in their initiatives the community leaders, in order to respect their traditional role.

An example of useful action could be the re-launching the newspaper that SAMS was publishing on a monthly basis up to 2009, involving in its new edition also the other Munda organizations and trying to distribute it not only in the Shyamnagar area but also among Munda communities in Tala and Koyra. In order to overcome racial discrimination by the Bengali neighbors, Munda traditions and cultural practices should be promoted with the support of local authorities through

public events open to the mainstream society. This would be coherent with the Political Constitution of the country, where the Article 23 says “The State shall adopt measures to conserve the cultural traditions and heritage of the people and so to foster and improve the national language, literature and the arts that all sections of the people are afforded the opportunity to contribute towards and to participate in the enrichment of the national culture”.

Munda organizations should try as much as possible to strengthen the link with other Adivasi organizations that, as we underlined (paragraph 3.2.) had showed just recently to be aware of the presence in the Sundarban area of this indigenous group. This is seen as a way to increase their visibility and to take part in the debates and initiatives related to Indigenous rights, sustainable natural resources management and traditional ecological knowledge. Opportunity should be created in order to organize meetings with other Adivasi groups present in the country and especially with the Munda that are living in the northern regions of Bangladesh.

Moreover, Munda customary use of water, biodiversity and the related traditional practices should be recognized and protected by Government Actors in coherence with the ratification by Bangladesh of the UN Convention on Biological Diversity of Rio de Janeiro (1992). In this sense general civil society and indigenous organizations should conduct advocacy actions in order to demand the transformation of the draft of the “Biodiversity and Community Knowledge Protection Act” (paragraph 2.2.), in a legal binding law.

Government has been indicated by Munda communities as the main actor that should be involved in actions aimed to improve their situation. Land management and shrimps farming are the two main issues where official authorities are solicited to intervene. During the participative meetings it has been suggested that local officials should clearly explain and support Munda people in following the legal procedures needed to obtain property acts in order to defend the few lands that the indigenous communities still possess. Moreover, the state actors should plan a proper and fair redistribution of *khas* lands and recognize the huge social, economic and environmental damages provoked by shrimps farming and take practical actions to discourage the diffusion of this business in the Sundarban area.

The Bangladesh Bureau of Statistics, with the financial support of European Union, will conduct the 5th decennial census of Bangladesh in 15-19 March, 2011: this is an extremely important opportunity for the indigenous groups of the country to claim to be properly represented in it. Munda organizations should join other Adivasi groups in advocacy actions in order to demand that the criteria of implementation of the census would allow disposing of reliable data about the number, composition and location of indigenous groups in the country, overcoming the actual fuzzy situation.

Doing this would facilitate a better allocation of the government funds dedicated to support indigenous people. This money has been sent to the local authorities of Shyamnagar Thana for the Munda people living in this union only starting from 2007 (see paragraph 3.2.). On the other side, the Munda organization of Tala and Koyra should claim their right to be included in the financial program that is not reaching yet their unions. Once receiving the money, Munda representatives should sit with the *Upazilla Nirbahi Officer* (UNO) in order to have voice in the allocation criteria of these funds, guaranteeing its transparency and avoiding being treated as mere money recipients.

In brief, Munda communities should build stronger linkages with others stakeholders acting in the area in order to make them visible and recognized as “existing people with existing rights and specific valuable culture” in local governmental and nongovernmental interventions. Hoping to contribute to this process, the information collected along this research will be available through the web (being this document available on the ULAB website) and diffused through the massive distribution among national stakeholders of the small booklet containing the main research findings (see paragraph 1.8). Moreover, during the final communitarian workshop in April 2011 all the charts, pictures and printed material will be restituted to the five communities involved hoping to motivate them to continue the process of recognition of their traditional ecological knowledge.



SOCIAL WATER MANAGEMENT AMONG MUNDA PEOPLE IN THE SUNDARBAN

Annex
Bibliography
Glossary

Annex 1.1

DATINAKHALI, SYSTEMATIZATION OF PRA ACTIVITIES

First communitarian meeting: 2d of October 2010

Participants The village is composed by 30 households. Officially are present the 15 people of the list, practically all the community takes part to the discussion and activities.

Staff: Chiara Perucca, Rehnuma Binte Razzaque, Krishna Munda, Boruna Munda, Mr Bablu Joattar, Mr Susanto Kumar Mondol.

Validation FGD: 5 November 2010

Participants The Focus Group is composed by 17 people (5 men and 12 women).

Staff: Chiara Perucca, Rehnuma Binte Razzaque, Krishna Munda, Boruna Munda, Mr Susanto Kumar Mondol.

1. **INTRODUCTION:** explain aims, methodology and limits of the research to community members.

2. **WATER RESOURCES INVENTORY CHART**(taxonomy and social frame of reference)

Aim: To identify all the possible sources and forms of water present in a community, their use, management and the actors involved.

Result:

USE	WHAT (taxonomy)	HOW TO GET	WHERE TO GET	WHEN	WHO GET IT	WHO USE IT AND HOW MUCH	WHO DECIDE HOW TO GET AND USE
drink	Pond Sand Filter, PSF Filter of the Pukur of Mohashin Shaeb (landlord)	Vessel made of mud or bucket	Pukur of Mohashin Shaeb (cfr map) in Hulo Para (Dhatinakali is part)	Morning and evening	Female	Everybody, minimum 5 glasses to maximum 3 liters per person	No need permission, the pukur has a manager whose name is Selim Reza (at the service of the land lord, lives there with the family)
..hygiene (bath)	Water of a second pond which is dirty after Ayla and water of river called Khol Petuya	They go to the pond or the river, no, need to bring water	Mundapara, Hulo of Mohashin Shaeb	Everyday, female at noon before cooking, men also at noon or whenever		everybody	They have no permission to take bath in the private pukur, that's why they use the other
toilet	Saline water of the river Khol Petuya	By bucket	the river Khol Petuya	everyday		Everybody, one bucket per day	No need permission
..Wash clothes	Pukur that they use to take bath	They take their clothes there	Pukur of Mohashin Shaeb	Everyday at noon	females		No need to take permission
Wash dish	Saline water from the river	By bucket or vessel	the river Khol Petuya	everyday	females	Five vessels everyday	No need permission

Irrigation	No cultivation	-	-	-	-	-	-
Drink animals	Sweet water from the private pukur	bring by vessels of mud	Pukur of Mohashin Shaeb	everyday	female	Five vessels everyday	Manager is Selim Reza
Wash animals	Saline water of the river	river	river	During summer three times per months	Males members		No permission needed
Rituals, pujas	Water of the pukur that has PSF filter	Small pots made of mud or Kasha	Pukur of Mohashin Shaeb	Everyday after taking bath	female	One small pot made of mud or kasha	No permission
House building	PSF filter	Vessels of mud	Pukur of Mohashin Shaeb	Excluding Paush month and Chaytra months all the rest of the year they need this water	Both male and female	Both male and female according to the needs	No permission need
House cleaning	From the same pukur they use to take bath	Vessels or buckets	Pukur of Mohashin Shaeb	Everyday morning or evening according to the need	female	Everyday one bucket	No need permission
Cooking	PSF filter water	Vessel of mud	Pukur of Mohashin Shaeb	Everyday morning noon and afternoon	female	Every day three vessels	No need permission
Preparing Haria Mod (rice beer)	PSF filter water	Vessel of mud	Pukur of Mohashin Shaeb	According to the need especially at noon they prepare it when they have visits	Female makes	3 kg rice to produce one and half haria and when they serve it they mix it with a vessel of (3 liters)water	No need permission

NOTE

The community people don't have their own pukur. There are three ponds: one is private, one is the one which has the filter and these two are situated one besides the other and in highlands; the third one (they use to take bath) is closer to the shrimps cultivation and it is dirty, especially after Ayla.

The pukur were dug by Munda people. If the filter is broken the manager take the initiative to repair it but also Munda people help because they use it.

All the men together go to clean the pukur two or three times per year during the summer season, normally one at the beginning and one at the end.

[More details about the cleaning of the Pukur have been given during the validation meeting on the 5th of November 2010:

In case of the PSF sweet water pukur, at least one person from each family help to clean the pukur in Chaitro, Boishakh and Joishtho, once per month in this three month. Only male perform this activities. They clean the grass around the pond and if there are some kind of invasive vegetal species (e.g. Kochuri Pana) they eradicate it and if the water level is low and the condition of the water is not good the authority of the pukur call other people to put sodium carbonate to clean the water. The cleaning operations usually take one or two days.

In the case of the private pukur of Mohasheen Saheeb (sweet water), the authority clean the pukur

calling his own people to do it. In the third open pukur apart from having bath, the owner cultivate fishes like Telapia, Rui and Katla. Munda people uses to clean this pukur initially in Choitro, Boishakh and Joishtho one per month, both male and female members of the community are involved in the cleaning. This pukur has saline water so grasses don't grow very much here thus there is no need to remove it, but when the mud is in bad condition then they take it from the deep part of the pukur and put it on the side. This water is saline and viscous.

In Choitro Month the owner take the initiative to engage people (not Munda) to put sodium carbonate in this pukur) Munda people don't put this sodium carbonate because it can create problem to the fishes, "fishes are owned by the owner, but water is ours"]

The water for the daily puja is put in a little glass and offered together with some fruits or food or sugar as oblation which is put in front of the deity image(which stay in the family ritual site) this will remain all the day, the next day the glass is thrown on the pukur again and new water is brought with a clay pot (the vessels of clay are not made in the village but can be found in the normal market at a very cheap price).

3. MAPPING/MODELLING: (taxonomy and spatial frame of reference)

Aim: to identify the spatial distribution of natural and water resources and of cultural and social sites in the community. These maps show the perspective of the drawer and reveal much about local knowledge and use of resources, settlement patterns, and household characteristics.

Result:

Male map presents:

Big Road called Obdam, the entrance by brick road, the entrance by mud road. The Mohashin Shaeb land with his two ponds, one is the filtered and the other is the private one which are in highland, far from the shrimps.

There is a three floor building in the same landlord land and a small mosque. Then there is the pond of the general people (where they take bath) close to the road and also to the shrimp's cultivation.

Shrimps cultivations are owned by the descendants of Mohashin Shaeb that are living in Dhaka.

Then there is the Munda Para where 30 households are designed, and some houses of cows and goats. It is designed the holy ritual place of Monsa. There are no other ritual places. Then again starts the shrimps.

With regards to the orientation:

In the eastern side there is the village.

In the southern side there are the road, the char (slime land), the river and the Sundarban,

In the northern side there are shrimps fields and the big street and some houses of Muslim Bangladeshi people.

In the western side there are shrimps, river, street, char, river, and Sunderban.

The burial ground of the Munda people is at the west side nearby the road, and then we find again char, then river then Sunderban.

In the Sunderban there are screw pine trees, Date trees; in char there is screw pine (Keora) and Horcocha tree.

The male map does not represent the crab point and the school.

Female map represents:

Main road, road of mud, Tube well outside the village, land lord's land, the goat house, the school, the crab point beside the school, some of the women s house, other village, threes named Gewa, the names of the clans, the Monsa ritual site, the Sunderban.

4. SEASONAL DIAGRAM (temporal frame of reference)

Aim: explore changes in rainfall and climatic conditions, water availability, agricultural activities, fishing activities, labor migration, according to the seasonal calendar. Explore the correspondent cultural/ritual calendar.

Result:

The diagram is the base for a discussion on the reasons behind changes and implications for the people involved.

SEASONS	<i>Grishsho</i> Summer	<i>Bārsha</i> Rainy season, Monsoon	<i>Shōrot</i> Autumn	<i>Hemonto</i> Dry season	<i>Sit</i> Winter	<i>Bōshonto</i> Spring
MONTHS	<i>Boishakh</i> (April-May) <i>Joishtho</i> (May-June)	<i>Asharh</i> (June-July) <i>Srabon</i> (July-Aug)	<i>Bhadra</i> (Aug-Sep) <i>Ashshin</i> (Sept-Oct)	<i>Kartik</i> (Oct-Nov) <i>Ógrahaen</i> (Nov-Dec)	<i>Poush</i> (Dec-Jan) <i>Magh</i> (Jan-Feb)	<i>Falgun</i> (Feb-March) <i>Choitra</i> (March-Apr)
RAINFALL	Medium rain because trees are decreasing	Regular rain because of the monsoon	Decreasing because of decreasing of trees	Less than summer for the same reason	Because in winter is not rainy season	Hot season is starting
CLIMATIC CONDITIONS	Very hot	Hot, A lots of clouds and rain storms	Hot some clouds and rains. Northern wind	Some hot and some clouds	Cold, few rain	Medium temperature and storms
WATER AVAILABILITY	Little amount because of high temperatures. The level of water in the pukur is low but the level of river is high	Lot of water around because of lot of rain and the river has a high level	The amount of water is medium good and the water in the river just starts to decrease because of the northern wind	The amount of water slightly continue to decrease and the water of the river decrease for the same reason: north wind	The water of the ponds keep on decreasing the river decrease for the same reason: north wind	The water of the pond is at a minimum level, crises of water. The river starts to increase because of the wind from the south.
WATER QUALITY	Quality is not so good because the level is lower	In rainy season plenty of water in the pond which is good water	Also good quality	Also good quality	Also good quality	The quality is medium and the level is medium low.
AGRICULTURAL ACTIVITIES	No land to cultivate	No land to cultivate	No land to cultivate	No land to cultivate	No land to cultivate	No land to cultivate

FISHING and CRAB ACTIVITIES	Crab and fish are in medium available	Both are available in good amount. The level of river is very high fish come to the water and lay their eggs	The amount of fish decreases a little but the crab availability is good because of the slightly cold temperature and the fog. The crabs of the forest come to the river	Good amount of crabs because of the cold climate and the fog, fish is not available because of the decreasing level of the water	The crab are available in big amount because of the cold climate and the fog, fish is available in little amount because of the decreasing of the water	Crab and fish are available in medium amount.
HUNTING					Only in this season they catch a bird called Bock using trap and arrow	
LABOR MIGRATION	They stay in their village	The male members go to Khulna, Gopalganj to cut paddy, mud (digging ponds, make roads), and to cultivate paddy	Lack of work	Male members go to : Borishal or Cox's bazaar and Dhaka to work in brick yard and cut mud Khulna, Satkhira, Gopalganj to cut paddy		
HONEY COLLECTION	They don't do this activity just 2 or 3 person used to do it 3 or 4 years ago, they don't need permission to do it					
PUJAS AND OTHER FESTIVALS	In summer season in Joishtho month they celebrate Puja named Bhelua Phara in order to have good income and welfare	In rainy season they do Asharhe Puja in Asharh Month and in Srabon they do Monsa Puja in order to get rid of any problem. If any bad thing happens they will be able to overcome that after doing this celebration. Usually they do the Monsa Muja at the end of Srabon, if it rains in that day it means that the puja will be very good and crops will grow very well.	Bishaw Karma (the divine creative architect) Puja is celebrated in order to get rid of any problem and then Karam puja : unmarried girls do this in order to have good husband and children, and family. Aged men and women assist also to the puja, but the main aim is for the young girls	In Kartik month they celebrate the Goal Puja they hope that with this puja cows and domestic animals will have good condition. In Ōgrohaeon they do Bura Buri Puja in order to have good conditions for all the members of the family	In Poush month they do Shakrai Puja : they make cakes and other types of food with new rice. In Magh they do the Bon Bibi Puja to have plenty of fish and crab	In Falgun they celebrate the Pajari Puja, is a very big Puja which is also called Boro Puja, to pray clan based welfare. In Chaitro they do Sarhul or Murgi Puja for the welfare of the family. This is done in the last month of the year hoping that the next will be good for them.
WEDDINGS					They have always wedding but not in Poush and Chaitro. They follow the calendar and that is not considered a good period to perform	

When they arrived to the village in 1942 they used to make share cropping in Mohashin Shaeb's land and this activity continued till 1985 because then the landlord shifted to the shrimps cultivation. So starting from those years they haven't had any land to cultivate. Mohashin Shaeb was promising five biga of land per family when he brought them in the area in order to cut the forest, but he did not keep his word and did not give any land, just the permission to share crops (cultivate other's land and take 2/3 of the total harvest) up to when shrimps farming started. Some of them do fish activities or sell the small fishes.

5. HISTORICAL TIME LINES (temporal frame of reference)

Aim: Establish the chronological sequence and relative importance of events that shaped the history of the community, especially related to water resources. Explain the changes in the availability of water resources down the years and the villager's responses to the challenges in the resources composition and quality. Explore the historical changes in techniques and practices in water management in order to monitor their positive or negative impact, highlighting what appears to be appropriate for sustainable development.

Results:

Historic events	1942	1943	1971	1985	1988	1990	2009
	foundation of the Munda village in the Hulo of Mohashin Shaeb by Munda coming from the villages of Gabura ad Podopukur	famine	Freedom fight	Started the shrimps activity	Big Hurricane in southern part of Bangladesh	Migration to Satkhira and Khulna	Ayla
Rainfall	Huge amount of rain	No rain	A lot of rain	Less rain than before	Much more rain, flood	Medium-normal rain	Starting from Ayla little amount of rain
Pukur (how many, who dig it, quantity and quality of water)	One pukur was already there, containing 6 to 7 feet water. It had been made by Mohashin Shaeb, but the condition of the water was not so good	Only that pukur was existing	Only that pukur was existing	Other 2 pukur were dig by Munda people around the 80s under order of Mohashin Shaeb, one for his private drinking use	Three pukur keep existing	Three pukur keep existing	After Ayla the water of the 3 pukur was bad but in Srabon month and rainy season the condition got better
Filter	No filter					Around 2000 the PSF was installed by Mohashin Shaeb	
Techniques to harvest rain water	They collect rain water in clay pot in the following way: in one part of the roof they put the cortex of the Banana threes (like a tube) which ended in the clay pot. The mouth of the clay pot is covered by a piece of cloth in order to filter the water; another system is to settle in an open space place of their house under the sky four posts. Where they hang a fabric and in the middle they put a stone or brick and under that there is a pot where the water falls (especially rainy season or when it rains). These 2 systems are typical of Munda people. Another system consists in collect water from a little paddy field: in a big paddy field there is a small piece that is more high and protected by mud wall (aili); here people put paddy seeds, then after ten days, when the plants are one and half feet high (seedlings) and there is shadow, the water is fresh and suitable to be collected for around 20 days. After the plants are collected and planted in the rest of the big field in lines. This last method is used by Munda to drink water, in other part of the country they use the same method but they don't use this water to drink			With the introduction of shrimps cultivation the system of the little paddy field was no more possible to apply	=	After 90 instead of the banana three they use tubes, when they can afford to buy it	They keep on using the four post system and the tube instead of banana system
Canals	4 canals are in the community, whose names are Morol Khal, Khalir Khal, Berer Khal, Badol Khal they were naturally created as part of the forest. They were used for irrigation.			When the shrimps cultivation started the land lord filled three canals with mud, leaving just some water for shrimps cultivation and raised boundaries. The only canal remained (the Khalir khal) was used to supply water to the shrimps cultivation but also that one little by little became chor (silt land) and plane land	No more canals left		
Trees	Forest was there with trees called Gewa, Poshur, Silua, Chanda, Sundri, Screwpine (Keora), Horcocha, Goran, Bine, Hudo, Khalisha, Tamarisk (Ghau).			Just Horcocha, Bain, Keora, Gewa. The trees are disappearing because the threes that were available in the chor land were cut. This happened because of shrimps cultivation and also to be used as fuel	Just Horcocha and Screwpine (Keora) can be found in the area		

Nb. Around the 80s some families migrated from Dhatinakali to Burigoalini village. The chairman of the union brought them to the new village giving them some lands (five katha).

6. STAKEHOLDER ANALYSIS: Venn/roti diagram (social frame of reference)

Aim: Visualization and discussion of the institutional framework of the observed community. Reveal local people perception about the relative importance and impact that various institutions have on their livelihoods, clarifying the potential opportunities and constraint to organizational change. Understand the usage of the resource environment by multiple users.

Results:

(see diagram) Inside the community the relevant people are (from the most to the less important):

Leader: Vokto Munda

Two teachers: Ujjol Munda and Anandini Munda

Traditional healer and assistant of the celebrating man: Fotik Munda

The communitarian celebrating men (Pahan, person in charge to lead the pujas): Baburam Munda and Akhil Chandro Munda (he lives in Burigoalini village, whose people once lived in Dhatinakali).

The relevant groups are the six clans: Tirkiar, Sangoar, Tuti, Kachua, Hangrom, Kouriar (in the first meeting were mentioned seven, but on the validation meeting it resulted that the real number is six).

According to the further details given in the validation meeting, every clan has its own Pahan:

Tirkiar: Fotik Chondro Munda

Sangoar: Nitai Munda

Tuti: Nirapodo Munda

Kachua: Sadu Munda

Hangrom: Kogen Munda

Kouriar: Guru Munda

Outside the Munda community the relevant organizations are

Name	What they do	importance	Interaction with Munda in Datinakhali
SAMS	<p>School 2002, 4 solar panels 2004.</p> <p>Books, and school material, 2008 and 2009 and salary of the teacher.</p> <p>Winter dresses in 2008-2009, blanket for aged people 2007-8-9 In 2009 <i>sari</i> for aged female and <i>lungi</i> for the aged male. Moreover SAMS interacts with other NGOS to get cooperation for the community</p> <p>During AYLA distribution of 10kg rice 1 kg dhal, 1 kg oil, 5 kg potato, 3 candles, spices, matches and 10 soap per family.</p>	+++++++	Strong interaction

Upazilla Administration	They seat with SAMS to discuss how to distribute the annual Adivasi funds among Munda villages in four sectors Education, Water, Health (latrine), income generating and cultural events	+++++	Interaction with SAMS
Dalit	Giving funds for education and also work with Munda doing meetings, taking part to the indigenous day	++++	Interaction with SAMS
Caritas	Housing package after AYLA, relief package	++++	Interaction with SAMS
GUF Gono Unnoyon Federation	Credit	+++	Closer institution to the community after SAMS
JJS Jaggroto Jibo Shongo	Relief, food for work and cash for work program	++	Little bit far than GUF
Uttaran	Credit, activities with cash land (they try to give to Munda cash lands) in a program called Vumihin Bijoy Safety	+	Little bit farer than JJS
BRAC	Credit program	+-	Farer than Uttaran
NGF Nohabeki Gomobuki Foundation	credit	-	Farer than BRAC

7. PROBLEM RANKING

Aim: learning about the importance that the participants give to the problem they have to face, in order to prioritize eventual future intervention according to the local preference, so to make them demand-driven.

Results:

PROBLEM	score	rank
Land problem	17	1
Salinity of Water	15	2
Lack of employment	15	2
No agricultural land	14	3
To bring water they have to walk far	13	4
Food problem (they have no enough food for the family members)	13	4

No teacher available)	11	5
Less rainfall	10	6
Treatment problem	10	6
Shelter problem during natural disaster	9	7
Lack of pot to store rain water	8	8
Road problem	8	8
Discrimination by Bengali people	6	9
Toilet problem	5	10
Shrimps cultivation	4	11
They don't have a pukur	3	12
They don't have electricity	3	12
Tiger attacks	3	12
Bathing problem (dirty water)	1	13

8. PSP (Problem Solution Possibility) chart (implemented during the meeting of November)

Aim: learning from the participants what technical, economic, social and political constraints related to water their household experience and what opportunities they see for enhancing livelihood strategies. Building a base for developing action plans in order to take the process forward towards an envisioned future.

PROBLEM	SOULUTION	POSSIBILITY
1 Land problem (no land to make new houses)	Land is needed	Government and NGO
2 Salinity of Water	Deep tube well and sweet water ponds	"
2 Lack of employment	Handicraft for women and boat and net for males	"
3 No agricultural land	Agricultural land is needed	"

4 To bring water they have to walk far	Deep tube well is needed	"
4 Food problem (they have no enough food for the family members)	Nutritional food is needed, so they need agricultural land and seeds	"
5 No teacher available	They need private teachers	"
6 Scarcity of rainfall	Rain is needed, they have to plant trees	Themselves, government and NGOs
6 Treatment problem	Once a week a doctor is needed	Government and NGOs health workers
7 Shelter problem during natural disaster	Shelter house is needed	Government and NGO
8 Lack of pot to store rain water	Gazi tank and big containers	"
8 Road problem	Concrete road is needed	"
9 Discrimination by Bengalese people	Educate themselves and be aware about rules law and rights they have	Send their children to school and have Munda teachers
10 Toilet problem	Concrete toilet is needed	Government and NGos
11 Shrimps cultivation	Stop shrimps cultivation	All together they have to unite and claim their demands to the government and NGOs
12 Problem of pukur (not enough)	They need a big pukur full of sweet water	Government and NGos
12 They don t have electricity	Electricity needed	government
12 Tiger attacks	A wall of concrete should be built in the part of the forest beside their village	Government and NGos
13 Bathing problem (dirty water)	They need a big pukur (even if salty)	"

Annex 1.2

SAPKHALI, SYSTEMATIZATION OF PRA ACTIVITIES

First communitarian meeting: 11th October 2010

Participants: The village is composed by two sides (divided by the street) one is called East Koikhali and the other is called Sapkhali, (in East Koikhali there are 33 families and in Sapkhali 21 families) but they consider themselves as one Munda Para with a total of 54 households.

Officially are present the 15 people of the list, practically at least 26 people (whose number increases especially in the afternoon) take part to the discussion and activities.

Staff: Chiara Perucca, Rehnuma Binte Razzaque, Boruna Munda, Krishnapodo Munda, Mr Susanto Kumar Mondol.

Validation FGD: 4th November 2010

Participants : 13 people (6 women, 7 men)

Staff: Rehnuma Binte Razzaque, Krishnapada Munda, Boruna Munda, Mr Susanto Kumar Mondol.

1. INTRODUCTION: explain aims, methodology and limits of the research to community members. Krishna does it.

2. WATER RESOURCES INVENTORY CHART (taxonomy and social frame of reference)

Aim: To identify all the possible sources and forms of water present in a community, their use, management and the actors involved.

Result:

USE	WHAT (taxonomy)	HOW TO GET	WHERE TO GET	WHEN	WHO GET IT	WHO USE IT AND HOW MUCH	WHO DECIDE HOW TO GET AND USE
drink	1 Medium Saline water from the pukur 2 PSF filter water 3 water of the pukur which has the PSF (if there is a too long line to get water from the filter)	Vessel made of clay and aluminium and plastic bottles	The pukur which has PSF is at about half km east of Koikhali from the village, the other pukur is in the community	In Falgun month the water level in the pukur is low	Women in morning and evening	Everybody 4 to 6 vessels	Sushilan gave that filter in Boishakh 2010 and the owner of the pukur is Mohammed Idris Gazi; no permission is needed to get the water, if the condition of that pukur is not good he get the responsibility to clean it. In case there is the need to clean the PSF filter, every family give 2 to 5 taka but they don't give any labor
..hygiene (bath)	In east Koikhali 33 families have in total 11 pukur ((3 of which have medium saline water and the rest saline) and in Sapkhali 21 families have 8 pukur (in which just 2 have medium saline water).	They go	Koikhali and Sapkhali	From Chaitro to Joishtho the water level is very low			Usually they take bath in the pukurs which water is medium saline, but if the level of the water is too low the owner don't give the permission to take bath or use soap so they go to the saline pukur

toilet	They use water from all the pukur	Plastic pots	Koikhali and Sapkhali				Is not necessary any permission
..Wash clothes	The five average saline pukur (3 in Koikhali and 2 in Sapkhali)	They bring their clothes there	"	"	women		When the water level is low they don't wash the clothes directly in the pukur but wash it beside in a vessel
Wash dish	At first they wash the dishes with the water from the pukur and the second time they wash it with water from the filter and also from the pukur which has filter	They bring water with vessel made of clay and aluminium	All the pukurs in Koikhali and Sapkhali and the PSF pukur		Women in morning and noon,	four vessels,	no need to take permission
Irrigation	They cultivate <i>iri</i> paddy (summer kind) in Poush and Magh months and they cut it in Boishakh they irrigate with canal's water; in rainy season they cultivate <i>aman</i> type of rice and cut it in Ögrohaeon, they irrigate it with rain	They take water from the canals by pump machine those who can't afford the machine use a method called <i>Samot</i> which consist in using triangle of tin supported by ropes to collect the water from the canals and bring it to the field	The canal is in Sapkhali	From Choitro to Joishtho the level of the canal is very low	In case of the pump machine only men work and in case of the <i>Samot</i> system both men and women work		No permission
Drink animals	The five average saline pukur (3 in Koikhali and 2 in Sapkhali)	Clay and aluminium vessel	Koikhali and Sapkhali	"	Both men and women Morning and noon and afternoon	From 6 to 8 vessels	No permission
Wash animals	The same 5 pukurs	Vessel made of clay, aluminium and plastic	"	"	Both men and women both goat and cow in summer season 4 times	One cow needs 1 to 10 vessel s and one goat 1 to 6 vessels	They don't wash directly the animal inside the pukur, they just bring them beside it
Rituals, pujas	"	One metal glass from the pukur	"	"	Women in morning and evening	One glass	No need to take permission
House building	"	Clay and aluminium vessel	"	"	Both men and women	According to the need	"
House cleaning	"	"	"	"	Women in the morning	2 to 3 vessel	"
Cooking	" and the filter water and the water of the pukur who has filter	Vessel made of mud and aluminium	" and also the PSF pukur	"	Women morning noon and afternoon	1 to 4 vessels	"
Preparing Haria Mod (beer)	Among the 5 pukur they choose the one with better condition and also they use the water of the pukur which has the filter	"	"	"	Women according to the need	1 kg rice 1 vessel water	"

3. MAPPING/MODELLING: (taxonomy and spatial frame of reference)

Aim: to identify the spatial distribution of natural and water resources and of cultural and social sites in the community. These maps show the perspective of the drawer and reveal much about local knowledge and use of resources, settlement patterns, and household characteristics.

Result:

Men map presents the village is divided by Kare Road the east side of the road we have Sapkhali, in the west side of the road East Koikhali is situated. Both villages are considerate as one.

In Sapkhali there are two ritual place for Monsa and 8 ponds. Two solar panels, one cow house, every family have their single graveyard and latrine. And at the three side paddy fields are situated. There is a cyclone shelter one km far from the Munda village. On the other side we see Koikhali. There is the school, given by Caritas, and there is a rain harvesting water filter given by Sushilan, three solar panels, and 11 ponds. One ritual place for Monsa and Khali, Every family has their graveyard and latrine.

We have the Sapkhali canal in the north side in the south side of Koikhali there is shrimp cultivation, in the west paddy cultivation, in the north road ad paddy field.

Both villages cultivate their garden with different vegetables there are also some trees named rain tree, palm tree, coconut, guava, Khoi tree, Sofeda tree, Banana tree.

Female map represents the long road of mud, then the Munda village where there is a school, and a concrete rain filter, there are 33 families in east Koikhali and 21 in Sapkhali, beside the Munda village in the north side there is paddy filed, there is a Monsa ritual site and a Krishna Munder and Khali Munder in the west side and a mosque too. In east Koikhali there are 33 bathrooms and Sapkhali 21 (one per family). There are 5 solar panels. In Koikhali there are 11 pukur and Sapkhali 8 pukurs, various kind of trees like Khoi, and banana, Date, Noel tree, coconut , bamboo. There is a canal named Sapkhali canal it is situated in the north side. There is a cyclone shelter in the east side . There are shrimp fields in the east south and west side. There are some vegetable like Creeper, lady's finger, Cucurbitaceous (Ginga), Gourd, Arum. There is a river named Khalindi in the south side on the other side of it there is India.

4. SEASONAL DIAGRAM (temporal frame of reference)

Aim: explore changes in rainfall and climatic conditions, water availability, agricultural activities, fishing activities, labor migration, according to the seasonal calendar. Explore the correspondent cultural/ritual calendar.

Result:

The diagram is the base for a discussion on the reasons behind changes and implications for the people involved.

SEASONS	<i>Grishsho</i> Summer	<i>Bôrsha</i> Rainy season, Monsoon	<i>Shôrôt</i> Autumn	<i>Hemonto</i> Dry season	<i>Šit</i> Winter	<i>Bôshonto</i> Spring
MONTHS	<i>Boishakh</i> (April-May)	<i>Asharh</i> (June-July)	<i>Bhadra</i> (Aug-Sep)	<i>Kartik</i> (Oct-Nov)	<i>Poush</i> (Dec-Jan)	<i>Falgun</i> (Feb-March)
	<i>Joishtho</i> (May-June)	<i>Srabon</i> (July- Aug)	<i>Ashshin</i> (Sept-Oct)	<i>Ôgrohaeon</i> (Nov-Dec)	<i>Magh</i> (Jan-Feb)	<i>Choitro</i> (March-Apr)
RAINFALL	There are more storm than in the past but less rain, because of change of the weather and downward pressure	Less rain then in the past because of the decreasing of trees and weather change	In the past there was a lot of rain but at present it has decreased because of climate and weather change	In the past there used to be a lot of rain but few storms at present the rain have decreased but storms and cyclones have increased	In this season it naturally it rains in low quantity (both in the past and in the present)	In the past the rain was scarce and at present even less than in former times

ANNEX 1.2

CLIMATIC CONDITIONS	Much hotter than in the past because of weather change, less trees and saline area	Normally is colder than the former season, it is hotter than in the past because of weather change, less trees and saline area	In the past it was cold because winter already came but at present the temperature is still hot because of weather change, less trees and saline area	In the past the weather was very cold, at present is a little bit less cold because of weather change, less trees and saline area	In winter the weather in the past was quite cold but at present it is hot because of weather change, less trees and saline area	Usually in this season the weather starts to be hot again. In the present the heat has increased compared than in the past because of weather change, less trees and saline area
WATER AVAILABILITY	In pukur and canals there is a little amount of water because of scarcity of rain, drought and salinity	The Pukurs and canals are filled by rain water because it is rainy season		The water starts to decrease because of less rain and wind coming from the north	The water as usual decrease for the decreasing of rains and northern wind	In pukur the water it decreases even more because of the decreasing of rain but water has increased in the river because of the southern wind
WATER QUALITY	In pukur and canals there is saline and sticky water	Sweet water in pukurs and canals				Salinity is seen in both pukurs and canals
AGRICULTURAL ACTIVITIES	They cut <i>iri</i> paddy in the village from the share cropping lands and vegetables like Aram, Data, Edible bulbous plant (OI), Creeper, Lady's finger, Gourd, Tarul, Cucurbitaceous (Ginga) are available in domestic gardens	They saw <i>aman</i> paddy in the sharecropping fields, same vegetable as the former season are available	Same vegetables	In Ögrohaeon or Push they cut <i>aman</i> paddy and in the land of sharecropping they cultivate chili, brinjal, potato, tomato, onion garlic	In Magh month they cultivate <i>iri</i> paddy and the same vegetables	
FISHING and CRAB ACTIVITIES	In the river and in the shrimps field there is a small amount of crab and fish because of scarcity of water and because of the heat	In the canals and the pukurs and river is available a lot of fish, whilst in river and shrimp field only few crabs	In the river and in the shrimps field there are few crab; in pukurs, canals and river a lot of fish are available	In Kartik, Ögrohaeon and Pouch and Magh in the river there are a lot of crabs and few in the shrimps fields because of less water. In the river there is a lot of fish but few in canals and pukurs		A lot of fish and crab in the river
HUNTING	In the past they used to catch various types of birds like Bok and Shonkal by bow and arrow and there were available in big quantity at presents there are no more birds and they don't go hunting	In the past they used to hunt different kind of birds by bow and arrow and fishes by coach (kind of harpoon with sharp pointed skewers for catching fish) and <i>polow</i> (a basket of wicker-work for catching fish), a present they only catch fishes by <i>borshi</i> from the canal	They use to catch flying birds by sling. At present no more.	They used to catch various kinds of birds by sling and trap and turtle by coach (kind of harpoon with sharp pointed skewers for catching fish), Nothing at present.	They used to catch fish from the canal by hand and rats from the agricultural lands by sickle and squid by scythe. At present nothing.	They used to catch <i>ili</i> fish from pukur and canals by sickle and fish by hand from the canal, at present nothing.
LABOR MIGRATION	They go to Khulna, Faridpur, Madaripur, Jessore, Satkhira, Bagherat, Narail, Magura, Tangail, to cut mud and in Gopalganj, Satkhira, Benapole, Jessore, to cut paddy	They stay at home, catching crabs from the shrimps cultivations and from the river, collect grass from the land, saw paddy		They stay at the village, cut paddy and cultivate vegetables in sharecropping	They go to the same districts to cut the mud and to cut the paddy also in the same districts as in summer	
HONEY COLLECTION	They were not used to collect honey but they know when it is available. In this season it is available	Less honey	No honey available			From Choitro to Boishakh honey is available
PUJAS AND OTHER FESTIVALS	No puja	In Asharh Bhelua Phara Puja is performed before cultivating the paddy, another puja in the same month Gram Chara to avoid different types of diseases; in Srabon Month they do the Monsa puja on honor of the snake Goddess to be safe from the snakes	In Bhadro they also do the Monsa puja, at the end of the month (people that has not done it before do it now). In the same month there is also the Karam Puja according to the moon calendar when the moon is full, or they do it in Ashshin in the full moon night	In Kartik in dark moon night they do the Goal Puja to obtain good health for the cows, in Ögrohaeon they do Nawa or Bura Buri Puja before cutting the new paddy	In Poush they perform the Shakrain Puja, making cakes with the new rice; in Magh month Can Puja in this puja both girls and boys make the hole in their ears	In Falgun or Choitro they do Sarhul puja so that all the people will be in good health during all the next year. In Choitro there is Pan Phul Puja in which they dedicate the new fruits to the goddess and another puja in the same month is Pahari Puja which is performed every three generation in order to guarantee good health for the following generation
WEDDINGS			In Bhadro no marriages		In Pouch no marriage	In Choitro no marriage

5. HISTORICAL TIME LINES (temporal frame of reference)

Aim: Establish the chronological sequence and relative importance of events that shaped the history of the community, especially related to water resources. Explain the changes in the availability of water resources down the years and the villager's responses to the challenges in the resources composition and quality. Explore the historical changes in techniques and practices in water management in order to monitor their positive or negative impact, highlighting what appears to be appropriate for sustainable development.

Results:

The participants explain their responses to the changes in water resources and reflect about the positive or negative effects of the practices they were using.

Historic events	1873	1935	1947	1948	1950	1971	1984	1988	2009
the foundation of the community	famine	Division of Hindustan and Pakistan: many Munda people went to India	Joakhal river's embankments are broken	Epidemic of cholera; 13 people dead	Freedom fight	Epidemic (only in the Munda village) 3 people died	Hurricane cyclone	Ayla	
rainfall	A lot of rain +++++	Lack of rain and death of all the crops +	A lot of rain +++++	++++ quite a lot of rain	++++ quite a lot of rain	++++ quite a lot of rain	++++ average rain	++++ quite a lot of rain	++ little rain
Pukur (how many who dig it, quantity and quality of water)	No pukur in the area but about 4 km far from the village in Khatcharibari one pukur available with sweet water 7 to 10 feet high. It was cut by Jomidar Munda	The same pukur was available	2 pukur: one is the Jomidar and the other is at 1 km personal pukur of Sonagazi sweet water and 5 to 7 feet high	Same 2 pukurs	Same pukurs	Same two and There is a Digi (a bigger pukur) called Box Gazi made by government	In total 6 pukurs (Noren Munda, Gourpodo Munda, Jugopodo Munda, Norshingpodo Munda), more the one Digi, with good water 5 to 7 feet	New 18 pukurs (Rothin Munda, Mongol Munda, Noagen, Khogen, Kiron, Toopon, Sagor, Orun, Bistupodo, Kanai, Prosanto, Dino, Niranjon, Kiron, Boro, Onil, Kisto, Bonodev, Kamchon) more the 6 former ones, more the Digi good water 5 to 7 feet	24 pukurs, the Digi one saline water bad condition of water
Filter	no	no	no	no	no	no	no	no	Rainwater harvesting filter by Sushilan
techniques to harvest rain water	4 post, small paddy, and banana tree and leaves and they used clay pot	Same techniques	Same techniques	same	same	same	4 posts using polyethylene paper instead of fabric; banana tree system using tin; no more paddy. Use of plastic and aluminium vessels. PSF filter situated outside the Munda village 2 km far	PSF filter situated outside the Munda village, 2 km far	PSF filter situated outside the Munda village 2 km far and new filter by Sushilan
Canals	9 canals made naturally open to all the people the names are Big Moukatla, Small Moukatla, Jadar khal, Badoltoli Khal, Chandabune Khal, Sapkhali Khal, Pashmondo Khal, Bawal Khal, Puler Khal. Good water	same	same	same	same	same	5 canals became under personal ownership for shrimps cultivation and the other 4 are still open	Same	Same number of canals but all full of saline water: the name of the 4 that are still open to everybody are Sapkhali, Badoltoli khal, Pashmondo Khal, Puler Khal
Trees	Hetal, Go, ran, Golpata (leaves of a small tree used in thatching) Screw pine (Keora), Gewa, Bine, Poshur, Horcocha, Tamarisk, Khalisha, Chanda, Kakra, Gorjon.	Same trees but the amount is decreased and Poshur, Sundri Gorjon, Kakra trees are no more available	There are the same and some new trees Palm "Tal", Bablah, Date tree, Khoi, Rain tree and banana tree	same	Screw pine (Keora), Bine, Hetal and trees of sweet water are available in increased quantity	Screw pine (Keora), Bine, Hetal and trees of sweet water are available	Same kind of trees and new trees includes coconut, Guava, Betel nut, Mango, Black berry Jackfruit, Litchi, Wood apple.	Same trees but less amount	1/2 trees are available than before, rain trees, Khoi, Palm, Bablah, Margosa (neem), Guava, Mango, Sofeda, Wood apple

6. STAKEHOLDER ANALYSIS: Venn/roti diagram (social frame of reference)

Aim: Visualization and discussion of the institutional framework of the observed community. Reveal local people perception about the relative importance and impact that various institutions have on their livelihoods, clarifying the potential opportunities and constraint to organizational change. Understand the usage of the resource environment by multiple users.

Results:

(see diagram) Inside the community the relevant people are:

Leader: Noiran Munda (in common for both side of the village)

Two teachers: Subita Munda (in common for both sides of the village)

Traditional healer : in Sapkhali Sagor Munda; in Koikhali Kanai Munda

Pujari: there is one pujari in each clan to perform the pujas at clan level but the general pujas for all people are performed by Kanai, Bonodev or Orjun.

The relevant groups are

The 8 clans and their respective Pahan:

Bhootkuar (Sagor),

Tuti (Krishno)

Rajput (Kalipodo and, Khogen)

Sangoar (Suki)

Moukal (Dinobondo)

Kushmi Dau Palan(Khogen)

Tirkiar (Noren)

Shapoar (Canchon)

Outside the Munda community the relevant organizations are

Name (in order of importance)	What they do	Importance (in order of importance)	Interaction with Munda in Sapkhali (from more to less proximity)
Caritas	<p>School in 1999, ring slab (toilet) for every family in 1999, 8 solar panels in 2002;</p> <p>Digging one pukur for a total of 8000 tk Caritas 60% and Munda 40%</p> <p>In 2009 they made one family's house base higher,</p> <p>In 2000 credit maximum amount 8000 tk;</p> <p>Tree plants: mango, coconut, Sofeda, Guava, Mahogany in 2001-2</p> <p>In 2001 for harvesting water fabric, pots given to 25 families</p> <p>2006-7 Unnato Chula (a developed oven) to 25 families;</p> <p>Every year they give vegetable seeds (pumpkin, potato, carrot, creeper, borbati, red leafs (lalshak), arum, paddy seed br23)</p> <p>In 2007 after Sidor and 2009 after Ayla dry food</p> <p>In 2006 clothes in winter season</p>		Very close to the community

Sams	Income generating credit highest amount 1000; in 2008 clothes in winter for aged people and children		Interaction with the community
Upazilla Administration	For school in 2007 they gave the tin; in 2010 they repaired the school, they gave one ton of wheat, education material, scholarship, income generating program(cow goat, duck, chicken and sewing machine), repairing the temple, Disaster shelter 2 km far		Interaction with SAMS
Sudipti	Bondhu chula (Environmental Friendly Oven) for 46 families Munda families had to pay 200 tk (while other people had to pay 500)		
Dalit	In collaboration with SAMS education scholarship provided to 17 students		Interaction with SAMS
Sushilan	In 2009 one filter; in 2007 15 ring slabs; after Ayla polyethylene for the roof of their house		
NGF Noabeki Gonomuki Foundations	In 2010 in Koikhali and Sapkhali to 2 families they made the base of their house higher.		
BRAC	From 2007 a health worker from BRAC uses to come to the village		

7. PROBLEM RANKING

Aim: learning about the importance that the participants give to the problem they have to face, in order to prioritize eventual future intervention according to the local preference, so to make them demand-driven.

Results:

PROBLEM	score	Rank
Lack of drinking water	16	1
Lack of fuel	4	11
Lack of teacher	15	2
Lack of treatment	14	3
Road problem	11	5
Lack of bathing place	10	6
Lack of cement toilet	12	8
Lack of work	9	7
Shrimps cultivation	2	12
No land on their own	9	7
Economic problem	8	8
They have no agricultural land	7	9
Lack of graveyard	5	10
Discrimination by Bangladeshi people	2	12
No domestic animals	4	11
Distance from the market	0	0
Housing problem (bad condition of the house)	8	8

8. PSP (Problem Solution Possibility) chart

Aim: learning from the participants what technical, economic, social and political constraints related to water their household experience and what opportunities they see for enhancing livelihood strategies. Building a base for developing action plans in order to take the process forward towards an envisioned future.

Results:

PROBLEM (in ranking order)	SOLUTION	POSSIBILITY
1 Lack of drinking water	Deep tube well and rain harvesting filter	Tube well with government and SAMS support; Rain filter with Sushilan and Caritas
2 lack of teachers	Teachers of primary and secondary level	SAMS, Caritas, father Luigi; To send their children to school to get proper education in order to have teachers in the future
3 lack of treatment	Doctor in the village	Help of the father
4 lack of cement latrine	Concrete toilet	father, SAMS and government
5 bad condition of the road	Concrete road	UP, Father and SAMS
6 lack of bathing place	Place is needed for a big pukur	Government, Father and SAMS
7 lack of work	Training on handicrafts, mechanic, lad machine	Caritas, Father and Government
7 no ownership of the land	Land to make houses	Government, father SAMS
8 economic problem	To create employment opportunities and fair wages	Works through NGOs like NGF Caritas
8 bad condition of the houses	Government intervention	Government
9 no agricultural land	Land is needed	Khas land of the government, father and SAMS
10 lack of graveyard	Common place is needed	Government and SAMS
11 lack of fuel	To plant more trees	To plant trees by themselves and by the help of NGO
11 lack of domestic animals	Need domestic animals	Government help, SAMS, Father
12 shrimps cultivation	Stop shrimps cultivation, do agriculture instead of shrimps	Government intervention
12 discrimination by Bangladeshi	Education, improve the condition of their household, cleanliness	To send children to school, raising awareness
13 distance from the market	Need place	With government help

Annex 1.3

KALINCHI, SYSTEMATIZATION OF PRA ACTIVITIES

First communitarian meeting: 9th October 2010

Participants: The village is composed by 18 households. Officially are present the 15 people of the list, practically all the community takes part to the discussion and activities.

Staff: Chiara Perucca, Rehnuma Binte Razzaque, Boruna Munda, Krishnapodo Munda, Mr Susanto Kumar Mondol.

Validation FGD: 3d November 2010

Participants : 21 people (11 men, 10 women)

Staff: Chiara Perucca, Rehnuma Binte Razzaque, Krishnapada Munda, Boruna Munda, Mr Susanto Kumar Mondol.

1. INTRODUCTION: explain aims, methodology and limits of the research to community members.

2. WATER RESOURCES INVENTORY CHART(taxonomy and social frame of reference)

Aim: To identify all the possible sources and forms of water present in a community, their use, management and the actors involved.

Result:

USE	WHAT (taxonomy)	HOW TO GET	WHERE TO GET	WHEN	WHO GET IT	WHO USE IT AND HOW MUCH	WHO DECIDE HOW TO GET AND USE
drink	3 tube well 2 in Munda village (one in Gopal Chondro, one in Bimol Munda's houses) and one in the house the Muslim Kasehm Gazi Member (his title means that he was politically elected in the Upazilla)	They bring in vessel mad of aluminium and clay and plastic bucket	Kashem Gazi Member, Bimol Munda , Gopal Chondro Munda tube wells	Water available all the year around m.	female collect it at morning, noon and evenings	Everybody, 2 to 5 vessels per day	The tube well of Gopal Chondro was supported by the government but he also had to pay 10000 tk that were paid by all the Munda families; Khashem made the tube well with his own money; the one of Bimol has been made with the support of Government more 5000 tk that he put by himself. The families of the village don't have to take permission to use all 3 tube wells. In the case the Khashem's tube well is broken, all the families collect 5 to 20 tk to repair it and Khashem arrange the work; in the case of the tube well of Gopal Chondro all the Munda give both money and also the labor to repair it, in the case of Bimol he takes all the responsibility to repair it.
..hygiene (bath)	Tube well of Gopal Chondro and Bimol Munda /river Doji Khali	Plastic vessels	In Kalinchi	All time available	Males according to their needs and females form 11am to 1 pm	Men 3 buckets, women 3 to 4 vessel or 2 to 3 buckets	Khashem Gazi don't give the permission to take bath with the water of his tube well, from the other 2 tube well no need to have permission

toilet	Out of 18 family 17 family have a saline pukur; every family has a toilet and there is also a concrete toilet for the school	Small containers of plastic	In Kalinchi	According to the need	According to the need	everybody	According to the need both men and women clean the pukur
..Wash clothes	First they wash it from the pukur water and then with the tube well water	Vessel made of aluminium or plastic	In Kalinchi	After bath	women	Women One bucket or vessel	No need permission
Wash dish	First they clean it with water from the pond and finally they use tube well water	Vessel made of mud and aluminium	They bring tube well water from the three tube wells and they bring the dishes to the pukur	Women 3 times morning noon and evening	women	Four to 5 vessels	No need permission
Irrigation	They only cultivate in rainy season by rain			In rainy season			
Drink animals	Only one family has a cow and another has a goat and they use tube well water	Mud or aluminium vessel and plastic bucket	From the 3 tube wells		Female in the morning and at noon	Women from 3 to 5 vessels	No need to take permission
Wash animals	From the river Doji Khali		Kalinchi		Men in the take the animals in the hot season: goats 2 times and cows 8 times		No need to take permission
Rituals, pujas	From the tube wells	A pot made of silver plastic or mud	Kalinchi	Women once per day after the bath	women	Small pot	No need permission
House building	Tube well, they don't use the river because if they use the water from the river this will be broken soon because of salinity	Plastic and mud vessels	Kalinchi	All the year	According to the need	Both men and women	No need permission
House cleaning	They bring water from the tube well	"	"	Before having bath	women	Women, 2 to 5 vessels	No need permission
Cooking	Tube well	"	"	Before having bath, noon and evening	women	Women 3 to 4 vessel per day	No need permission
Preparing Haria Mod (beer)	Tube well, there is also one pukur outside of the village that has sweet water so they can also use that water	Mud vessel	Kalinchi tube wells or Pukur which is half km north side which belongs to Mohammed Ashraf Gazi	According to the need	women	Women in kg rice they need 6 liters of water	No need to take permission

3. MAPPING/MODELLING: (taxonomy and spatial frame of reference)

Aim: to identify the spatial distribution of natural and water resources and of cultural and social sites in the community. These maps show the perspective of the drawer and reveal much about local knowledge and use of resources, settlement patterns, and household characteristics.

Result:**Male map represents**

East Sundarban, river called Dhoji Khali, then char then the embankment (street of mud) then the Munda village. Beside the embankment there is the school, on the other side of the embankment there is the concrete bathroom of the school. Then we have the households, every family has a single toilet. There are 3 tube wells in the village and 6 solar panels (given by SAMS) and 2 made by Caritas, ponds 18 (every family has a single one big or small), Khali and Monsa ritual sites are situated in the west part at the border of the village, Bon Bibi and Huri temple at the west side of the village. We have tree Date, Screw pine (Keora), Bine, Guava, Plum, Khoi (a kind of fruit), In the west side of the village there are shrimps cultivations (all around the village there are shrimps cultivation) then the embankment and then Sundarban; on the south there is embankment, river and a little Muslim village called Gola Khali. In the north side there is a small road named Kare which brings across the shrimps cultivation from one embankment to the other. There are also three canals Sorok Khali canal on the west, Dethkhali canal in the same side.

Female map represents

On the east side there is Sundarban forest (palm tree, Screw pine (Keora) tree, Date tree.) and the river named Dhogi Khali from where we access to the village by boat and we get up a long street made of mud which goes on the south-north axis. On the left side of the road there is the Munda village, and more on the left (west side there are shrimps cultivation) There are 18 households, the pukurs, there is a Bonbibi ritual site (Mundir) and a Huri Mundir in the north side of the village, there are 2 solar panels (made by caritas) and 6 by SAMS, there is a school with concrete toilet, and the toilets in every household and 3 tube wells.

4. SEASONAL DIAGRAM (temporal frame of reference)

Aim: explore changes in rainfall and climatic conditions, water availability, agricultural activities, fishing activities, labor migration, according to the seasonal calendar. Explore the correspondent cultural/ritual calendar.

Result:

The diagram is the base for a discussion on the reasons behind changes and implications for the people involved.

SEASONS	Grishmo Summer	Bôrsha Rainy season, Monsoon	Shorot Autumn	Hemonto Dry season	Sir Winter	Bôshonto Spring
MONTHS	Boishakh (April-May) Jashtho (May-June)	Asharh (June-July) Srabon (July-Aug)	Rhodro (Aug-Sep) Ashshin (Sept-Oct)	Kartik (Oct-Nov) Ôgrohaon (Nov-Dec)	Poush (Dec-Jan) Mogh (Jan-Feb)	Falgun (Feb-March) Chaitro (March-Apr)
RAINFALL	In Boishakh storms are increasing in the present than in the past times and rains have decreased. Climate is not following the usual routine, weather is changing and this is because the trees are decreasing	Compared to the former years there is less rain and weather is changing	In this seasons there is less rain then in the past and according to the season the river was full of water and a lot of rain was in the sky but this does not happens any more This is because the weather is changing. At present from the middle of Ashshin to the middle of Kartik it rains, in the past all the Kartik month was raining. They remember the regularity of the rain because it coincides with the regularity of the rituals: In Ashshin, one week before Durga Puja, there is an occasion which is called Ama Bossha (dark moon) by the all people, in this period usually it rains. In this occasion Hindu people uses to cut Bananas from the tree. The banana tree is the wife of Ganesh, after cutting the banana they keep it at home, they let it dry, and they serve it as offer in the Durga Puja, This local banana is called Thute Kola, which is small in size. The same night they cut the banana they believe that there will be a big tide. In Kartik month during the Ama Bossha night the Khali Puja is celebrated and during this period it used to rain and make storms, the level of the river increased.	There was no rain in the past and also at present	There was no rain in the past and also at present	15 days after Chaitro there is Khal (Baishaki) storm that happens every year and this is the beginning of the rainy season. This happens both in past and present times

ANNEX 1.3

CLIMATIC CONDITIONS	Much hotter than in the past because of saline wind, less trees, because of shrimps fields and also because of the saline water: the trees that were used to grow in the sweet water cannot survive anymore	Cold weather as in the past because it rains a lot	In the past the whole Bhadro month it used to rain, but at present it rains seldom. This is the reason why the weather is quite hot and there are much more thunders	It seldom rains, especially it rains during the Khali Puja. at present 20 or 22 Ögrohaeon weather is very hot, but in the past at the beginning of this month it was cold	At present is much more cold than before because of the changing of the weather	At present it is cold up to the end of Falgun and in Chaitro the weather is much colder than before
WATER AVAILABILITY	In the river there is a lot of saline water because of the wind from the south and few water is available in the tube wells and pukurs	In the river during the first seven days of tide the water level is high but during the following days when the tide decrease there is less water; This happens twice a month (total 28 days) the pukur are full of water		During the end of Ögrohaeon the level of the pukur and of the river starts to decrease because of the wind coming from the north	Water level is decreased because of the northern wind and this situation last up to Falgun month	(Falgun see former column) in Chaitro there is wind coming from the South and the level of the water starts to increase both in the river and in the pukurs
WATER QUALITY	In the river the water is saline and the pukur is saline also because of the shrimps field and water is taken by pipes from the river into the embankment for the shrimps cultivation. There is less water in the tube well (the level is low because of the heat, people need more water)	In the river there is saline water and in the pukur there is sweet water because of the rain	In the river there is saline water and in pukur there is sweet water	In the river there is saline water and in the pukur there is also saline water because of the decreasing of the water level in the pukur and because of shrimps cultivation (the shrimps fields are filled with saline river water and this infiltrates to the nearby pukurs)		Both water of river and pukur is saline
AGRICULTURAL ACTIVITIES		They cultivate only in rainy season in the part of the land where there is no shrimps cultivation they do share cropping (paddy) and in home gardens they have lady's finger, Creeper (Pui) Cucurbitaceous (Ghinga), Tori, Esculent root (Kochumukhi), Borboti.				
FISHING and CRAB ACTIVITIES	Few crabs and less fish than in the past is available because of the shrimps; the owner of the shrimps cultivation take the mothers fish in their own pukur so they just lay eggs in the pukur but not anymore in the river	From Boishakh to Bhadro crab is less than in the former season and from Asharh Srabon to Bhadro there are a lot of shrimps because abundance of water		A lot of crab but few fish because of the low water level because of the wind from the north		A lot of crab and in Chaitro fishes are available because of the wind from the south
HUNTING	no	In the past they used to hunt different types of birds by bow and arrow (Shonkal, Manikjora, Crane)	no	no	In the past they used to catch a lot of birds by bow and arrow (same as in the rainy season) but from the last thirty years Munda are engaged in shrimps cultivation so they don't go any more to hunt	no
LABOR MIGRATION	Stay at home	Stay at home	Stay at home	From Kartik month they go to work in brick yard in Borishal and they come back in Chaitro		
HONEY COLLECTION	At present they collect from Chaitro to Boishakh	No collect				In Falgun there is few honey then in the middle of Chaitro there is plenty of they collect it up to the end of Boishakh
PUIJAS AND OTHER FESTIVALS	In Boishakh no puja; in Joishtho there is Bheila Phara before cultivate the paddy they perform it	In Asharh there is the Marua Puja, in this celebration they take of the posts that were planted during the celebration of the marriages all around the year	At the end of Bhadro there is Monsa Puja to be safe from the snakes	In Kartik the Shohore Puja to celebrate the spirits of their forefathers in Kartik there is also the Goal Puja that is performed in order to have good health for the cows and this is one day after the Shohorei Puja; in Ögrohaeon there is the Bora Buri puja in which they cut the new paddy and make chira (flattened rice) and dedicate it to the forefathers spirits	In Poush there is Shakra puja in which they made cakes and different kind of foods with the new rice	At the end of Chaitro there is Sarhul Puja when they dedicate the new fruits to the forefathers in Chaitro there is the Bhoru or Paharia Puja in which they remember the place where they were living before in India and they invite all their relatives at clan level;
WEDDINGS			In Bhadro no marriage		In Poush no marriage s	In Chaitro no marriage

5. HISTORICAL TIME LINES (temporal frame of reference)

Aim: Establish the chronological sequence and relative importance of events that shaped the history of the community, especially related to water resources. Explain the changes in the availability of water resources down the years and the villager's responses to the challenges in the resources composition and quality. Explore the historical changes in techniques and practices in water management in order to monitor their positive or negative impact , highlighting what appears to be appropriate for sustainable development.

Results:

The participants explain their responses to the changes in water resources and reflect about the positive or negative effects of the practices they were using.

Historic events	1962	1971	1973	1975	1979	1988	2007	2009 Ayla
	foundation of Kalinchi Munda Para from Koyra in Khulna district	freedom fight	Big storm and rain and destruction of crops	2 tigers entered in the local area 12 persons attacked	A big storm and rain many households destroyed	Big storm and flood (Hurricane)	Sidr Cyclone many trees destroyed	Flood and saline water everywhere
rainfall	Heavy rainfall ++++	Heavy rainfall +++++	Rainfall has decreased a little ++++	Increased a bit ++++	++++	Increased +++++	Rainfall decreased a lot +++	Rainfall decreased even more ++
Filter	no	no	no	no	no	no	1 tube well with good water and PSF (one km far) Both have been given by the local administration (union Parishad)	There is still the one tube well and the PSF filter at 1 km and others 3 tube wells are built inside the village (see water inventory chart)
techniques to harvest rain water	They followed the three Munda methods: 1 four posts 2 banana cortex 3 small paddy field They used to use only clay pots				Only the first 2 methods are still available, because of saline water. They used only clay pots	The first 2 methods are still used and they also use aluminium pots and vessels	The first 2 methods are still used but for the first one they use polyethylene paper instead than fabric, and in the second method, instead of banana cortex they use iron gutter. They use plastic vessel and bucket	
Canals	There are 4 canals named Parsekhali, Moddhukhali, Sorogkhali, Dehekshilkhali created naturally and open to all the people in order to take water, take bath, catch fish Further information given during the validation meeting: The canals' water had good quality they used to grown paddy using the water of these canals, then three types of crops per year were grown: Amon paddy, from Asharh to Ogrohaeon, Boro paddy from Magh to Choitro, Aush paddy from Choitro to Sraon.					There are the same 4 canals but their access has been restricted by some landlords people cannot use them anymore. Shrimps cultivation started (in 1988 more or less)and bring salinization of water		
Trees	Joddupal NonajoduScrewpine (Keora), Sundri, Poshur, Horcocha, Gewa, Tamarisk, Bine, Hudo, Khoi, Khalisha,	Same trees are available but their quantity has decreased The Sundri tree has decreased in particular. There are new trees such as banana, rain tree, Margosa (Neem), Tamarind, Plum.	Increased amount of the new trees. Other new trees: Date, Guava, Cocounut, Sofeda, Pomegranate.	The new trees have increased. Other new trees: Mango, Jam, Jackfruit and Woodapple.		Trees are decreased largely because of saline water, in that time there are still Date, Banana, Raintree, Margosa (neem), Coconut, Gewa and Screw pine (Keora) trees.	The trees that can bear saline water have increased, such as Gewa, Bine, Screwpine (Keora), Date, Coconut, Plum, Raintree.	

6. STAKEHOLDER ANALYSIS: Venn/roti diagram (social frame of reference)

Aim: Visualization and discussion of the institutional framework of the observed community. Reveal local people perception about the relative importance and impact that various institutions have on their livelihoods, clarifying the potential opportunities and constraint to organizational change. Understand the usage of the resource environment by multiple users.

Results:

(see diagram) Inside the community the relevant people are:

Leader: Gopal Chondro Munda

Kobiraj: Otul Chondro Munda

Two teachers: Sotis Chondro Munda

Celebrating man (Pahan, person in charge of the celebration of the puja): they have at least one for each clan according to the details that were explained during the validation meeting:

Shonkachua: Bosudev Munda

Tirkiar: Subol Munda

Hasara: no pahan

Kouriar: two family have two different pahan because they perform pujas in different ways, one group needs 7 chickens and its pahan is Nirapod; the other group needs 3 chicken and its pahan is Onil. The first group is original from Dhumghat from Ontakali and the second group from Bethkali.

Tuti: the families who belong to this clan don't celebrate puja here but go to Khoikali where they have others family members and their pahan is Onil Munda (who lives in Khoikali)

Kerkata: Ronjit Munda

Bhootkuar: the family who belongs to this clan they don't celebrate puja here but go to Munsigonj where they have others family members and their pahan is Bistu (who lives in Munsigonj).

NB HOW THE CLAN LINKAGE SURVIVE TO MIGRATIONS!!

The relevant groups are

The 7 clans: Kerkata, Bhootkuar, Tuti, Kouriar, Tirkiar, Shonkachua and Hasara

The Kalinchi Munda Para Cultural Group formed by SAMS that performs Munda songs and dance in various occasion is composed by twelve people

Outside the Munda community the relevant organizations are

Name	What they do	Importance (in order of importance)	Interaction with Munda in Kalinchi (from more to less proximity)
SAMS	Income generating activities, education, health, solar energy, cultural group.	++++++	Strong interaction

Upazilla administration	money to SAMS: Education, (scholarships, education materials, playing materials); they give money for the income generating activities (cow, goats, duck and chicken)	+++++	Interaction with SAMS
Caritas	After 1988 they gave 7 houses, 2 solar panels, and after 2003 they started relief, credit programs, one pond digging	++++	
SETU Bangladesh	Credit, after 1999 they built a school (financed by BRAC), then house loan of 20000tk and the highest credit amount 10000	++++	Interaction with BRAC for the school project (BRAC donor)
CDP coastal development partnership	Marina yuthi made a research		
NGF Noabeki Gonomuki Foundation, Grameen Bank, Brac, Asa	credit		
LEDARS	Training on agriculture for 6 months		

7. PROBLEM RANKING

Aim: learning about the importance that the participants give to the problem they have to face, in order to prioritize eventual future intervention according to the local preference, so to make them demand-driven.

Results:

PROBLEM	score	Rank
Lack of drinking water	21	1
Saline water everywhere	21	1
Lack of fuel to cook	5	14
Lack of work	19	3
Lack of teacher	20	2
Lack of road	11	9
Lack of concrete sanitary latrines	16	5

Lack of high school	18	4
Bad house condition	13	8
Tiger attacks	2	15
Lack of pots to harvest water	8	11
Lack of light	11	9
Lack of own land to live (to build their home or toilet)	15	6
Shrimp cultivation	2	15
Lack of cultivable land	13	8
Bad condition of river embankment	9	10
Food problem	8	11
Distance of the market	2	15
Discrimination by Bangladeshi people	9	10
Lack of graveyard	7	12
Lack of Pujas place	6	13
Lack of winter clothes	2	15
Lack of treatment	14	7

8. PSP (Problem Solution Possibility) chart (done in the validation meeting of November)

Aim: learning from the participants what technical, economic, social and political constraints related to water their household experience and what opportunities they see for enhancing livelihood strategies. Building a base for developing action plans in order to take the process forward towards an envisioned future.

Results:

PROBLEM	SOLUTION	POSSIBILITY
1 Lack of drinking water	Deep tube well	Government support
1 Salinity of water	To stop shrimps farming	Government intervention and to free the khas lands from shrimps cultivation
2 Lack of teachers	More teachers are needed (they have a school given by Father Luigi)	Increase the salary of the teachers
3 Wage problem (they get unfair wage)	To increase the wage per person to 150 tk	They have to unite and claim their demands in front of the government
4 School problem (bad condition)	To reconstruct the school	SAMS and father Luigi
5 Bad condition of toilet	Concrete toilet	Government support
6 No land available to build their home	Written document is needed to testify that they are owners of the land where their actual houses are	Through government
7 Treatment problem	Arrange visit of a doctor at least once per week	"
8 Shrimps cultivation	To stop shrimps farming	"
8 No ownership of agricultural land	To arrange khas land for them	"
9 Bad condition of road	Road should be made	"
9 No electricity available	Solar panel	NGO intervention
10 River erosion	To stop shrimps cultivation and as a consequence the pipes that take water from the river to the shrimps fields	Government intervention
10 Discrimination by Bengalese	To educate themselves	To send their children to school regularly
11 No big pot to harvest rain water	They need concrete container in a open space to harvest water	NGO intervention
11 Lack of food	To create employment opportunities	Provide training with governmental and non governmental support
12 No graveyard	Beside the canal there is some khas land which are now under	Government intervention

Annex 1.4

KASHIPUR, SYSTEMATIZATION OF PRA ACTIVITIES

First communitarian meeting: 6th October 2010

Participants: The village is composed by 30 households. Officially are present the 15 people of the list, practically all the community takes part to the discussion and activities.

Staff: Chiara Perucca, Rehnuma Binte Razzaque, Boruna Munda, Mr Susanto Kumar Mondol.

Validation FGD: 2d November 2010

Participants : 21 people (9 women, 12 men)

Staff: Chiara Perucca, Rehnuma Binte Razzaque, Krishnapodo Munda, Boruna Munda, Mr Susanto Kumar Mondol.

1. INTRODUCTION: explain aims, methodology and limits of the research to community members.

2. WATER RESOURCES INVENTORY CHART(taxonomy and social frame of reference)

Aim: To identify all the possible sources and forms of water present in a community, their use, management and the actors involved.

Result:

USE	WHAT (taxonomy)	HOW TO GET	WHERE TO GET	WHEN	WHO GET IT	WHO USE IT AND HOW MUCH	WHO DECIDE HOW TO GET AND USE
drink	2 PSF filter; One rain filter given by SAMS (only in the rain season)	Vessel made of clay and aluminium	One filter is situated in the northern side, in a pukur in a village named Debaloi which is one km far; One filter is on the east side in the pukur of a village named Gomantoli and it is about 1 km far	Morning and evening; Rain filter given by SAMS : only in the rainy season	Both males and females	Everybody, 2 to 4 vessels per day	Both filtered was made by Sushilan, no need to take permission. There is a committee made of people of Sushilan which take care of the filter and they clean it every month each family pay the committee 5 taka per family every month
..hygiene (bath)	Saline water from the pukurs	They go to the pukurs	Actually there are 6 pukur in Kashipur Munda village, which are belonging to : Jotin Munda, Chitto Munda, Binot Munda, Notohor Munda, Motur Munda, Kobinat Munda	In Choitro month the level of the water decrease, women take bath at morning and noon, and men at noon	They go	everybody	Generally there is no need to take permission but if there is a quarrel with the owner of the pukur and the person, they don't have the permission
toilet	Saline water from the pukurs	Bucket made of plastic	"	Water level decrease in Choitro month according to the need	Both male and female	4 to 6 buckets	"

..Wash clothes	When the Munda pukur is less saline they use it otherwise form the pukurs of where the filters are	They bring the clothes to the pukur or the bring the water from the pukurs that have filter with vessel	Munda pukur and pukur in Debaloi and Gomantoli	During bath time	female	In Choitro and Boishakh month the water is more saline in the Munda pukurs so they use the water of the pukur that have filters; 2 to 4 vessels	"
Wash dish	At first they wash the dishes by the pukur water and after having their food they wash it for the second time with the filter water	They bring the dishes to the Pukur and they bring the filter water by plastic bucket and clay vessel	"* 2 filters Debaloi and Gomandoli	At morning noon and evening at the pukur and the water from the filter is brought in the morning and in the evening	females	Filter water one bucket	In case of filter no permission and in case of the pukur same as before
Irrigation	No agricultural land available	=	=	=	=	=	=
Drink animals	(the cow are not belonging to the people of the village but they are belonging to a relative that lives in another village but has not space to keep them) they use filter water and from the sweet ponds of Debaloi and Gomandol	They bring the water by clay vessel	Sweet Pukur for Debaloi and Gomandoli	Noon and evening	Both men and women	Goat need 2 to 4 vessels and the cow 3 to 10	No need to take permission
Wash animals	Saline water from the Munda pukurs	They take the animal to the pukur	The 6 Munda pukur in Kashipur	Summer season twice per month at noon	Both men and women	According to the need	No permission need (a part from quarrel case)
Rituals, pujas	They use the water of the sweet pukur in Gomandoli and Debaloi and they take the water from the side that has no ghat, then if the conditions of the water in the Munda Pukurs are good they take it from it, the following day or the day after they throw the water in the same pukur. If they have water that has been brought in order to drink, but nobody has used they can use this water for the puja	Aluminium glass or small clay pot	Debaloi, Gomantoli and Munda pukurs	In morning after bath	women	One glass or pot	"
House building	Saline water from the pukurs and from the shrimps fields	By clay and aluminium vessels	Mundas pukurs	According to the need	Both men and women	According to the need	No need the permission unless quarrel
House cleaning	Saline water from the Munda pukurs	Clay bucket and vessels made of aluminium	Kashipur Munda pukurs	Morning before having bath	females	2 to 4 bucket	"
Cooking	PSF filter water and also form the sweet water of the pukur which has filter	"	Debaloi and Gomondoli pukur	Morning and noon	females	2 to 4 bucket and vessel	No need to have permission
Preparing Haria Mod (beer)	"	"	"	According to the need	Male and female	1 kg rice is mixed with 8 kg of water	"

NOTE

They don't do agriculture because they have no cultivable land so both men and women work in shrimps field and other's agricultural lands. There is a landlord that is claiming that the land were the houses of Munda people are belong to him because their forefathers were selling it longtime ago. There is a process going on. That man is powerful and owns a lot of shrimp's cultivation around the area. Some few Munda people (3) under promises of favor are on the side of the landlord.

3. MAPPING/MODELLING: (taxonomy and spatial frame of reference)

Aim: to identify the spatial distribution of natural and water resources and of cultural and social sites in the community. These maps show the perspective of the drawer and reveal much about local knowledge and use of resources, settlement patterns, and household characteristics.

Result:

Men map presents main road, then to enter in the village there are 2 roads, one from the shrimps cultivation and the other of clay on the west. At the entrance of the village there is the goose house, a pukur, two deep tube wells and coconut trees, Then the Munda village where there are the school, the Huri Mundir, 2 filters, three pukurs and some trees like and Date. Bathrooms and some Muslim families.

Female map represents main road, brick road, we enter in the Munda village, on the west side of the map we have houses and saline water and shrimps cultivation, coconut trees. There are three pukurs, electricity, 2 solar panels made by them. There are 2 rain filters in the Munda Para one made by Father Luigi and the other made by Sushilan, Creeper, Arum, the school, and the Huri Mundir (temple of Huri) and the ritual place of Monsa, date tree, on the north east side of the village there are some Muslim households, on the west side of the village there are bathroom. All the west side of the road that access to the village is shrimps cultivation

NB they always start from the cardinal points in designing the map, the orientation important for them.

4. SEASONAL DIAGRAM (temporal frame of reference)

Aim: explore changes in rainfall and climatic conditions, water availability, agricultural activities, fishing activities, labor migration, according to the seasonal calendar. Explore the correspondent cultural/ritual calendar.

Result:

The diagram is the base for a discussion on the reasons behind changes and implications for the people involved.

SEASONS	Grishko Summer	Bôrsha Rainy season, Monsoon	Shôrot Autumn	Hemonto Dry season	Sit Winter	Bîshonto Spring
MONTHS	Boishakh (April-May) Jaishto (May-June)	Asharh (June-July) Srabon (July-Aug)	Bhadro (Aug-Sep) Ashshin (Sept-Oct)	Kartik (Oct-Nov) Ôgrohaeon (Nov-Dec)	Poush (Dec-Jan) Mogh (Jan-Feb)	Falgun (Feb-March) Chaitra (March-Apr)

RAINFALL	Some rain and a lot of storms	A lot of rain but less than in the former years because of lacking of trees	There are a lot of clouds and less rain than the rainy season	Medium rain	Little or no rain	It rains just one or two times
CLIMATIC CONDITIONS	In the former years there were many trees and a lot of wind and for that reason there was a lot of rain but at present the wind is hot because of shrimps cultivation and the number of trees has decreased	In the former years it rained a lot because of many trees and but at present there is comparatively less rain and the temperature is less hot	In the former years in this time the wind had smell of flowers and crops and there were many birds but at present the saline water is all around and the weather is hotter and there is more sunlight	In the former years it was much cold but at present the cold is medium compared to the past because of saline wind	In Magh month usually it is much more cold than the other months, but at present the level of cold has decreased because of salinity of the water	Before it was hot but at present the owner of the shrimps cultivation dry up the field and put water from the river by shallow machine in the shrimps field from this water it comes a cold wind so they feel cooler than it used to be
WATER AVAILABILITY	In the canal once there was water up to knee level and the field were dry at present there are no more canals or field and the pond is filled with medium amount of water	The pond in the field were once all filled with water and the water in excess was going from the field into other fields or the canals and then in river (they cut the field boundaries according to their need to let the water flow away); at present the water is in the shrimps field and in the pukur. From the shrimps they let the sweet rain water flow away through drainage system and take more water from the river which is salty (because shrimps need salty water)	In Ashwin Month before there was a lot of rain but at present the rain is in medium quantity because of the decreasing of trees	Before during this month canal and field were dry but at present there are no canals or fields and in this season they dry up the shrimps fields and repair it and fill with river water. In the pukur there is little water.	In the canal and the pukur in this period once there was little water, today many people fills the shrimp field with water from the river and using shallow machine (that takes the water from the ground)	Before there was water up to the knee level in the canal, and just a little of sweet water in the pukur; at present no canal and in the pukur even less water which is salty.
WATER QUALITY	Before the water from the canal was sweet at present the water of the shrimps field and the pukurs is salty	Before there was sweet water everywhere but at present it is salty because of the shrimps	Before in the canal and pukur there was sweet water but at present no canal is there and salty water is in the pukur because of the shrimps	Before the water available was sweet but at present the water of the pukur it is saline and it starts to decrease in this season	Once there was sweet water in canal and pukurs, at present little water in the pukurs	"
AGRICULTURAL ACTIVITIES	No land available to cultivate	"	"	"	"	"
FISHING and CRAB ACTIVITIES	Before women used to catch a lot of fishes from the canals, and crab was not so much. At present in this season there are not so many fish and crab in the shrimps field	Before there were many local fishes and at present just Telapia fish and crabs can be found in the shrimp field	Before they used to catch local fish by Spear in the canals and the fishes the walking fish (koi), a variety of catfish (magur), Live fish (jeol) at that time crab was living in the river. At present there are a lot of Telapia fish and there are few crab in the shrimp fields	Before fishes were available in big amount and there were no crab but at present there are few crab and a lot of Telapia	In the canals the fish were available and crabs were not available; at present in shrimps fields and pukurs there are Telapia, Crab, Vetki (a small freshwater fish) fish	In the past crabs were not available but local fish was available but at present local fish is no more there because of saline water and because of the drainage system of the shrimps field

HUNTING	They used bow and arrow, and sling to catch Crane, Snail, Bhanga, Maniklor, Jackal, Khatash, Procupine (Sajaru), at present nothing	They used arrow, dagger , polow (a basket of wicker-work for catching fish), but at present they hunt only Bok (mixing the soda they use to clean the clothes with sleeping pills and put this mix in the mouth of a fish and through this they catch the Bok)	Before Kuchbok (a kind of crane), Snail, Crane, Big Crane (Dhari Bok), White Crane, Maniklor at present there are no birds, they just catch Bok by net	In the past they used to catch the same animal then in the former column and at present they catch Batcho and Crane by flying trap and also with the soda system	Before they used sling, arrow, to catch Dove, Parrot, Mynah, and they also used to catch parrot by glue (they put glue on a bamboo on the tree as a trap) at present they catch Bok by net	There were birds in the trees Kuchbok (a kind of Crane), White Crane and in the field Hartiti bird, at present nothing
LABOR MIGRATION	Before they used to cut the clay to make house in the village, at present in Boishakh they go to Satkhira, Gopalganj, Benapole to cut paddy	Before In Asharh, Sraon and Bhadro they used to stay in the owner of the fields' house in the Kashipur and work in his fields, at present they stay at home	Once in Kartik they used to catch fish and in Ogrohaon they cut paddy but at present they go to Borishal, Mymonsing, Dhaka, Chittagong starting from Kartik to work in the brick yard	they go to Borishal, Mymonsing, Dhaka, Chittagong starting from Kartik to work in the brick yard	They come back in Chaitro	
HONEY COLLECTION	Little amount of honey was available before at present the don't collect it	Before in this period they did not go to collect honey; at present the don't collect it	=	=	=	The honey was available in bigger quantity; at present the don't collect it
PUJAS AND OTHER FESTIVALS	In Boishakh: no puja In Joishtho month: Joggo (Hindu) Puja	In Ashar : Ashare Puja for good health of domestic animals In Sraon month Guchori Puja that was done before sawing the plants in the field	In Bhadro month: Karam Puja to have good health for all the members of the family Monsa Puja: to be safe from the snakes	Kartik: Goal puja to have good health for the animals they take a chicken and live it in the place of the celebration (no sacrifice just untie it) Ogrohaon Bura Buri puja in order to celebrate their forefathers and to have good health for the future generations	In Poush month Shakrai Puja to celebrate the new paddy and crops. In Magh month: Saraswati Puja m goddess of knowledge	In Falgun : Paharia puja is performed every three generation in order to to celebrate the forefathers and have good health for the future generation They dedicate and eat a big goat and a male lamb. Chaitro: Sarful Puja to get read from the scabies they use 4 chicken :two chicken that give eggs and one red and one white rooster
WEDDINGS	All months are suitable	=	=	Bhadro no marriage	In Poush no marriage	In Chaitro no marriage

5. HISTORICAL TIME LINES (temporal frame of reference)

Aim: Establish the chronological sequence and relative importance of events that shaped the history of the community, especially related to water resources. Explain the changes in the availability of water resources down the years and the villager's responses to the challenges in the resources composition and quality. Explore the historical changes in techniques and practices in water management in order to monitor their positive or negative impact, highlighting what appears to be appropriate for sustainable development.

Results

The participants explain their responses to the changes in water resources and reflect about the positive or negative effects of the practices they were using.

Historic events	British period, zamindar system	1943 famine	1970 Razakars (muslim Bengali that were with the Pakistan) took away everything from their house	1971 freedom fight	1972	1988	1990 shrimps cultivation started	2009
					Few people migrated to India	Big Hurricane		Ayla
rainfall	A lot of rain	No rain	Few rain	Much rain	Rain decrease	Much rain	Few rain	Few rain

Pukur (how many, who dig it, quantity and quality of water)	2 pukurs one is called Kejur-Tola it was dug by Kontiram Munda and the other is Taltola Pukur by Nedo Mundam the water was sweet	=	9 pukur with good water they were dug and then owned by Photic Munda, Govindo, Hori, Kudiram, Oshini, Notobar, Girindev (and the former two)	Same 9 pukur	Same 9 pukur	Same 9	6 pukur (see the names in the water inventory chart) with good water the other 3 disappeared because of shrimps cultivation. (In 1993 Kamrul Shaheb (powerful local landlord) took the power on this three pukurs taking them away from the Munda people.	6 pukur salty
Filter	no	no	no	no	no	no	In 1995 one PSF filter, one in 2005 made by Sushilan, in 2005 Akash filter by father Luigi	
techniques to harvest rain water	4 posts method, banana tree method and small paddy method	=	=	=	=	=	4 posts and banana, no more paddy available	4 posts, banana and Akash rain water harvesting filter
Canals	4 canals 1 Foridpur Nala, Kashipur Khal, Isamoti Khal, Poijori Kahl	=	=	=	Between 1975 and 1980, Foridpur Khal became khash land, there are only three canals left	Still three canals left	In 1990 the landlord took possession of the Kashipur cal in order to use it for shrimps cultivation, in 1993 also the Isamuti canal was taken by him for the same purpose.	Only the Poijori Khal is still available
Trees	Bamboo Screw pine (Keora), Geoa, Bine, Courgette vegetable (Dhunda)	=	Palm, Tamarind, Date, Sishti flower, Bablah, Bamboo, Plum, Woodapple, Guava, Khoi tree, Margosa	=	=	Wood apple, Palm, Guava, and date	Mango, Wood apple, Date, Coconut, Tamarind, bamboo	Palm, Sishti Phul, Date, Margosa (neem), Coconut, Sofeda, Khoi

6. STAKEHOLDER ANALYSIS: Venn/roti diagram (social frame of reference)

Aim: Visualization and discussion of the institutional framework of the observed community. Reveal local people perception about the relative importance and impact that various institutions have on their livelihoods, clarifying the potential opportunities and constraint to organizational change. Understand the usage of the resource environment by multiple users.

Results:

(see diagram) Inside the community the relevant people are:

Leader: Kudhiram Munda

Traditional healer: they don't have

Celebrating man: they have one in every clan Rajput (Khudiram), Shapoar (Notobar), Tirkir (Duke), Sangoar (Supodo), Bhootkuar (Otul)

One teacher: Krishnapodo Munda

The relevant groups are

The 5 clans: Rajput (more important and more people), Shapoar (second important), Tirkia (4th in importance), Sangoar (5th in importance), Bhootkuar (third in importance)

Outside the Munda community the relevant organizations are

Name	What they do	Importance (in order of importance)	Interaction with Munda in the village(from more to less proximity)
SAMS	Gave Land and houses in the new village in Dolua in Tala, Akash filter (rain filter) and credit	+++++++	Strong interaction
Sushilan	2 Filters, big pot made of clay to keep the water	+++++	
Uttaran	Is helping the leader to fight the case against the landlord	++++	
Upazilla Administration	Gave scholarship to the students and money to make the temple through SAMS	++++	Interaction with SAMS
Caritas	credit	++	
Marina Yuthi	Made a research	-	

7. PROBLEM RANKING

Aim: learning about the importance that the participants give to the problem they have to face, in order to prioritize eventual future intervention according to the local preference, so to make them demand-driven.

Results:

PROBLEM	score	Rank
Drinking water	18	1
Bathing problem (no place)	0	11
Lack of work	14	2
Treatment problem	14	2
Fuel problem (cooking)	9	5
Road problem	8	6

Lack of teachers	7	7
No land to make house	9	5
Toilet problem (need concrete one)	4	9
Bad condition of the house	7	7
No domestic animals	3	10
Food problem	13	3
No agricultural land	9	5
School problem (they need better school)	7	7
Discrimination by bengali	13	3
Women education	6	8
Lack of pot to collect rain water	7	7
Saline area	14	2
Lack of graveyard	10	4

8. PSP (Problem Solution Possibility) chart

Since the meeting started very late there was no more time left in the afternoon to implement this chart, it will be proposed in November

Aim: learning from the participants what technical, economic, social and political constraints related to water their household experience and what opportunities they see for enhancing livelihood strategies. Building a base for developing action plans in order to take the process forward towards an envisioned future.

Results:

(please see next page)

PROBLEM	SOLUTION	POSSIBILITY
1 drinking water	deep tube well and Akash filter They think the Akash should be made in concrete in an open space so that everybody can use it; big base in concrete covered by a fabric or plastic as filter and they would use it from the middle of Ashen month	Government support NGO initiatives because one tube well cost 40-50 000 tk and they can't afford this expense
2 lack of work	Creating job opportunities, especially for women like handicrafts;	Provide training from government and NGOs
2 treatment problem	They have to raise awareness about health, doctor should come to the village at least once per week	To discuss about diseases with government or NGOs workers, to arrange doctors by NGOs initiatives
2 saline prawn area	To stop taking water by slews gate (gate that allows entering the water from the river when there is high tide) from the Chuna River	government intervention district committee of water development Board (this is an institution that every district have)
3 lack of food	Agricultural land is needed	government have to provide cultivable khas land, from NGO they want the money needed to grow crops
3 discrimination by Bangla	Educate their children	To make NGO governed community school regular and constant
4 no graveyard	Need land	government and NGOs initiatives to buy land
5 fuel problem	In the very few space they that still have, three plantation is needed	Three plantation by themselves
5 Lack of land to build their houses	Land is needed	To distribute government khas land among them to bear the expenses to the government authority to do that they need the support from some NGOs
5 no agricultural land available	"	government have to provide cultivable khas land, from NGO they want the money needed

CONCLUDING SPEECH

The first communitarian meeting is concluded by singing song that says that Munda people are tired of Bangla that take off their lands and that they have to sing very good because there are foreign visiting them.

Annex 1.5

SRIFALKATI , SYSTEMATIZATION OF PRA ACTIVITIES

First communitarian meeting: 4th October 2010

Participants: The village is composed by 15 households. Officially are present the 15 people of the list, practically all the community takes part to the discussion and activities.

Staff: Chiara Perucca, Rehnuma Binte Razzaque, Krishna Munda, Boruna Munda, Mr Susanto Kumar Mondol.

Validation FGD: 4th November 2010

Participants : 20 people (8 women,12 men)

Staff: Chiara Perucca, Rehnuma Binte Razzaque, Krishnapodo Munda, Boruna Munda, Mr Susanto Kumar Mondol.

1. INTRODUCTION: explain aims, methodology and limits of the research to community members. Krishna does it.

2. WATER RESOURCES INVENTORY CHART(taxonomy and social frame of reference)

Aim: To identify all the possible sources and forms of water present in a community, their use, management and the actors involved.

Result:

USE	WHAT (taxonomy)	HOW TO GET	WHERE TO GET	WHEN	WHO GET IT	WHO USE IT AND HOW MUCH	WHO DECIDE HOW TO GET AND USE
drink	PSF filter/ rain water from the roof (from one side of the roof water falls in to an open gutter and from this directly to a pot covered by a fabric)	Vessel made of mud and aluminium /collect in pots made of aluminium and plastic	PSF is in Srifalkati Gazi Para which is at about 1 and half km. It was provided by Sushilan	They go to the filter in morning noon and afternoon/ they collect the rain water during rain	Both males and females	Everybody 2 to 3 vessels per day	When Sushilan provided money for the PSF that amount was not enough so every family contributed with 20 (tot 300 tk); they also have a tube well which was given by SAMS with the objective to give water to drink but it is not deep enough so its water is saline
..hygiene (bath)	They have three ponds they use it, water is saline and viscous/ they also use the tube well	Either they go to the ponds or they get buckets from the tube well	Srifalkati new Munda village	Male members usually take bath whenever they have time and women especially before cooking	everybody	If they use the water from the tube well is from 5 to 7 bucket per person	If they feel any need to clean the pukur both male and female participate; up to now there were no problem with the tube well, in the case any problem appears the old people responsible and important will take the decision to repair it.

toilet	Every family has a latrine. Water from the pukurs	They use bucket	Srifalkati	According to their need	everybody	Five to 7 bucket per day	
Wash clothes	pukur	They take the clothes to the pond	Srifalkati	According to the need	When they have time women		
Wash dish	pukur	They bring dishes to the pukur	Srifalkati	Every time they need	Especially women	They directly clean the dishes in the pond	
Irrigation	They came to this village last year in the Bôshonto season in Falgun month so they used rain water to irrigate the vegetables but starting from winter they will need to irrigate from the pukur (they don't know what the result will be)	They will be using vessels	Srifalkati	The water of the pukur will decrease during the summer season	Both men and women	They consider that in winter they will need 20 to 50 vessels to irrigate one garden	
Drink animals	pukur	Bucket and vessels	Srifalkati	During summer the water of the pukur will decrease	Both males and females	For one cow they need about 5 buckets and for one goats about 2 bucket, for the pig the water is mixed with their food	
Wash animals	They go to the pond and canal (there is a canal near the community at half kilometers of distance)		Srifalkati	At noon two to 3 times per months, not in the rainy season	Males and females	For one pig	
Rituals, pujas	They get the water from the pond, specifically on the side where there is no ghat	They bring water with a small glass or a small pot made by steel	Srifalkati	They bring this water to the house 2 times: one after having taken the bath and one in evening. The next day they bring it back to the pukur	women		
House building	pukur	By vessel made of mud or steel and bucket	Srifalkati	According to the need, since the pukur is always available	Both male and female	According to the need	
House cleaning	pukur	Bucket or big basin made of plastic or steel	"	"	female		
Cooking	Pond and tube well	Vessel made of mud	Srifalkati	Three times in a day	women	Each family consumes from 2 to 5 vessel	
Preparing Haria Mod (beer)	Filter of Sushilan water	"	"	Every time according to the need	Both males and females	The Haria produced by 1 kg of rice is mixed with 10 kg of water	

NOTE

15 families live here after Ayla, migrating from a Village named DUMURIA in Gabura Union (in Shyamnagar Thana): the villagers took the decision together about which families had to move to the new place in Srifalkati

Collective action to pay the filter at Sushilan and in case of cleaning the pukur

Every 5 family they have a pukur which is saline. SAMS gave to the community the land, the tube well and made digging the pukur.

6 families do share cropping in Srifalkati village in the land of some Bengali people, the rest: females work in shrimps and male do daily labor in other's lands.

3. MAPPING/MODELLING: (taxonomy and spatial frame of reference)

Aim: to identify the spatial distribution of natural and water resources and of cultural and social sites in the community. These maps show the perspective of the drawer and reveal much about local knowledge and use of resources, settlement patterns, and household characteristics.

Result:

Male map presents main road, then we enter the brick road and then the mud road. We see beside the brick road the technical college and high school. Then beside the mud road there are living two Muslim Bangladeshi families and on the other side of the road in the south side there are canals. Then we enter in the Munda village, where we can find houses, toilets (every family has one) the kitchen in front of their home, three ponds one tube well, 5 solar energy panels, two ritual places situated in the northern part of the village, one for Monsa and the other is for Kali. There is the community school also. A long road in front of the land of the people, there are 2 pig houses and they cultivate their lands with Arum greens, Creeper, Lady's finger, Cucurbitaceous (Ginga), Red leaves, Gourd. There are some trees: betel nut tree, bananas, mango, mahogany tree. On the west side there is another canal called Patkel kali. All around the village we find paddy field.

Female map represents the main road, bricks road, mud road, the school, the 15 households, 15 toilets, paddy fields, 3 pukurs, the vegetables available (creeper, red leaves, lady's finger, cucurbitaceous, tori, pumpkin), the Srifalkati technical college. No burial ground is here because nobody has died yet since they have been living there.

4. SEASONAL DIAGRAM (temporal frame of reference)

Aim: explore changes in rainfall and climatic conditions, water availability, agricultural activities, fishing activities, labor migration, according to the seasonal calendar. Explore the correspondent cultural/ritual calendar.

Result:

The diagram is the base for a discussion on the reasons behind changes and implications for the people involved.

SEASONS	<i>Grishsho</i> Summer	<i>Bôrsha</i> Rainy season, Monsoon	<i>Shôrot</i> Autumn	<i>Hemonto</i> Dry season	<i>Šit</i> Winter	<i>Bôshonto</i> Spring
MONTHS	<i>Boishakh</i> (April-May) <i>Joishtho</i> (May-June)	<i>Asharh</i> (June-July) <i>Sroban</i> (July-Aug)	<i>Bhadro</i> (Aug-Sep) <i>Ashshin</i> (Sept-Oct)	<i>Kartik</i> (Oct-Nov) <i>Ôgrohaeon</i> (Nov-Dec)	<i>Poush</i> (Dec-Jan) <i>Magh</i> (Jan-Feb)	<i>Falgun</i> (Feb-March) <i>Chaitro</i> (March-Apr)
RAINFALL	Medium because of decreasing trees in the forest	there is much rain but less than before because of lack of trees	More rain than in summer, less than rainy season and decreasing because of lack of trees	less than summer	very little rain	no rain
CLIMATIC CONDITIONS	sunlight and temperature is very high because there are less trees	some hot and a lot of rain and clouds	medium fog and hot	medium cold, the heat starts to decrease	much colder, the heat decrease a lot	temperature starts to increase again
WATER AVAILABILITY	less water in the canals and pukur because of the heat	both canals and pukur are full of water	water is less than during the rainy season	medium water, no rain	water is decreasing even more because of cold	there is no water neither in the canal nor in the pukur; because of the wind from the south there is much hot
WATER QUALITY	the quality of the water is not good at all and the water become poisonous because the level decreases a lot, if anyone takes bath in that water than he has scabies	because of the rain the quality of water is better	good	the water starts to decrease and the quality also	medium good	the water starts to decrease because no rain is available and it is turbid
AGRICULTURAL ACTIVITIES	vegetables like Arum, Creeper, lady's fingers, gourd, turi, cucurbitaceous (ginga), lalshak, datashak are grown	paddy and the same vegetables	potatoes, cabbage, cauliflower, chili, brinjal, spinach, red spinach (lalshak), radish, tomato, pumpkin	same as the former season	-	-
FISHING and CRAB ACTIVITIES	-	before in this season there were many fishes in the sweet water but at present because of the use of pesticides and fertilizers there is no fish	-	-	-	-
LABOR MIGRATION	to cut soil, paddy and making road Borishal, Pirojpur, Gopalganj	stay at home	to plant paddy they go to Bagerhat and Khulna	they go to Dhaka, Borishal, Potuakhali, Rangamati, Cox's bazaar to work in brick yard		
HONEY COLLECTION	-	-	-	-	-	-
PUJAS AND OTHER FESTIVALS	-	Kali Puja to have protection from the ghost and to be safe in travels	Monsa Puja in Bhadro Month and Karam Puja in Ashshin month. The Karam puja is celebrated in order to have husband and good children good family and good crops.	Goal Puja in Kartik month and Bora Buri puja in Ôgrohaeon	Shakra Puja in the beginning of Magh month in this day they make cakes and flatten rise (chira muri) according to the availability This puja is like a celebration among them. According to the information given in the validation meeting, Basto puja is in the second day of Magh month. This puja is also called Bon Bibi Puja. They do this puja because all the year round they work in the forest so that they want to avoid any bad accidents and they can come back from the forest in good health. They pray Bonbibi, as she kept them free from any accident last year this year they hope that she will do the same to them.	Sarhul or Murgi puja in Chaitro month to satisfy the ghost of the forefathers (that are considered good spirits) according to the number of generation they sacrifice a number of hen (5 generation 5 chicken)
WEDDINGS	-	-	in Bhadro no marriage	-	in Poush no marriage	in Chaitro no marriage

Nb. The chart is done describing the situation in the new community, in which they did not experience the winter month yet because they moved here in 2009, in Falgun month.

5. HISTORICAL TIME LINES (temporal frame of reference)

Aim: Establish the chronological sequence and relative importance of events that shaped the history of the community, especially related to water resources. Explain the changes in the availability of water resources down the years and the villager's responses to the challenges in the resources composition and quality. Explore the historical changes in techniques and practices in water management in order to monitor their positive or negative impact, highlighting what appears to be appropriate for sustainable development.

Results:

The participants explain their responses to the changes in water resources and reflect about the positive or negative effects of the practices they were using.

Historic events	1943 famine	1950 breaking of embankment and water entering in the entire Gabura union	1971 freedom fight	1985 start shrimp cultivation	1988 great storm Hurricane	2008 breaking of embankment and saline water enter in all Gabura Union	2009 Ayla	2009 they moved from Gabura to Srikalkati new village
Rainfall	no rainfall	normal rainfall	heavy rainfall	quite rainfall	heavy storm and rain	very much rainfall	not enough rainfall	not enough rainfall
Pukur (how many, who dig it, quantity and quality of water)	there were 3 ponds which has been dug by their forefathers, at that time the water quality was good	same 3 pukurs, extreme salinity of water because the embankment was broken	Same 3 pukurs with saline water (but not so much as in the former period)	Same 3 pukurs: water is good and there are 3 or 5 feet of water available	Same 3 pukurs are filled with good water	Same 3 pukurs are filled by saline water because of the breaking of the embankment	Same 3 pukurs filled by saline water entered because of cyclone Ayla	In the new village there are 3 pukur dug by SAMS and at present they have 7 feet of water but the quality is not good
Filter	no	no	no	no	no	no	no	one filter provided by Sushilan
techniques to harvest rain water	they collected the rain with the four post system and the banana tree cortex system and the paddy field system and all the pots were usually made of mud			they cannot use any more the paddy field system because they don't have more paddy field because of shrimps cultivation, they start using plastic buckets a part from the clay ones		they keep on using the other post system with polyethylene papers instead of fabric		Even if in the new village there are paddy field, the paddy system is not feasible because of fertilizers, and the post and banana system are more and more difficult because of lack of rain, they keep collecting from the roof with gutter
Canals	one canal which was naturally created, it has enough water but saline	the same canal but water is even more saline because of the breaking of the embankment	the same canal, 2 or 3 feet water available and amount of salinity is little	the same one canal, 4 or 5 feet water available and saline water because the shrimp cultivation have started	the same one canal, water is fine and 3 feet high	the same canal, full of saline water	the same canal, full of saline water because of Ayla, in all over the union	In the new village there are 2 canals naturally created, one is named Patkel Cali and the other they don't know the name. Water is fine and 5 foot high
Trees	tamarind tree, rain tree, banana tree, palm tree, date tree and plum (kul)	same	Same kind of trees in more quantity	same kind of trees	same kind of trees and decrease	same kind of trees and more decrease	No more trees except palm	banana coconut mango mehagany, betelnut

Nb the old people of the community already born in Gabura so they don't remember the exact date of the foundation of the village. It must be a very old one, since also people from Datinakhali migrated from that Union in 1942

6. STAKEHOLDER ANALYSIS: Venn/roti diagram (social frame of reference)

Aim: Visualization and discussion of the institutional framework of the observed community. Reveal local people perception about the relative importance and impact that various institutions have on their livelihoods, clarifying the potential opportunities and constraint to organizational change. Understand the usage of the resource environment by multiple users.

Results:

Inside the community the relevant people are (from the more to the less important):

Leader: Lokindor

Traditional healer and celebrating man: Ramanando

Two teachers: Chitto and Konica

The relevant groups are

The 5 clans: Sangoar, Horduar, Tuti, Boothkuar and Rajput

As underlined during the validation meeting, a part from the village celebrating man, there are also clan based pahan:

Sangoar: Ramananda Mund

Horduar: Lalchan Munda

Tuti: Bosonto Munda

Boothkuar: Boishnomo Munda

Rajput: Mohendro Munda

Outside the Munda community the relevant organizations are

Name	What they do	Importance (in order of importance)	Interaction with Munda in Srifalkati (from more to less proximity)
SAMS	<p>In 2002 the activities of SAMS started In the former village of Dumuria, starting from that year every member give 5 tk for their savings every week and when their total savings will be 400 or 500 hundred then they are able to apply to SAMS to take a loan of 4000 up to 5000 from SAMS.</p> <p>In 2004 the village got five solar panels (amount of one lack 38000) among these tk 80000 directly provided by SAMS and the rest it was paid to the solar company by giving a fixed amount per week during one year.</p> <p>They five solar are beneficiating 30 families.</p> <p>In 2009 after Ayla SAMS provided their new land houses, ponds, tube wells (with money of Upazilla), latrines, (the solar that are now in the new villages where brought from Gabura).</p> <p>In 2009 SAMS provided also relief packages after Ayla, with rice, dhal, sari, plastic containers of 30 liters, mustard oil, candles, potatoes, salt, matches..</p>	+++++++	Strong interaction
Upazilla Administration	They seat with SAMS to discuss how to distribute the annual adivasis funds among Munda villages in four sectors Education, Water, Health (latrine), income generating and cultural events	+++++	Interaction with SAMS
Swiss government financed Cash for Livelihood Organization (CFL)	500 tk per family income generating package coordinated by SAMS	++++	
World vision	They gave power tiller once	++++	

7. PROBLEM RANKING

Aim: learning about the importance that the participants give to the problem they have to face, in order to prioritize eventual future intervention according to the local preference, so to make them demand-driven.

Results:

PROBLEM	score	Rank
Drinking water salinity	17	1
Road problem	9	6
They don't have a place to take bath	1	11
Toilet problem (no proper infrastructure in concrete)	3	10
No <i>ghat</i> in the pukur	1	11
No big pot to collect water	4	9
No place to do puja	5	8
They don't have graveyard	9	6
No agricultural land	14	3
Treatment problem	10	5
School problem (no enough space)	14	3
Teacher problem	14	3
Electricity problem	6	7
They don't have deep machine for irrigation	12	4
Less rain	10	5
Food problem	14	3
Discrimination by Bangladeshi	1	11
Less employment	16	2
Playground needed	10	5

8. PSP (Problem Solution Possibility) chart

Aim: learning from the participants what technical, economic, social and political constraints related to water their household experience and what opportunities they see for enhancing livelihood strategies. Building a base for developing action plans in order to take the process forward towards an envisioned future.

Results:

PROBLEM	SOLUTION	POSSIBILITY
1 drinking water	deep tube well and filter	let know their demand and needs to government and NGOs through organizing themselves
2 lack of work	small income generating activities, business, training on various issues and education	to take the opportunities provided by different NGOs like training on handicrafts
3 no agricultural land	find more landlords to do share cropping	to get economic support and income generating activities by various NGOs
3 school problem (too small)	the place of the school should be bigger	SAMS may help in this
3 teacher problem	teacher's presence should be more regular	SETU Bangladesh, BRAC, Caritas, Rishilpi
3 food problem	to create work opportunities	JJS, Progoti, NGF
4 deep tube well for irrigation	need lands on their own	Koinonia, Government
5 treatment problem	to get economic support and to establish hospital in near place,	to establish community clinic by government or with the support of BRAC
5 less rain	planting more trees	during the rainy season to plant more trees Muslim Aid, World Vision, GUF
5 no playground	need land on their own	SAMS
6 Road problem	need lands on their own	to arrange bricks for the road they use in order to communicate, Union Parishad
6 no graveyard	"	SAMS
7 electricity problem	supply of electricity	union Parishad, get solar support from NGOs
8 no place for puja	need lands on their own	SAMS
9 no big pots to collect rain water	big filter pot is needed	Caritas, JJS, Muslim Aid, World Vision
10 toilet problem	walls should be made of concrete	SAMS, Progoti, JJS, BRAC
11 no place to take bath	to make bathrooms beside the pukur for the females	Muslim Aid, World Vision Progoti
11 need of ghat for the Pukur	make <i>ghat</i> in concrete	NGF, Caritas, SAMS

Annex 2

LIST OF CLANS PRESENT IN THE OBSERVED 5 COMMUNITIES

CLAN	LINKED MYTH	SPECIFIC BEHAVIOUR
Sangoar (Found in <ul style="list-style-type: none"> - Datinakhal - Kashipur - Sapkhali - Srifalkati) 	<p>Sapkhali: Once a man went to get married in another place, but finally the guardian of the bride did not give him his daughter. Then the people were thinking that it was a huge insult to come back to his own place without having a wife. Thus in that place some people observed that in that area there was a widow and ask her if she wanted to marry him, she agreed. Then the people gave the name Sangoar, which means when a widow get married the second time.</p> <p>Datinakhali: same myth as Sapkhali.</p>	<p>Sapkhali: In the celebration of the <i>Sarhul</i> puja they have to sacrifice one red cock, one white cock, one red hen (no having yet given eggs), and one black and white cock.</p> <p>In that occasion girls before and after marriage cannot eat the red hen, otherwise they will face physical problems.</p> <p>If a married girl eats this red hen in her parent's house she may have some problem and Sarhul puja has to be done again, and her husband has to give a compensation of 5 kg rice, 2 kg dhal, spices and one red hen (that has not given eggs yet).</p> <p>The husband can eat that red hen, but the father and mother in law cannot.</p> <p>Datinakhali: Here this clan does not celebrate the Sarhul Puja, they perform the Goal puja. In this puja a red cock or a red hen is sacrificed and it can't be eaten by the daughters, while the daughters in law can have it.</p> <p>If an unmarried girl eat it, she will face health problem in the future and her father will have a dream in which he will see which kind of animal he will have to give in compensation before the girl get married. Thus, one day before the wedding, the father arranges the compensation according to the dream and some people from his own village share this food.</p>
Horduar (found in Srifalkati)		
Tuti (found in <ul style="list-style-type: none"> - Datinakali - Kalinchi - Sapkhali - Srifalkati) 	<p>Sapkhali: One day this people went to the forest with other people for wood cutting. They were able to cut only the trunk that usually is used to make houses (kuti), but not other kinds of wood, while other people who went with them managed to cut other kind of wood. Thus they said: "you are Tuti" this means that they are able only to cut the post kuti.</p>	<p>Kalinchi: the family who belongs to this clan they don't celebrate pujas here but go to Koikhali where they have others family members. The unmarried girls and any guest from outside are forbidden to eat the meat of the red hen. After marriage the parents of the girl have to do a compensation during the Paharia Puja, and they need a big goat, a red hen and a white cock, Haria Mod, one <i>Poli</i> (a pot made of cane), salt and spices: all this is cooked and everybody share this food, except the couple.</p> <p>Sapkhali: During Sarhul Puja they have to sacrifice one black cock, one red cock, one red hen (that has not yet given any egg), one black and white cock, one black cock (with a spot similar to a necklace), and one white cock.</p> <p>That day unmarried girls cannot eat the red cock, otherwise they will face health problems and the same puja would have to be performed as a compensation, using the same amount of cocks and hens. During the marriage of those girls, the groom's family is informed that if she will have some disease, they will have to offer as a compensation 5 kg rice, 2 kg dhal, spices, and the same amount and kind of cocks and hens used in the puja. Husband can eat this food but the father and mother in law cannot.</p> <p>Datinakhali: During Sarhul Puja they have to sacrifice 2 red hens, 2 black hens with a necklace spot, one white cocks, 2 red cocks.</p> <p>That day male members of the family can eat all type of chicken but unmarried girls can't eat any, otherwise compensation will have to be given by their husband in future. After the marriage she will in fact have health problems (infertility, stomach pain) and the traditional healer will recognize that those are occurring because the girl had the prohibited food when she was still living in her father's house. That is why her husband will have to give compensation in her father's house.</p> <p>As a consequence, in this clan, future husbands are used to be warned before the wedding by the family of the girls that in case she will feel sick he will have to offer a compensation made of a goat, one red cock or chicken, 20 kg of rice, 5 kg of dhal and spices.</p>

<p>Bhootkuar (Found in</p> <ul style="list-style-type: none"> - Kalinchi - Kashipur - Sapkhali - Srifalkati) 	<p>Kalinchi: This group of people once upon a time made the ghosts flee away from the village and after that they were rice was available for the community (<i>Booth</i> means ghost). Sapkhali: Once upon a time they took the entrails of goat and chicken killed during in Kali, Monsa and Sarhul puja and bring it in the evening at their place to cook and eat it. They believe that when they brought these entrails to their place the ghost came to their house. From that episode their name came.</p>	<p>Kalinchi : In most of the puja they use three chicken; one is white cock, other is red cock and other red hen. If a women after giving birth has not enough milk it is said that she was eating the meat of the red hen and that is the reason why she does not have enough milk to feed the baby.</p> <p>The parents of this girl have to give a compensation in their house during the Sarhul Puja and the Paharia Puja at the presence of the daughter and the son in law. They will cook a big goat, a red hen and a white cock, Haria Mod, 20 kg rice, 5 kg dhal, one Pali (a pot made of cane) , salt and spices and serve this to everybody except the couple.</p> <p>Sapkhali: During the Sarhul puja people from this clan sacrifice one white cock,, 2 red cocks, one red hen (which have not given eggs yet), one black cock . Before and after marriage girls can eat the white cock, but no other hen and cocks. Otherwise they will have fever. If this happens before marriage the Sarhul puja have to be done again in her parent's house. During the celebration of her wedding, her parents warn the groom's family that if their daughter will have health problem because of eating the prohibited chicken then her father or brother will do the Puja and bear the expenses.</p>
<p>Rajput (Found in</p> <ul style="list-style-type: none"> - Kashipur - Sapkhali - Srifalkati) 	<p>Sapkhali: Once this group of people worked as guard in the king's house. The king had many horses and they also stood guard over the horses. One day this people went to the forest for hunting. Then the horses of the king followed them, while they did not realize that. They killed a horse while thinking that it was a deer.</p> <p>They were afraid that the king will discover this, thus that night they took the skin of the dead horse and hide it under the ground and ate the whole horse, even the hoof.</p> <p>For that reason the other people gave them the name Rajput ("because you eat the horse").</p> <p>Kashipur: There are two kinds of Rajput clan: one is Rajput and the other a subgroup called Ghorkhawa Rajput. If we consider the first one, traditionally this is very ancient and still present in the community, the second one have no more people belonging to it, but they can remember its history: a group of Rajput once upon a time went to the jungle to hunt deer with bow and arrow. They apparently caught one, but when they came closer they realized that it was not a deer but an horse; they collected it and brought it at home to cook and eat it. That is the reason why people calls them Ghorkhawa Rajput (Ghor means horse).</p>	<p>Sapkhali: In Sarhul this clan use to sacrifice one red cock,, one white cocks, one black hen (which have not given eggs yet), red hen (which have not given eggs yet).</p> <p>Unmarried girls cannot eat the red cock and black hen and one white cock during this puja, otherwise they will have get sick.</p> <p>During the celebration of the wedding the groom's family is warned that in the case the bride will face health problem because of eating the forbidden food it will be the groom's family that will have to give the compensation. This must be composed of 4 or 5 kg of rice, 2 kg of dhal, spices, one red cock, one white cock, and a black hen (which have not given eggs yet).</p> <p>This compensation meal can be eaten by the husband, the father and mother in law, while other pregnant women present in the family can't.</p>

Tirkiar (Found in <ul style="list-style-type: none"> - Datinakhali - Kalinchi - Kashipur - Sapkhali 	<p>Kalinchi: This group of people used to catch deer using bow and arrow so that's why they have that name (<i>tir</i> means bow and arrow).</p> <p>Kashipur: The clans Tirkiar has 2 parts: one is the original Tirkiar and the other is called Potkhawa Tirkiar. The second is related to a history that tells that once upon a time a group of Tirkiar went to hunt in the jungle and promised that they will come back with meat, but without catching any animal. This people saw a cow giving birth and collected the placenta and the delivery entrails and cooked and ate it. Then the Tirkiar people separated from them and called them Potkhawa (which literally means people who eat the entrails) Tirkiar. Today they still have this group in the community.</p> <p>Sapkhali: one day a man was going to the forest with bow and arrow for hunting and then his wife told him "do not catch any dead or alive animal but don't come to the house without meat" that man hunted a deer and came back home. Before entering into the house he took the entrails and put it on a bean tree. then his wife said "where is the meat?" and he answered "go to the bean tree and see". When his wife see the entrails says to him "You are Tirkiar Potkhawa" (you eat the entrails).</p>	<p>Kalinchi: The girls have permission to have red hen. But after marriage the parents of the girl will have to do a compensation during the <i>Paharia</i> Puja, cooking a big goat, a red hen and a white cock, Haria Mod, one <i>Pali</i> (a pot made of cane), 5 kg rice, 2 kg dhal, salt and spices. Everybody will eat the meal except the couple.</p> <p>Sapkhali: If a child is born in other's house, then on the ninth day a celebration called <i>Sosti Puja</i> has to be done and before doing this puja the Tirkiar people don't take any food from the house where the child has born.</p> <p>For the celebration of <i>Sarhul/ Murgi</i> Puja Tirkiar clan need 3 hen and cocks: one red hen, one red cock and one white cock, rice powder, some rice, vermilion and turmeric. During the Puja the unmarried girls cannot eat the white cock. If the girls disobey then God will be angry and they will have different disease. The traditional healer will then have to cure them rubbing a fistful of rice in his hands and singing a song. Moreover the puja will have to be done again.</p> <p>Unmarried girls cannot eat the red cock either during the puja. If they eat some problem will rise in the father's house, she will have physical problems and the traditional healer would order to organize compensation with goat and chicken. Before the celebration of the marriage the father in law's family of the girls is informed by the parents of the girl that will tell them: "if our daughter have any problem because of having eaten the red cock, then you will have to give in compensation one goat, 20 kg of rice, 5 kg of dhal, salt and spices: only if you are able to provide those things we will let you marry our daughter, otherwise you can go".</p> <p>When a girl is married and they celebrate the <i>Sarhul</i> puja in the husband's house, the elder sister in law, brother in law, father in law and mother in law can't eat the red cock. If they disobey then bad things will happen to them like fever, cough and chest pain. In present time if some member of the family present this diseases they first call the doctor, but if he fails to cure them then they call the traditional healer. The puja will have to be performed again and he will need 2 or 3 or 4 hens to cure them. The patient cannot eat those hens, but has to eat meat separately cooked.</p> <p>Datinakhali: In <i>Sarhul</i> Puja people from this clan have to sacrifice 2 red cocks, one in the name of their forefathers, one red hen (not started to give eggs), and one white cock in the name of God. Unmarried</p>
Shonkachua or Kachua (Found in <ul style="list-style-type: none"> - Datinakhali - Kalinchi 	<p>Kalinchi: The forefathers of the people of this clan used to worship turtle and to put vermilion on the animal's head, that's why when they find some turtle with red head they don't eat it (<i>kachua</i> means tortoise)</p> <p>Datinakhali: same history as Kalinchi.</p>	<p>Kalinchi: Don't eat turtle with red head.</p> <p>The unmarried girl can eat the red hen, but during their marriage their parents inform the groom that if after the wedding their daughter present any problem he will have to offer a big pot made of cane full of rice and a male goat and this compensation will have to be done during the <i>Khali</i> Puja. This meal will be distributed to the husband family, but the couple won't be allowed to eat it.</p> <p>Datinakhali: During the <i>Goal</i> puja the people of this clan has to sacrifice one <i>kabra</i> hen (mixed colored), one black cock and one white cock. Unmarried girls cannot eat the meat of the black cock and <i>kabra</i> hen. If they disobey then they have to give compensation. During the marriage of that girl, the groom should bring 5 kg of rice, 3 kg of dhal and a goat and spices to the girl's parent's house. If this compensation is not done, the child of that girl will suffer from some diseases like: fever, cough etc.</p>

Kouriar (Found in - Datinakhali - Kalinchi)	Kalinchi: There was a time in which they did not use cash but they exchanged <i>kouri</i> (shell), that is where the word Kouriar come from. Datinakhali: once they used to buy or sell something using <i>Kouri</i> as mean of exchange, once this group lost that <i>kouri</i> so people called them Kouriar	People that belong to Kouriar clan do not eat Pankouri (specie of a diver bird akin to the cormorant) birds. Kalinchi: The Kouriar clan have the same rules and food restrictions as the Bhootkuar clan but instead of <i>Sarhul</i> they perform the compensation during the <i>Paharia</i> Puja. Two families perform pujas in different ways: one need 7 hens and cocks; the other group need 3 hen and cocks. The first group came from Dhumghat village from Ontakali Union and the second group from Bethkali. Datinakhali: Sarhul Puja is performed using one white cock, one red cock and one red hen. Married and unmarried girls cannot eat the meat of the red cock and the red hen but their husband are allowed to do it.
Kerkata (Found in Kalinchi)		Kalinchi The unmarried girls and any guest from outside are forbidden to eat the meat of the red hen. After marriage the parents of the girl have to do a compensation during the <i>Paharia</i> Puja, and they need a big goat, a red hen and a white cock, <i>Haria Mod</i> , (locally made liquor by indigenous people one <i>Pali</i> (a pot made of cane, salt and spices: all this is cooked and everybody share this food, except the couple.
Hasara (Found in Kalinchi)		
Moukal (present in Sapkhali)	Sapkhali: There was a bird called Moukal this bird calls two times once in high tide and the other in low tide. One day this bird was calling continuously not respecting the usual time. From this episode comes the name of the clan.	Sapkhali: 7 hens and cocks are needed during the <i>Sarhul</i> puja: one white cock, 2 red cocks, one red hen (which has not started to give eggs), one black hen, one cock half white and half black, one black cock with a spot like a necklace. Married girls and her father and mother in law cannot eat the red hens, otherwise they will face health problem and they will have to give compensation. Married girls cannot eat red cock during <i>Sarhul</i> puja in their parents' house but before marriage they can eat all hens and cocks. In their parents' house after marriage they can't eat the red cock, if they eat compensation has to be given. The puja has to be performed in their parents' house and the husband will bear all the expenses.
Shapoar (Found in - Kashipur - Sapkhali)		Sapkhali: In the celebration of <i>Sarhul</i> puja this clan has to sacrifice one red cock, one white cock, and one red hen (no eggs) Before and after marriage the girls can eat all the kind of cocks and hens during the puja. But when they give birth and the child present some problem than compensation has to be given by their father's in law family to the girls' family in order to arrange a puja. For the compensation they cook one goat, 20 kg rice, 5 kg dhal, spices; this food cannot be eaten by the father and mother in law. During the wedding celebration the groom's family is warned in this way: "Before marriage our daughter has eaten those hens and cocks, so if you want, as a prevention, you can do the compensation puja in our home in advance, before she will give birth".

Kushmi Dau Palong (Found in Sapkhali)		<p>Sapkhali: In <i>Sarhul</i> Puja they need 5 hens and cocks: one red cock, one red hen (that has not given eggs yet) one white cock, one black cock and one black cock which has a spot in its neck.</p> <p>Girls can't eat any of those hens and cocks, neither before nor after marriage.</p> <p>Before marriage the compensation is given by her parents. After marriage even if she had eaten the hens and cocks when she was living with her parents, the compensation has to be given by her husband's family. During this compensation the husband can eat the hens and cocks, but the girl, the father and mother in law, and the girls' elder brother cannot. In the Bhitari Ghar (the corner of the house where the family perform its daily worship) of one married girl's parents house all his elder family in law cannot enter (her husband, her parents in law, her husband's elder sister, her husband's elder brother and his wife). At the same manner, all the elder family of the married girl can't enter in the Bhitari Ghar of her husband's parents' house (her elder brother, elder sister and her husband and parents).</p>
Hangrom (Found in Datinakhali)	Datinakhali: their forefathers used to hunt Hangrom (<i>Vimraj</i>) bird from the forest. One day they caught a bird but the bird flew away. From this the name of the clan originated.	<p>Datinakhali: During the <i>Goal</i> puja this clan has to offer one red hen (that has not given eggs yet), one red cock, one white cock.</p> <p>Unmarried girls cannot eat the red cock, otherwise their fathers will have bear the expenses of the compensation, because they don't want to give any problem to the future fathers' in law house. The compensation is arranged using one red hen (that has not given eggs yet), 2kg of rice, 1 kg of pulse, spices and the food is shared with other people of the village.</p> <p>Married girls cannot eat the red cock in their father's house if they do it the same compensation has to be given by her parents, and her husband can eat the hens and cocks.</p>

Annex 3

LIST OF PUJAS

It must be noticed that the list does not cover in a systematic and exhaustive way all the details of each celebration. That challenging task would require specific investigations and goes beyond the scope of our work, we are just reporting the information risen in the communitarian meetings, conscious that no similar data have been collected so far on this ethnic group, hoping to enhance future research.

PERIOD OF THE YEAR	NAME OF THE PUJA	REASON AND DETAILS OF THE CELEBRATION	SONG[1]	DANCE	SPECIFIC USE OF WATER[2]
	<i>Bhelua Phara puja</i>	This puja is traditionally performed by the <i>kabiraj</i> before cultivating the paddy in order to have good income and welfare.	Common people do not know the text of the songs, which are performed by the <i>kabiraj</i> .	No specific dance	
Rainy season	<i>Asharhe Puja</i>	To guarantee good health for the domestic animals			
Rainy season	<i>Gram Chara Puja</i>	Performed by the <i>kabiraj</i> , to avoid different type of diseases. This puja is performed in order to avoid that bad Bhoot enter from outside to the village; it is celebrated in the month of Ograhaeon and the protection last 6 month, up to Asharh.			
Rainy season	<i>Marua puja</i>	Celebrated during the wedding ritual and in rainy season to take off the three posts that were planted all around the year in the yard of the houses where a wedding celebration took part.	Kalinchi: in this puja they used to prepare a special tobacco pipe made by coconut clay and water called <i>Guruk Tamuk</i> and pass it around among the participants. Thus there is a song which says "What can I do with this <i>Guruk Tamuk</i> ? I will give some to another person, who is very close to me" "New young girls go to the pond to bring the water and a frog sing a song"	Jhumer, Khemta and Dhardhara dance	See text of the songs
Rainy season	<i>Guchori Puja</i>	It used to be performed in Kashipur, before sowing the plants in the field, when they still had fields to cultivate.			Some water is put in a pot and after finishing the celebration they spread it on the paddy field.

¹The songs present very short lyrics that are repeated several times as mantras.

²In every puja the attendants have bath before doing the rituals. At the beginning of every puja the Pahan spread water on the present people using a small branch of basil. In every puja some water is put in a small clay pot that is situated in the altar and the day after is thrown in the pukur. Water is also used to prepare the various oblations that are offered in the altar and to clean the place where the celebration will be held. Haria mod is compulsory

Rainy season or autumn	Monso Puja	<p>It is performed at village level in honor of the snake Goddess, to be safe from the snakes and in order to get rid of any problem. In every village, all the families gather together in front of an altar and offer fruit and food, dances and songs during all the night and at the sunrise ducks are sacrificed. In particular women pray to obtain blessing and welfare for their families.</p> <p>Usually, if it rains the day of the celebration it means that the puja will be effective and that crops will grow very well.</p>	<p>Srifalkati: there is a song which is sang by people in procession, both when they walk from the altar to the pukur to collect water and when they come back "let's go to bring our mother, let's go to the Kiri river side to bring the mother we will give red gamcha (towel) and water lily flower on her feet"</p> <p>another song: "lotus has grown how deep the lotus has grown".</p> <p>The pot full of water collected in the pukur is placed in the altar; on the pot they put branch of mango trees with five or seven leaves, a green coconut, a red gamcha (towel), and "joba" and "lil" flowers. The present people also give one by one food oblation to the goddess (flattened rice, fruits and sugar cane according to how much they can afford). While offering food to the altar people sing various time "we are giving a lot of sugar and milk, we are going to offer an oblation"</p> <p>During this puja different songs are performed all along the night, the forefather used to know all the exact sequence of songs but nowadays people are forgetting it.</p> <p>Kashipur:</p> <p>First song "All the participants go to bring the Monasa Devi from the side of the Bhobhai River, they put a red flower (Joba) in her hand and other flowers at her legs".</p> <p>Second song "She uses Kajal as she blinks and she put two gold rings in her legs and walks slowly"</p> <p>Kalinchi:</p> <p>"The wife's mother in law is hungry and insult the daughter in law"</p> <p>Sapkhal:</p> <p>People sing many songs, for example in the moment when a young girl wait that a red flower falls in her hands from the top of a green coconut all the people sing "Someone went to get a flower, but flower doesn't fall into the ground, she is crying and calls Monasa Devi again and again, she says please come, I am waiting for you".</p> <p>Datinakhal:</p> <p>synopsis of the songs:</p> <p>Firstly they call the Monasa Devi and then all the divinities of the pujas.</p> <p>Then they say that they cut their finger and lighten the lights of the temple.</p> <p>Then they describe while singing the various flowers that are put in the altar, and then they do the same with the fruits that are being offered. The following song describes how they light the candles in the altar and how they have built it.</p> <p>They sing how the goddess was born in the pukur.</p> <p>The sing that when the goddess will come in the altar then rain and storm will come. The following song invites people to dance.</p> <p>Then people sing the song about the flower on the coconut (same as Srifalkati).</p>	<p>Khema, Jhumer, Dardhara and general dance</p>	<p>This Puja is celebrated by Munda people nearby the river and Monasa is represented by a pot of water of the pukur.</p> <p>Usually, if it rains the day of the celebration it means that the puja will be effective and that crops will grow very well.</p> <p>An altar is made and they put a small clay pot with water on it. The water is taken from the pond, from the side that has no ghat (a slope or a flight of steps leading down to the water level of a pond or river). The person that is in charge of taking the water has to make a complete immersion in just one breath and he or she has to fast that day or even 3 days before the puja. Both the male or the female person that are in charge of the altar have to fast and have bath before building the altar.</p> <p>The difference among this puja and the others is that in this case the people go in a group procession dancing and singing to bring the water from the pukur.</p> <p>The day after they will throw the water and the altar in the same pond.</p> <p>After cutting the head of the duck they spread water on it.</p>
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Rainy season	Kali Puja	<p>Celebrated at village level to have protection from the ghosts and in order to be safe during travels.</p> <p>Both the male or the female person that are in charge of the preparing the altar have to fast.</p>	<p>Srifalkati</p> <p>Song synopsis:</p> <p>"in ama bosha (the last day of the dark fortnight) night they stay awake and the whole night they use oil candle light so that the ghost and the evil spirits will not come"</p> <p>During the night of Kali puja people go to each others' houses and share cakes and beer; when they are walking towards a house they sing "how far is the house we are going to" and when they reach the house they sing "if you don't have anything to offer us say something good or behave good with us and say goodbye".</p>		
Autumn	Karam puja	<p>It is performed every three years on a clan basis, especially by unmarried girls in order to have nice husband, honest and innocent children, good family and abundant crops and livestock.</p> <p>During this festival people celebrate the Karam tree (they don't have this tree in the community so they cut branches of banyan tree).</p> <p>During this Puja a myth is told, describing how the king and the forefathers were saved by the Karam tree in the jungle. That is why the forefathers honor this tree as a God. This myth has to be told during the 7 days the puja lasts. (The main celebration is celebrated on the seventh day.</p> <p>At the beginning of this puja some seeds of rice, mustard and other plants are sown.</p> <p>The seeds take 7 days to turn into a small plant.)</p> <p>Another myth is:</p> <p>"Once upon a time there were 2 brothers, named Karma and Dharma. Once Dharma had a dream in which the Karam God came and told him to celebrate and arrange a Puja in his honor. In change, he will have many crops, livestock and become rich. The following day Dharma describes this dream to his elder brother Karma but he did not paid attention to that. After few years Karma became poor, whilst Dharma became rich. Eventually Karma understood that Dharma was telling the truth about the dream, then together they celebrate this Puja and also Karma became rich. From that time Karam puja is celebrated".</p>	<p>Srifalkati</p> <p>The first song is sang during the night and it is called Bondona (singing in adoration) song: "we are starting this puja singing a song".</p> <p>The second song is "Come friends dancing; the bees are eating the honey of the flowers but the honey is endless, the bees are leaving the branch, sitting on the leaves they are having honey".</p> <p>Kashipur</p> <p>"in the month Bhadro, according to the moon calendar the karam tree his brought and put in the mud, the wives will go to their father's houses and they will ask for new sari and clothes"</p> <p>Another song "By Eating betel leaves lips become red, and a betel spot appears on her dress, then she ask "why this?"</p> <p>Datinakhali</p> <p>"We pray various kind of flowers Gingo, (cucurbitaceous flower), Kumra, (pumpkin flower) Dupur Phul, Sosha phul (Cucumber flower) and put it in the altar".</p>	Jhumer and Khemta dance	
Autumn	Bissha Karma (The divine creative architect)	<p>Celebrated in order to get rid of any problem.</p>			

Dry season	Goal Puja	It is celebrated by the families that own cows in the cattle shed, with the objective that their cows will remain healthy and that all the members of the family will get milk all the year round. This Puja is performed with wishing a good health and long life of the cows of the house.	In Srinikati, Datnakhali, Sapkhali and Kalindhi they welcome the cow with the song "all the year round we make you suffer, we beat you and oblige you to work a lot for our crops but in this day we are going to cuddle you." In Kashipur, Datnakhali, Sapkhali and Kalindhi: in this night every family burns candles with mustard oil "a group of people walk in the road, suddenly they see the candle light in a house and they go there singing and dancing and they ask Give me some food, give me some water"	Khemta, Jhumer and general dance	The day after the ama bossa night they put oil on the head of the cows in lunch time and give them bath washing their horns and bodies and then again put oil and vermillion on their forehead and while singing the welcoming song
Dry season	Nawa Puja	Before cutting the new paddy, all the villages celebrate the spirits of their ancestors performing the Nawa Puja, offering them chira (flattened rice) in order to obtain welfare for all the members of the family and the future generations. It is a home based puja, done only in the Bhitari Ghar			
winter	Shakrai or Sohorei Puja	Performed at a family level in the Bhitari Ghar to celebrate with joy the cutting of the new paddy and crops, making cakes and different kinds of food with the new rice; the spirits of the ancestors are also celebrated in this festive occasion.	Kashipur "tushu song": "a person warn them not to go to the south because there are two Satins (this is the terms they use when two women are married at the same man) but you can go to the villages in the other three direction".	Khemta and Jhumer dance	
winter	Can puja	Two earrings are put to unmarried girls and boys (this puja can be performed also before the wedding celebration).			
winter	Bon Bibi or Basta Puja	In particular in the villages beside a river or the forest, it is celebrated to have plenty of fish and crab and to be able and to come back from the forest in good health: as Bon Bibi kept them free from any accident the former year, they pray her, hoping that she will behave the same way during the following one. Every family dedicates a red hen for Bon Bibi bringing it alive in the jungle and leaving it there.			
spring	Paharia or Boro Puja,	This puja is celebrated every 3 generations and is very expensive (one cow, two goats, two lambs, duck and hens are needed). All of the members of the clan need to be invited in the celebration. Before assisting to the celebration all the rest of meal had at home must be buried.	Kashipur "In a rich Munda family most of the wives have long hairs, which lay on their back. They make a knot with the hair and they look very nice".	Jhumer dance	They bring water from the ponds and they give bath to goats and sheep and when they cut them they put water in their heads. After cooking the water is spread on all the food.
spring	Sarthul or Bura Buri or Murgi Puja	It is performed offering the new fruits to the ghosts of the forefathers and sacrificing in their honor different kinds and numbers of hens and cocks depending on the clan, to obtain good health for the family for the following year. The older male member of the family is the main celebrant. In Sapkhali a myth was told "a group of Munda in Ranchi District people went for a celebration, they found on their way many hen feeders of various colors and they collected it. From that time different clans use for their puja to offer hens of the same colors of the feeders that they collected: if one person for example collected a brown, a red and a black feeder, then his clan has to offer a brown, a red and a black hen, another collected five and his clan will have to offer five hens of the same colors etc...".	Kashipur "I am a tree and you are a creeper plant, you give your word that we will remain together"	Jhumer dance	
spring	Pan Phul Puja	This puja is arranged for welcoming the seasonal new fruits and also to celebrate the forefathers.			

Annex 4

INTERNATIONAL INDIGENOUS DAY 2010

TALA,

Adibasi Munda Unnayon Shangoton

Today is the 9th of August 2010, the whole world is celebrating this international indigenous day. There are many indigenous people around Bangladesh, according to the government the other name of this indigenous people is anthropological community. About 45 groups of indigenous people are living in Bangladesh, in total their number is more than 30 lacks. Many people don't know that there are few indigenous groups in the south west part of Bangladesh. Their name is Munda, Mahato, Oraon, and Bagdi. Among these 4 groups the larger group is Munda. The number of Munda people is about 4000 and their geographical location is in Shamnagar, Koyra and Tala. Most of the Munda people live in Shyamnagar but there is also a small group of Munda people in Tala. Recently their number is increasing because of cyclone Ayla, that destroyed many Munda villages.

For that reason many Munda families from Koyra and Shamnagar came to Tala Thana. And from now on they will be permanent resident of the Tala Thana. Considering that the number of Munda people is increased of 500 units they have taken the decision to celebrate the international indigenous day in Tala. The event which is going to happen is a historical event. For the first time the small community of Tala wants to express her identity with courage, and wants to express some words about its sorrow in front of the local administration and also wants to claim some demands.

One of the honorable members of the national parliament, the chairman of the Upazilla, and UNO and members of civil society and the directors of Ngos came here to attend the program of the small anthropological community. There are also present general people from the Bengali brothers and sisters. Munda people of Tala want to express some words in front of all of you.

First of all we want to talk about our identity. We are Bengali citizens but we are not member of the Bengali nation, if you look at our face you will understand that there are some physical differences between Bengali people and us. Our skin is darker and our lips are thicker and our nose is flatter than yours and we have a different language. Our dance and songs are also different from the Bengali ones. In any of our social occasions we need beer which is prepared by us and we also eat some food which you don't like. We have been living together with the Bengali people for long time and nevertheless we have been conserving our customs and culture and we will try to keep it in our heart and soul.

We are not made as Bengali we are not going to be and we won't be Bengali. The main theme of the international indigenous day of this year is right to culture and self identities of indigenous people, these rights are first of all given by our God, then by United Nations and then by our government. For that reason we are also demanding this right from you.

Now we are talking about some words about our pains. Possibly you don't know about our history. Our forefathers came from Bihar, a state in the north of India, from that place Indian landlords brought our forefathers to clean up the forest of this region. A writer of your regions have mentioned in the Book named "Talar Hitiash" (history of Tala) that landlords had bought our forefathers; we don't know if it is true or not, but we can say with a high voice that an ultimate injustice upon this small anthropological community is committed. Our Bengali brothers oppressed us very much; today we don't have those lands that were under propriety of our forefathers after they cleared the forest. Today we are living in our own

land as foreigners; most of the indigenous Munda people are landless. Our forefathers fought with the fierce animals in the forest and made cultivable lands that were not suitable for agriculture, but Bengali society are not thanking this hardworking Munda people, they are neglecting them again and again and using words like Buno, Puli or Upojati. Generally the word Buno stands for uncivilized, jungly, barbarian, savage: is this word fit for us?

We think that the people who use this word should have at least a feeling of shame; today the civil society don't appreciate the effort done by Munda to make this land inhabitable with their hard work.

At present the government of Bangladesh started to accept the identity of indigenous Munda people. With regards to our socioeconomic condition, we are lagging behind and for that reason we are living in extreme poverty. The condition of our households is not good at all, in the rainy season the rain comes into our houses and it becomes difficult to live with the family there. We are deprived from fulfilling our basic needs.

When our children go to school teacher don't take care of them, when we go to the Thana the Police don't listen to our words, we don't have the opportunity to go to the doctor.

You probably are going to ask a question: "why Munda people drink beer?" We drink it in order to forget our pains; there is a proverb in Bengali that says: "when pain is all over the body, where to give medicine?" The medicine maybe is available, but there is no one to provide it. Many NGOs are spreading like mushrooms around Bangladesh, we had a hope that they will come to provide the medicine but we are dishearten.

We have talked about our sorrows, now, we want to expose one or two claims.

The first one is directed to the civil society: it is not fair the fact that our forefathers were called Buno because they had cleaned the forest.

We had no opportunity not civilize or educate as the Bengali society but we think that that negligible term is not appropriate for our community, so we don't want to hear the word Buno or Upojati.

The second claim is directed to the people of the NGO and the world, we want to remind them that we are under the poverty line, and we demand the opportunity to take part in the mainstream for the development of the country.

The last claim is directed to the local government administrators: in other places every year the indigenous people receive government funds for their development, we hope that we, the indigenous Munda people of the Tala Thana, won't be deprived from that opportunity.

Besides the government funds we want to claim some lands, where we would make our home and we should have legal possession right on it. There we would plant two or one fruit trees and also make a small vegetable garden. We know that there are many khas lands here and there, within those we should also have rights over the khas.

Before ending we would like to express our gratitude.

First we want to thank the honorable member of national parliament whose presence made this program valuable, then we want to thank the chairman of the Tala Upazilla, our elder brother from our home region and then we want to thank the UNO in which positive will we are hoping.

We will be grateful forever with them people that have financially supported us to celebrate this event, and at last we want to thank our own community who have worked with their heart and soul to celebrate the international indigenous day with beautiful initiatives.

Victory to the Munda people.

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Glossary

Adivasis, Adibashis: aboriginal, indigenous people of India.

Ail: mud walls used as embankment in paddy fields.

Akash Filter: rain filter.

Ama bossha: the last day of the dark fortnight in the moon calendar.

Aman: variant of paddy.

Asharh: month of the Bengali calendar, corresponding approximately to June-July.

Ashshin: month of the Bengali calendar, corresponding approximately to September-October.

Aush: variant of paddy.

Bawali: wood cutters and thatch collectors.

Bigha: unit of measurement of land.

Bhadro: month of the Bengali calendar, corresponding approximately to August-September.

Bhitar Ghar: holy corner inside the Munda house dedicated to the worship of spirits of the ancestors.

Bhoot: ghost, spirit.

Boishakh: month of the Bengali calendar, corresponding approximately to April-May.

Bôrsha: Rainy season, Monsoon, in the Bengali calendar.

Borshi: fish-hook.

Bôshonto: Spring season in the Bengali calendar.

Buno: pejorative term to define indigenous people literally means “jungly,” “uncivilized”

Char: silt land.

Choitro: month of the Bengali calendar, corresponding approximately to March-April.

Chira muri: special dish prepared with the new rice.

Compat: name of one of the three known Munda tribes living in Bangladesh.

Dothi: traditional men’s garment in the Indian subcontinent.

Dhardhara: Munda dance.

Dosh Kaman: the ten mourning days that follow the burial of a Munda person.

Ekor: acre

Falgun: month of the Bengali calendar, corresponding approximately to February-March.

Gamcha: a napkin made by hand loom.

Gazi: Bengali brand that produce big plastic tanks.

Ghat: series of steps leading down to a water body.

Ghatak: matchmaker.

Gotro: clan.

Grishsho: Summer season in the Bengali calendar.

Hatkata: cut by hand.

Hari Kolchi: clay pot used to make Haria Mod.

Haria Mod: traditional Munda rice beer, also called Sita.

Hemonto: Dry season in the Bengali calendar.

Irri: variety of paddy.

Joishtho: month of the Bengali calendar, corresponding approximately to May-June.

Jhumer: Munda dance.

Kabiraj: traditional healer.

Kachua: tortoise.

Kal Baishaki: a storm that indicates the beginning of the rainy season.

Kartik: month of the Bengali calendar, corresponding approximately to October-November.

Kharif: autumn or monsoon season, the term Kharif means "autumn" in Arabic.

Kharia: name of one of the three known Munda tribes living in Bangladesh.

Khas: state owned unused land.

Kouri: shell.

Magh: month of the Bengali calendar, corresponding approximately to January-February.

Malsha: clay bowl used by the family of the death during the Dosh Kaman.

Mantra: a sound, a syllable or a word with spiritual power.

Mankin: name of one of the three known Munda tribes living in Bangladesh.

Mattbar: Munda village's traditional leader.

Mouali: honey collectors.

Mundu: in Munda language means "head".

Murgi: chicken.

Murha: in Munda language means "roots of the tree"; this name in the past was also used to indicate the Munda village's traditional leader.

Narota: celebration performed by Munda after nine, eleven or thirteen days a baby is born.

Nishan: corner where some gold, silver and bronze, three fistful of rice, some grass and a post of bamboo with an arrow sign are put by the head of the family under the ground during the ceremony performed by Munda when a new house is built.

Neem: *Azadirachta indica*, is a tree in the mahogany family Meliaceae.

Neshindi: species of tree.

Ôgrohaeon: month of the Bengali calendar, corresponding approximately to November-December.

Pahan: Munda ritual celebrant.

Pahari: Hill people, word used by Bengalese people to refer to the indigenous people living in the Chittagong Hill Tracks.

Pali: a pot made of cane.

Para: village

Polow: wicker basket.

Pond Sand Filter (PSF): is a package type slow sand filter unit developed to treat surface water, usually pond water for domestic water supply. Slow sand filter is installed near or on the bank of pond, which does not dry up in the dry season.

Poush: month of the Bengali calendar, corresponding approximately to December-January.

Puja: religious celebration, festival, ritual.

Pukur: pond

Punjabi: long men's suit.

Rashi: horoscope.

Razakars: Islamist East Pakistani militia that aided the Pakistan Army during the Bangladesh Liberation War.

Sari: traditional Asiatic female garment.

Samot: irrigation technique which consists in using a triangle of tin supported by ropes to collect the water from the canals and bring it to the field.

Shangashta: association.

Shraddha: Hindu ceremony in which fruits are dedicated in honor of the defunct.

Shuta: chain made of white knit.

Šit: Winter season in the Bengali calendar.

Sita: traditional Munda rice beer, also called Haria Mod.

Shôrot: Autumn season, in the Bengali calendar.

Sordar: Munda village's traditional leader.

Srabon: month of the Bengali calendar, corresponding approximately to July- Aug.

Thana: the districts of Bangladesh are divided into sub-districts called Thana or Upazilla Parishad.

Tulsi: basil.

Tushu: Munda dance.

Upajati: Bangla term used to define tribal people

Upazilla: the districts of Bangladesh are divided into sub-districts called Thana or Upazilla Parishad.

Upazilla Nirbahi Officer (U.N.O.): chief executive of an Upazilla, officer who administers the Upazilla for the central government.

Zamindar: landlords in British India who held enormous tracts of land and ruled over (and taxed) the peasants who lived on it.

The social environment plays a crucial role in the functioning of natural systems. Cultural and social logics underlying water management practices need to be documented and disseminated for designing appropriate developmental strategies.

In a predominantly agrarian country like Bangladesh, water is among the most vital resources for livelihood of the majority of the population. Therefore, its availability and optimum use determines the extent of poverty and inclusion of people in the development process.

Munda is an almost unknown and under researched indigenous group living at the borders of the Sunderban Forest. This book explores the social and cultural dimensions of their deep knowledge of the surrounding ecological environment, focusing on the patterns related to water management. Special relevance is given to the symbolic languages and practices Mundas use to transmit this knowledge through generations and to their perception of the changes the forest's ecosystem is experiencing (possible causes and implications for their people). The information has been collected through horizontal communication processes, implementing PRA activities. The aim of the research is not only to document a vanishing world view, but to support the recognition of Indigenous Ecological Knowledge and its potential for driving change, being the same dynamic and focused on problem solving. Therefore, the document foster an interdisciplinary and integrated research approach that places natural resources management in a deep societal context.

