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|  | Literature Review on |
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| **Gender dimensions in forest use, management, governance, land tenure arrangements and safeguards in support of REDD+ in Bangladesh** |
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# 1. UN-REDD Bangladesh National Programme

## 1.1 Background

In August of 2010, Government of the People’s Republic of Bangladesh became a partner country of the UN-REDD Programme. The UN-REDD Programme is the United Nations collaborative programme on reducing emission from deforestation and forest degradation. The program assists developing countries like Bangladesh to build capacity to reduce emissions and to participate in a future REDD+ mechanism. REDD stands for the reducing emssions from deforestation and forest degrdation in developing countries while REDD+ goes beyong the

In subsequent years, Bangladesh took several initiatives i.e., established the National REDD+ Steering Committee; the REDD+ Preparation Proposal (R-PP) was approved in end of 2013 by UN-REDD Policy Board. The UN-REDD National Programme Document was approved by national counterparts and participating UN organization in 2015. After consecutive procedural formalities, , the government of Bangladesh has approved the UN-REDD Bangladesh National Programme in 19 June 2016.

Bangladesh Forest Department (BFD), a state oranization under the the Ministry of Environment and Forests (MoEF) is the lead Implementing Partner for the UN-REDD National Programme which is headed by a National Project Director (NPD)and supported by the Programme Management Unit (PMU). The United Nations Development Programme (UNDP) and Food and Agriculture Organization (FAO) are the two co-implementing partners providing all out assitance to the PMU. The duration of the NP is from July 2015 to June 2018.

The UN-REDD Bangladesh National Programme has the objectives to support the Government of Bangladesh in initiating the implementation of its REDD+ Readiness Roadmap (i.e., R-PP) by establishing necessary REDD+ management processes, identifying strategic readiness options for completing its National REDD+ strategy, and developing necessary capacities to start the implementation process of REDD+.

Since the REDD+ program goes beyond the context of deforestation and forest degradation and encompasses the role of conservation, sustainable mangemnet of forests and enghancemnet of the forest carbon stocks, it is imperative to examine mutlidimensional attributes such as forest management, governance, land tenure and safe guard in support of REDD+ in Bangladesh.

## 1.2 Scope of the report

As mentioned earlier that the REDD+ program has been developed to go beyond the setting of deforestation and forests degradation only, thus covered many other aspects of which gender dimension is worth mentioning. The primary aim of this report is to document the gender dimensions in forestry sector of Bangladesh based on literature review. The literature includes publish research articles, project and/or government reports and any other such information to allow a depiction of the role both male and female members plays in our forestry sector.

## 1.3 Organization of the report

This report attempts to present the background, scopes and chronologic situation analysis of the gender dimension in forestry sector of Bangladesh. Section 1 introduces the background and scopes of the UN-REDD programme while Section 2 highlighted the significance of gender and their differentiated roles of forest resource use and the importance of considering gender role while developing national REDD+ as per the UNFCCC decisions. Section 3 attempted to reveal the legal and policy frameworks scenario and how it is reflecting and reiterating gender dimensions to be considered in any project implementation. The next section (section-4) depicted the gender role in forestry sector of Bangladesh particularly in terms of resource extraction, livelihood and conservation aspect based on literature review. Section 5 manifested gender dimension in context of the mangrove forest of Bangladesh. Way forward has been suggested in the next section (section 6) based on the literature reviews and general discussion to provide clues for future direction and smooth operation of the national REDD+ program.

# 2. REDD+ and Gender

Women and men have different roles, responsibilities and knowledge in managing natural resources (Resurrection and Elmhirst, 2008). The impact of climate change is more devastating to the sections of people who are generally dependent on natural resources for livelihood such as forest resources. Women in this regard, face the high risk and burdens from the impacts of climate change (WWF, 2012).

Assessing gender roles and supporting women affected by natural resource extraction is important for ensuring natural resource justice (Shabib and khan, 2014; Sweetman and Ezpeleta, 2017). Neglecting gender in natural resource management resulted in sustained conflict between forest custodian and forest resource user groups (FUGs) that in the long run expedite deforestation and degradation of forest resources (Fonjong, 2008).

Considering the vulnerability, Parties to the UNFCCC unanimously agreed upon and involve women and men in UNFCCC process (UNFCCC, 2017). Starting from the 1995 Beijing Declaration and Platform for Action to 2016 Marrakech Climate Change Conference all reiterated the importance of considering gender issue for sustainable resource management. Keeping this in mind, the Paris Agreement of 2015 acknowledges adopting necessary action to respect, promote and consider gender equality and empowerment.

The natural resource base particularly forest resources of Bangladesh are vanishing at an alarming rate (Salam and Noguchi, 1998; Poffenberger, 2000; Rashid et al., 2017). The rapid degradation of forest and its resources is not only affecting our resource base and livelihood, but also contributing negatively to our climate by emitting greenhouse gases. Bangladesh has the potentials for the restoration and conservation of our forest resources by engaging local forest dependent communities since the subsistence needs and conservation linked livelihood is largely dependent of the forest (Ahmad et al., 2011).

Reduction of emission through deforestation and degradation widely dubbed as REDD+ has opened up excellent opportunities to overcome the problem while ensuring biodiversity conservation and addressing likelihoods. REDD+ in this regard, demands extra significance that has been developed in compliance of the decision of the Conference of the Parties (CoP) held at Bali, 2008; Copenhagen 2009; Cancun, 2010 and Durban, 2011.

Dependency level of the local people on forest and its resources are manifold (Tapan et al., 2016). From non-wood forest products extraction to fuelwood utilization in all spheres women have significant engagement (Iftekhar and Hoque, 2005). This dependency scenario has got direct connectivity with the conservation and management of the forest resources. In this connection, the aspect of gender equity needs adequate consideration (Ahmed and Laarman, 2000). In many developing countries biomass is the major sources of energy. The growing dependence of fuelwood by the rural mass is affecting the forest and agriculture (Mahapatra and Mitchell, 1999; Rajwar and Kumar, 2011; Tabuti, 2007; Ramos et al., 2008). A positive relationship has been observed between fuelwood collection and forest destruction where women have major involvement (Kumar and Sharma, 2009).

Assessment of fuelwood demand and determining the resource collectors may assist formulating future forestry plan and implementation program which may have significant impact in the REDD+ program. Various studies carried out in context of Bangladesh revealed the nature and frequency of forest resource collection particularly fuel wood collection and the gender dimension in regards to the involvement in collecting fuel wood. Men, women and children’s engagement of forest resource collection has been depicted in these studies (Mia et al., 2003; Jasimuddin et al., 2006). The gender roles determined in the studies may have significant implication while devising our country strategy for the national REDD+ Program.

# 3. Reflection of Gender Dimension in the Legal and Policy Frameworks: A brief Summary

Legal instruments such as acts and policies are crucial since they guide the program planning and govern the implementation process. Various attributes like gender dimension if reflected adequately in legal frameworks, may provide guidelines to the practitioners to act accordingly. Existing legal and policy frameworks have substantive role to play in fostering forest management (Rashid et al., 2013a). Various legal and policy instruments manifested the gender role in their respective document may substantially direct the policy makers and mangers to implement REDD+ program in Bangladesh. The following section briefly synthesizes various legal and policy frameworks where gender dimension related to forestry are being reflected at various magnitudes:

1. *Bangladesh National Constitution*: Women participation in all development interventions has been recognized and reaffirmed.

2. *Social Forestry Rules-2004*: Women involvement in the social forestry management committee is being ensured (two out of five members of the SF Management Committee will be women). Priority has been given to destitute women as project beneficiary.

3. *Protected Area Management Rule-2017*: Recently developed PA Management Rule creates the provision of including female members along with male members for the effective governance of the protected areas. With the provisioning of these legitimate bodies, objectives have been set to create alternative income generating activities for the forests and PA dependent local communities.

Provision has been made to include women representatives in both Co-management Executive Committee (at least 5 women) and General Committee (at least 4 women including one vice president) widely known as CMC. Women representation from people’s forum (PF) is 40% in both committees while female representative from local union council is 50%. In addition to that, one vice-chairman of the Executive Committee will be women.

4. 7th Five Year Plan (2016-2020): Forestry sub-sector is getting growing importance in national policy and strategy thus maintaining ecological balance and ensuring sustainable economic growth is being set as the development vision.

In addition to the objectives formulated in 6th FYP such as expansion of forest resources, enhancement of the forest productivity, community participation and institutional capacity building, the 7th FYP put emphasis on climate change perspectives of forestry sub-sector. Poverty alleviation and employment generation through community oriented afforestation program including women. Recognizing the relative success of the social forestry program countrywide, 7th FYP reiterated to expand the program.

Carbon measurement in forest protected areas for conservation as well as for the community welfare purposes will be implemented adopting REDD+ program. Promoting participatory, community based environmental resource management and protection considering gender issues.

5. *Perspective Plan of Bangladesh (2010 – 2021)*: Increasing the tree coverage on 2.84 million hectares designated for forest, diversification of tree species to sustain ecological balance, increasing employment from forestry (particularly for women) under expanded social- and agro-forestry, reverting cow dung to use as organic fertilizer and obtaining fuel wood from forests, giving priority to the creation of a coastal green belt and increasing accountability and transparency in public forest management.

6. *Bangladesh Forest Policy-1994*: Priority provisions have been made to women and landless poor in various forestry related activities viz. nursery, plantation, forest management, harvesting and related works. Women will be encouraged to participate in homestead and farm forestry, and participatory forestry afforestation program. Forest related cultural values and religious beliefs have given utmost respect where gender is a crucial dimension. Community engagement or local groups’ participation in public and marginal lands was planned with the help of local NGOs.

7. *Bangladesh Forest Policy- 2016* (draft): Shifting from production oriented forestry to conservation oriented forestry is a challenging task in a country like Bangladesh influenced by multifaceted socio-economic and climatic drivers. The draft National Forest Policy- 2016 makes the provision of incorporating the changing role of forestry by integrating sustainable forest management principles.

One of the salient objectives of the proposed policy is to encourage community participation particularly women involvement in forestry activities (Policy objectives-15). Forest protection issue will be ensured by involving local communities in both natural forest and plantation forest (Statement 3.2; 4.7). In addition to that, advanced fuel saving technologies and devices will be promoted to accelerate the process of forest and its resource conservation (Statement 3.7).

Another remarkable strategy proposed in the policy is the further strengthening of the social forestry program (statement-6). Community empowerment through devolution of power, rights and responsibilities to them has been reiterated in the policy (Statement 6.1). Countrywide expansion of tree planting movement will be carried out by engaging women, youth groups, ethnic communities and NGOs having the know-how of natural resource management (6.10) In tackling climate change issues and to enhance the amount of forest carbon stocks REDD+ will be one of the potential mechanism (9.15).

The policy also addressed the community livelihood aspects quite significantly (statemnet-12). Creating NTFP based alternative income generation, capacity building activities, marketing and processing strategies will be made available targeting various stakeholders including women.

8. *National Adaptation Programme of Action (NAPA)-2009*: Gender aspect has been depicted as the crucial prerequisite for ensuring all development intervention. Furthermore, NAPA advocated gender equality to be addressed across all issues.

9. *National Conservation Strategy, 2016-2031*: The strategy is basically devised a gender sensitive initiative on a priority basis to tackle environmental degradation, education, training and awareness raising activities. About 0.90 million and 0.60 million full time employment opportunity has been created for male and female.

Achievement of biodiversity protection and conservation targets through strict enforcement of laws and community based participatory forest management is being prescribed. The strategy also prescribed the engagement of the specialized NGOs for awareness building, training and stakeholder group formation.

Conservation initiatives are also been recommended to be mainstreamed with community based eco-tourism, co-management initiatives in the protected areas with a view to ensure social acceptance and economic efficiency.

# 4. Gender role in Forestry Sector of Bangladesh: A brief Account of the Selected Literatures

Understanding the gender dimension particularly in respect to forest degradation and deforestation is crucial in order to develop a comprehensive plan/strategy for addressing the problem under the purview of the REDD+ program. Assessing gender dimension is crucial through which it is possible to determine the contribution of women and to obtain an overview on various dimensions of forest use, resource governance and biodiversity conservation. This section has reviewed various contemporary scientific articles, study findings and field documents with a view to determine the role of women in fuelwood and NTFP collection, biodiversity status of gender in forest and its resource use, management and governance. Gender roles are being identified through examining empirical studies under the following broad categories namely deforestation, biodiversity conservation, fuelwood, NTFP collection and livelihood are being depicted in this section.

## 4.1. Gender context of fuel wood collection- findings of various studies

Fuel wood collection is one of the major activities generally carried out both by male and female members to support the daily need of the cooking fuel. Collection of fuel wood from forest is also a significant livelihood option to many poor individuals.

Community living in and around the protected areas is largely dependent on it for their fuel wood supply. A study by Dhali, 2008 manifested how Indigenous women from *Khyang* community met their fuel wood demand both for own consumption as well as for selling In the local market to support their subsistence livelihood.

Female are the major fuel wood collector from forest compared to male since they are the one who manage their family need and day to day household works (Chowdhury et al, 2011). The study also highlighted the ratio of women engaged in fuel wood collection compared to men. However, distance from forest is a limiting factor particularly for the women and children for their involvement in collecting fuel wood and other forest resources particularly non-wood forest products as revealed in a study conducted by Sultana, 2007.

Indigenous women have significant involvement in fuel wood collection and other resource extraction from protected areas as observed by many researchers (Dhali, 2008; Sultana, 2007). Reduction of emission from deforestation and degradation of forest and its resources has got direct relation with the extraction and utilization of forest resources such as fuel wood.

## 4.2. Non-wood forest products extraction and community livelihood

Forest based resources such as non-wood forest products (NWFPs) are playing crucial role in sustaining livelihood of the forest dependent community around the world (Belchar et al., 2005). This is more applicable in a country like Bangladesh where, a significant portion of the forest users groups collect NWFPs from natural forest, protected areas and other sources to endure sustainable livelihood. In this context woman has substantial contribution thus need special consideration to assess their engagement. Many studies were carried out to determine the gender dimension of NWFPs and their utilization aspect. Higher percentage of (53%) of female engagement has been noticed in the collection of NWFPs from a natural forest at Habiganj (Das, 2014).

The contribution of NWFPs as a livelihood option was examined in the CHT context and revealed the dominant role of women in the collection and utilization aspects compared to men and children. Female respondents were found to earn more money from selling raw bamboo than their counterparts (Kar, 2010). Another study conducted at Chunati Wildlife Sanctuary also manifested dependency of the women on NTFP collection for sustaining livelihood and income generation (Miah, 2007). In both cases women found dominant compared to men and children in extracting NWFPs. This scenario depict the importance of gender contribution in regards to NWFPs extraction and utilization that might have significant implication in reducing the deforestation and degradation taking place in relation to NWFPs collection. Female headed families are more dependent on forest for their livelihood as depicted in several studies (Iftekhar and Takama, 2008).

Homestead forestry is now the major source of providing major forest resources particularly timber and fuel wood where women’s contribution worth mentioning. The study by Rahman et al., (2005) examined the contribution of homestead forestry in rural economy and the engagement of women.

## 4.3. Gender context in biodiversity conservation

The success of REDD+ program is largely linked with the effective and sustainable conservation of biological resources available in forests. In doing so, forest dependent community both men and women has defined roles to play. Several studies depicted this attribute and concluded that synergic relation between men and women in work distribution acts positively for resource governance and conservation. The salient example of this context is being reflected in a study by Nath et al. (2003), where gender role in betel leaf cultivation was evaluated and found that this positive cooperation of men and women not only supporting their betel leaf based hill farming system but also contributing towards conservation of forest tree resources. Female headed households were more dependent on forest for their livelihoods than male headed households (Iftekhar and Takama, 2008).

## 4.4. Plantation management and governance

Women are the key play makers in the management and overall governance of the natural resources particularly homestead forestry. Studies carried out on the home garden and traditional farming management identified the higher role of women compared to men (Akhter et al., 2010; Nath et al., 2003). Women spend most of their time in pre-harvesting activity and watering, fertilizing, weeding and fencing. On the other hand labor-intensive activities like digging holes, pruning, and planting species were mainly done by men. In some cases women’s involvement found insignificant compared to men in sal forest region particularly in case of strip plantation, block plantation and in agroforestry (Muhammed et al., 2008).

## 4.5 Role of women in collaborative forestry programs

Community participation in forestry is a fairly recent development that has received momentum in the face of global recognition on participatory management in a range of resource management, conservation and related aspects of sustainable development (Khan, 1998; Nur Muhammaed et al., 2008). Participatory forestry in Bangladesh is regarded as a strategy for both forest resource management and community development (Mukul et al, 2010; DoE, 2010 and Khan, 1998). Participatory forestry in Bangladesh originated as an alternative to conventional forestry practice with a view to increasing the forest coverage while educating, engaging and encouraging active community participation in forest management (Muhammed et al, 2008).

Community participation in forestry in this region can be traced back to 1871 with the ‘taungya’[[1]](#footnote-1) system in teak (*Tectona grandis*) plantation in hilly lands (Nath et al., 2016; Rashid and Mukul, 2017). However, the terminology of participatory forestry was officially coined through community forestry projects during the 1980s (Rashid et al., 2013b). It has been further expanded in various forms, namely the Thana Afforestation and Nursery Development Project (TANDP 1989-1996), the Forestry Sector Project (FSP 1998-2004), the Coastal Greenbelt Project (CGP 1995-2002) and the Sundarban Biodiversity Conservation Project (SBCP 1999-2006) (Khan et al, 2004).

Women are being given priority when selecting the beneficiary of these social forestry projects. Also, if any beneficiary is a married man, his wife will automatically also be a beneficiary and vice versa. Thus about 50% of the participants of social forestry programs are women (Khan et al, 2004). Nearly 30% of the total 1, 33,080 people receiving benefits from social forestry programme in Bangladesh is women. In Jessore, Patuakhali, Jamalpur and Comilla districts 100% beneficiaries were women under the community forestry projects (Khan et al., 2004).

The success of social forestry in terms of people’s participation and expansion of green coverage viewed as the combined efforts of the local community based organizations, forest department and national and regional development organizations (NGOs). Significant development took place in terms of number of seedling planted, socio-economic upliftment, employment generation etc. Women engagement in strip plantation program was significant. 4-6women /km were involved under the Thana Afforestation and Nursery Development Project popularly known as TANDP. Based on the initial success and experiences, the government of Bangladesh with the help of the development partner (USAID) introduced co-management in selected forest protected areas (Khan et al., 2004; Rashid et al, 2013a; Rashid et al., 2013b).

### 4.5.1 Gender dimension under various forest co-management regime

Forest and biodiversity conservation efforts in Bangladesh are deeply embedded within the socio-economic and cultural heritage of the people living in and around the forest areas. Conventional revenue generating top-down approach of forest management takes it root through the promulgation of the Charter of Indian Forest dates back in 1955 that continue both in pre and post-colonial regime (Mustafa, 2002; Ali et al., 2006).

The forestry sector of Bangladesh is shaped by diverse political (colonial, post-colonial and independent Bangladesh) and management regimes (social forestry, community forestry and collaborative (Khan, 2004). The consecutive development of forest policies and practices in the Indian sub-continent has been impacted by the complex political, economic and physical actors as well as global trends (the above three lines are basically the same). This has resulted in the paradigm shift in forest governance through the initiation of people oriented forestry practices. There is also a growing concern among practitioners and the policy makers that the conventional forestry practices (which is mostly top-down in nature) need to be shifted towards more sustainable forestry practices (governed under bottom-up approaches), thus demanding a careful selection of approaches that will help address the diverse needs of the stakeholders, such as poverty alleviation and sustaining livelihoods .

Introduction of social forestry in late 80s believed to be the beginning of a new era in the forestry sector of Bangladesh, whereby poor people were engaged in the implementation and decision-making process of forest resource management (Chowdhury and Koike, 2010). The relative success of social forestry (Khan et al, 2004) has invited the development of more effective forest governance particularly in the forest protected areas of Bangladesh through developing co-management approach. Initially five protected areas were included under the project on pilot basis. The rationale for introducing co-management was to ensure sustainable governance of the protected areas while creating livelihood of the forest dependent community (DeCosse, 2012). Three collaborative project regimes namely NSP (2003-2008), IPAC (2008-2013) and CREL (2013-2018) implemented with a view to create an effective network of forest protected areas where gender roles are clearly designated and recognized through adopting legal framework such as CMC, PF, VCF etc.

About 20% of the positions on the co-management councils (CMC) in 22 Protected Areas and 50% (or 733) positions with the People's Forum (PF) for the Protected Areas have been reserved for women members. Moreover, 33% of the positions with the Village Conservation Forum (VCF) are reserved for women from the villages adjoining the Protected Areas. Thus, a total of 16,240 women are involved in providing motivation for the conservation of forests particularly protected area governance. Women are also playing significant role in the conservation of forest resources by participating in various tiers of the co-management initiative. Involvement in community patrol groups is one such avenue of participation. Until today, 190 women are acting as community petrol group (CPG) member side by side of the male members (CMC Congress, 2018). The recognition of one such women CPG member (Mrs. Khurshida Begum of Teknaf Willife Sanctuary) is a salient example of their significant contribution in conservation who has received prestigious *Wangari Maathai Award-*2012 for her co-management efforts and leadership in conservation of forest resources in the area.

House Holds (HHs) inside the PAs dependent on the forest resources mainly for fuelwood and house building materials (NSP 2003a; 2003b). Women and children were found collecting fuelwood in the form of dead branches, stick etc. In addition to that, bamboos, NTFP, medicinal plants, vines etc. are the major forest resources often extracted by the forest dependent people (NSP 2003a, NSP 2003b). This unregulated collection of fuelwood from the PAs expedited the process of removal of tree species and the reduction of forest regeneration. Illegal extraction of the forest resources is one of major reasons of deforestation (NSP 2003a; NSP 2004a; NSP 2004b).

Individual site level field appraisal was also carried out with the help of a two-step rapid appraisal process namely RRA and PRA to determine various attributes of co-management that includes identification of major stakeholders, causes of forest degradation, local community and their power structure, socio-economic status of the dependent people, prevailing challenges and future potentials to improve the management activities. While identifying major stakeholders it is being revealed that fuelwood collectors, illegal fellers, betel leaf cultivators plays major roles in forest destruction (NSP 2004c). Among the 12 major forest resources collected from most of the protected areas, fuelwood and timber are collected on a large scale while bamboo, cane, sun

The appraisal also revealed the role of women in the extraction of forest resources and found their dominancy in fuelwood collection (NSP 2004c) that has also been supported by the assessment made during IPAC regime(IPAC, 2009a, IPAC, 2009b) . Forest regeneration and local biodiversity are directly impacted due to the extraction of these resources. However, most of the study revealed the gender issue in light of household decision-making, outdoor mobility, access to credit and IGA.

The third initiative of co-management CREL started operating after the completion of the IPAC focusing climate resilient ecosystem and livelihoods of the community in protected areas as well as in wetlands. CREL project took initiative to synthesize the gender dimension to create a balance and supportive environment in project implementation and decision making process. In doing so CREL included 50% project beneficiaries from women and imparted training and capacity building support with a view to

i. Reduce unsustainable extraction and dependence on natural resources

ii. Increase knowledge and resilience in response to CC

iii. Strengthening joint decision making and female empowerment

Youth engagement is given priority and at the same time recognized the importance of gender equality and female empowerment for the sake of sustainable ecosystem and communities. The following achievements were noticed by assessing various annual progresses monitoring appraisal of the CREL project (CREL, 2014, CREL, 2015, CREL, 2016 and CREL, 2017).

The following table summarizes the major initiatives taken by the CREL project particularly in context of capacity building, plantation, seedling distribution and nursery focusing the engagement of the male and female beneficiaries:

a. Gender approaches are applied in offering CMOs

b. Number of female beneficiaries increased gradually and significantly (nearly 78% CREL beneficiaries are women)

c. Training on AIG such as seedling distribution, planting nursery raising and climate resilient NRM to women members

d. The project developed participatory gender need based assessment tool that is tested and applied accordingly

Gender opportunities and action-learning strategies has been formulated in order to ensure equitable engagement of men and women, reducing unsustainable extraction and dependence on natural resources, knowledge enhancement having regards to climate change and to strengthen joint decision making and women empowerment. All these interventions are designed and advocated for the sustainable management and livelihood of the protected area dependent community particularly women (CREL 2014b).

# 5. Gender Dimension in the Sundarban Mangrove Forest

Sundarban mangrove forest is the world’s largest single chunk mangrove forest of the world spreading over Bangladesh and Indian part. The Sundarbans constitute the world’s largest continuous mangrove forest (10,000km2) located within a massive river delta system between India and Bangladesh (GoB, 2017).

To ensure sustainable management of any forest resource, it is important to devise a forest management plan that guides and regulates the management of encompassing resources (BFD, 2010). Keeping that view in mind, a 10 years long integrated resource management plan (IRMP) for the Sundarban Mangrove forest of Bangladesh has been formulated. Under the IRMP of Sundarban ten interlinked strategic management developed with a view to achieve 5 planning goals and outcomes for the sustainable management of Sundarban Reserved Forest (SRF) and surrounding landscapes.

Enhancing socio-economic benefits of the local community in the interface landscape zone is one of the key objectives of the IRMP (IPAC, 2010). Supporting and improving community based co-management approaches by engaging landscape communities and stakeholders are prescribed in the plan.

PRA and RRA were conducted in 14 unions’ falls within the impact zone identifying primary stakeholders dependent on the Sundarban ECA. In doing so, dependency ratio was assessed whereby occasional fishing, post larvae collection and subsistence fishing found as major sources of livelihood both for men and women (BFD, 2010).

Restricted accessibility may affect livelihood of the forest dependent community as experienced in case of Sundarban (Naser, 2016; Roy et al., 2012). Heavy community dependency regardless of gender has been noticed. Some studies concluded that women had important role in subsistence based on Sundarban resources. However, this contribution is often undervalued or remains undocumented. Poor landless women, women without male guardian are more reliant on mangrove resources (Guhathakurta, 2008).

# 6. Recommendations

Implementing the REDD+ program in Bangladesh need to consider national strategy and the international policy, plan and program with a view to prioritize action plan. Designing and implementing an effective REDD+ methodologies must consider some critical path ways, of which, gender is a vital one. Reducing the process of deforestation and forest degradation in Bangladesh, demands the identification of gender role and their multi-dimensional attributes which may have significant implications over the process.

Although literatures on gender and their differentiated roles in forest resource extraction, management and governance process are strikingly limited in context of Bangladesh, this literature review revealed some of the salient aspects on how the gender dimension is being addressed and influencing the issues of forest governance, community livelihood and land tenural arrangements. In addition to that, cross cutting issues like climate change adaptation and resilience capacity of the local community have also been manifested through various studies and findings. However, the major limitations of all these studies are that, they failed to quantify the issues and factors related to gender dimension adequately. In order achieve desired benefits from the REDD+ program we need to quantity the gender dimension in forest management, use, governance, land tenure arrangement in support of the effective implementation of the REDD+ program. Based on the summary review the following issues need to be considered for the effective implementation of the national REDD+ strategy:

1. Legal and policy frameworks related to forestry sector have made the provision of addressing and engaging women in the planning, implementation and governance of the forestry programs (section-3). However, the success largely depends on the program level application of the legal and policy instruments from where REDD+ program can get clues for development.
2. Women’s experience and response to environmental change are being widely shaped and influenced by gendered roles, responsibilities and expectation. Women participation in climate change decision-making process need to be mainstreamed to recognize their contribution as well to ensure effective participation.
3. Restricted accessibility to resource utilization may affect livelihood of the forest dependent community particularly the women section as experienced in many studies. Some studies revealed that access to resources like land, finance and technology may produce 20-30% more food by women compared to men. REDD+ program should take this message into their planning process.
4. Women had important role in subsistence based on sundarban mangrove forest resources. However, this contribution often remains undervalued or remains unacknowledged thus need adequate recognition (section-5).
5. Gender sensitive policies are strikingly limited although some project interventions namely IPAC, CREL has created some initial provisions. Vulnerabilities of women to climate change and related issues may address superficially without adequate quantification but hardly included in the operational planning process.
6. Ensuring livelihood security of the forest dependent community particularly vulnerable women and their family members using sustainable forest management principles are crucial. Studies revealed that poor women without a male guardian are more vulnerable hence largely inclined to forest resources and their extraction. REDD+ planning strategy need to consider this.
7. Education, information and decision-making power are the major determinants to combat the problems of deforestation and forest degradation thus assessing gender role in three of these aspects need to be quantified.
8. Dependency on forest and its resources depends on many factors including the distance of living from forest. However, while conducting baseline survey to determine the resource dependency of the community i.e. men, women and young groups, it is imperative to take into consideration of the people living away from the forest area.
9. Equitable engagement of women will strengthen joint decision making process provided their contributions are well documented and acknowledged (Section-4.5.1).
10. In co-management of forest protected areas as well as in wetlands, the engagement of women has been formalized through legal framework and gazette notification. However, their active participation in decision-making process is still a limiting factor. REDD+ program need to work further to operational engagement of the women groups.
11. Fuelwood collection for domestic uses as well as for livelihood purposes is a critical factor of deforestation and forest degradation. Creating alternative in this regard, may impose positive impacts.
12. Forest dependency reduction and creating safeguards are mutually related. Scopes of alternative income generation (AIG) may reduce the dependency on forest resources particularly on NTFPs, timber, fuelwood. Thus ensuring effective AIG activities is crucial factor to be considered while devising national REDD+ strategy.

# 7. Conclusion

National REDD+ program has got multiple benefits to forest conservation and to the community participating in the process. At the same time increasing resilience capacity and combating climate induced vulnerabilities REDD+ program contributing towards the initiatives. Assessing the gender dimension by determining the actual figures may have positive proposition to conservation and for acquiring result based payments.

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1. Taungya derived from the Burmese terms where *taung* means hill and *ya* means cultivation. It is the form of hill cultivation widely practiced by the tribal swidden farmers in the Chittagong Hill Tracts. [↑](#footnote-ref-1)