BANGLADESH RESEARCH PUBLICATIONS JOURNAL
ISSN: 1998-2003, Volume: 10, Issue: 3, Page: 263-269, November - December, 2014

Review Paper

SOCIAL IMPACT ASSESSMENT ON SOCIAL CHANGE PROCESS: AN ANALYSIS OF THE CASE OF JAMUNA BRIDGE IN BANGLADESH

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Bipasha Dutta (2014). Social Impact Assessment on Social Change Process: An Analysis of the Case of Jamuna Bridge in Bangladesh. Bangladesh Res. Pub. J. 10(3): 263-269. Retrieve from http://www.bdresearchpublications.com/admin/journal/upload/1410035/1410035.pdf

Abstract

To add pace to the economic development, *Jamuna* Bridge was constructed to connect the east and northwest part of Bangladesh. *Jamuna*- the longest bridge of Bangladesh had significant impacts on the livelihood of the ethnic communities. In such a backdrop, objectives of the paper are to focus on the effectiveness of the social impact assessment process by reviewing the literature to assess if the social change process has been distinguished from the impact assessment process. By using literature review the paper distinguishes social impacts from social change. The paper demonstrates that unconsciousness about the distinction between social change process and social impacts limits the effectiveness of the impact assessment process and distinguishing social change process from impact assessment can ensure more effectiveness of the social impact assessment process.

Key words: *Jamuna* Bridge, Displacement, Gender, Social Change Process, Social Impact Assessment.

Introduction

Different aspects of livelihood of the ethnic communities are affected by the development projects. For ensuring sustainable environment, avoiding negative consequences and recognizing benefits, Social Impact Assessment (SIA) is of utmost importance (Frank and Vanclay, 2013; Barrow, 1997). Maximization of benefits and minimization of harm are the primary objectives of SIA (Vanclay, 2002). "Social impact assessment is the process of analyzing (predicting, evaluating and reflecting) and managing the intended and unintended consequences on the human environment of planned interventions (policies, programs, plans, projects) and any social change processes invoked by those interventions so as to bring about a more sustainable and equitable biophysical and human environment" (Vanclay, 2003, P. 6). SIA is also an adaptive management process where formulation of alternatives, baseline study, assessment, strategy, monitoring, evaluation and new activities are necessary (Franks and Vanclay, 2013).For unavoidable negative impacts, SIA determines the fair compensation for the communities (Hanna and Vanclay, 2013).For reducing the negative impacts, distinguishing the social change process from the impacts is indispensable (Vanclay and Broeder, 2011). Social change process for a particular project or policy may impact negatively or positively. However, in the existing literature of impact assessment the distinction is often blurred. The paper analyses the case of *Jamuna* Bridge to explore the perceptible difference between social change and impact assessment process. Also, the paper demonstrates that distinguishing social change process from impact is both desirable and necessary to ensure effectiveness of the social impact assessment process.

Methodology

The study based on literature review and the theoretical framework used here have been developed by Vanclay (2002)

SIA involves evaluation of all impacts on human that considers interactions of individuals and communities with surroundings. (Vanclay, 2003). Vanclay (2002) categorized seven aspects of social impacts.

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- Health and wellbeing: impacts of construction on health issues
- Quality of the living environment
- Economic impacts
- Cultural impacts
- Family and community impacts
- Institutional, political and equity impacts
- Gender relation

Also, social change process has been categorized (Vanclay, 2002).

Vanclay (2002) categorized seven types of social change processes.

- Demographic processes- (migration, presence of construction workers etc)
- Economic processes (diversion of economic activities, inflation etc)
- Geographical processes (diversification of land use, urbanization etc)
- Institutional and legal processes (decentralization, privatization etc)
- Emancipatory and empowerment processes (marginalization and capacity building etc)
- Socio cultural processes (social globalization, segregation etc)
- Other processes

The core difference between social change and social impact is social impacts are experiences by human either in cognitive or physical sense (Vanclay, 2002). "Impact is an actual experience of an individual or community" (Vanclay, 2002; p.189). Social change may instigate further changes and may or may not have potential social impacts (Vanclay, 2002). Based on this category, following section explore the distinction between social impacts and change process in the case of *Jamuna* Bridge.

Results and Discussion

Jamuna bridge is the longest bridge in Bangladesh with the length of 4.8 km (Luppino, Gajewski, Zohir, Khondker, and Crowther 2004). Leading international organizations like World Bank (WB), Asian Development Bank (ADB), and Japan Bank for International Development (JBIC) and Government of Bangladesh (GOB) invested $900 million for the project (Siddique, 2013).

Figure 1: Photo of *Jamuna* Bridge

Jamuna Bridge was constructed (1994-98) to connect the north western and eastern part of Bangladesh that was segregated prior to the construction of the bridge (Badruzzaman and Ahmed, 1995; Siddique, 2013).). Economic aspects were considered with importance in the impact assessment for Bangladesh is a developing country where economic development is a key concern and the primary objective of *Jamuna* Bridge was economic progress. However, the economic change process has not been distinguished from the economic impacts.

Economic Aspects

Land Acquisition: Household cultivation reduced in the post project period (Barua, Nath and Jahan 1993) for reducing amount of lands. Also, for the land acquisition, number of poultry (that were source of income and consumption) and trees (both fruit and trees for wood and timber) owned by the affected households reduced in the post construction period. Excess land acquisition is another characteristic of big infrastructure project in Bangladesh. A large amount of evacuated land for *Jamuna* Bridge is still remained

unused. (Atahar, 2013). Thus, land acquisition is a geographic process that reduced the income.

Land Reclamation and compensation: Land reclamation process results in financial loss as the process took seven working days and loss of daily income of 782 BDT (Dulu, 2003). Besides, those who received compensation had to visit and bribe different land officers to prove their ownership and collection of documents (Ghosh, Rahman and Rana, 2010). Many people were severely affected by the land acquisition process that were neither compensated nor rehabilitated. Even compensated amount was not sufficient to buy the same amount of land. (Ghosh, Rahman and Rana, 2010). Compensations were provided only for housing, not for the eroding community facilities (Dulu, 2003). Only the land owners but not other affected groups like tenants, farmers and sharecroppers were treated for compensations (Atahar, 2013).

Displacement: To minimize the length of the bridge for reducing construction cost through channelization and narrowing of the river with rock and concrete made erosion more intense and less predictable (Dulu, 2003) and caused displacement.Where displacement is inevitable for development projects, World Bank and ADB have provision for adequate compensation. However, the gap between provision and implementation was huge in case of *Januma* Bridge. According to the study of BRAC (1992), only in the eastern side of *Jamuna*, 77,280 people would be affected (Siddique, 2003). The project affected 1, 00, 000 people where 3604 households lost their lands (Siddique, 2003) indicates the adequacy of the measures of affected people. At the same time,the project target beneficiaries were only from eastern side, the western side was neglected. The southern side inundated leaving people homeless and unemployed for speed of current strengthened by 3 to 4 times for the construction purpose (Dulu, 2003). Even, they were not properly considered for the compensation and inhabited for one year without any regular work (Ghosh, Rahman and Rana, 2010).

Financial loss was one aspect of the construction of the bridge. The core objective of the construction of the *Jamuna* Bridge was instigating economic growth by ensuring better communication facilities. Construction of the bridge facilitated economic benefits like improved market opportunities, increased rents and access to micro credit.

Economic Impact and Diversification of Land Use:Improved marketing opportunities, better access to input for production, better inflow of workers were facilitated by the construction of *Jamuna* Bridge (Bayes, 2007).Though, access to market increased for all groups of farmers, only large and medium farms had greater benefit from the increased access to market. (Bayes, 2007). However, the change in economic condition was not statistically significant (Bayes, 2007).

Increased Rents:The landowners of the non poor households have been benefited from the construction of the bridge which was detrimental for the poor tenants for increased cost. At the same time, number of tenant farmers increased in the area (Bayes, 2007). Urban rich households have also been benefited in comparison to the urban poor (Luppino, Gajewski, Zohir, Khondker, and Crowther,2004).

Micro Credit: Access to credit increased in post *Jamuna* period for NGOs emerged more actively after the construction of the bridge facilitated by better communication. Before the construction, only 4% of the households had access to micro credit (Bayes, 2007).

Economic process like development of infrastructure, better communication facilities and diversified economic activities had positive impacts in accessing technology, micro credit and increased income. However, the positive impacts could not be enhanced to reach the vulnerable communities. Also, social change process like demographic process and geographic process had potential impacts like reduced income. Figure 2 distinguish social impacts from social change process and visualize the contribution of change process in social impacts.

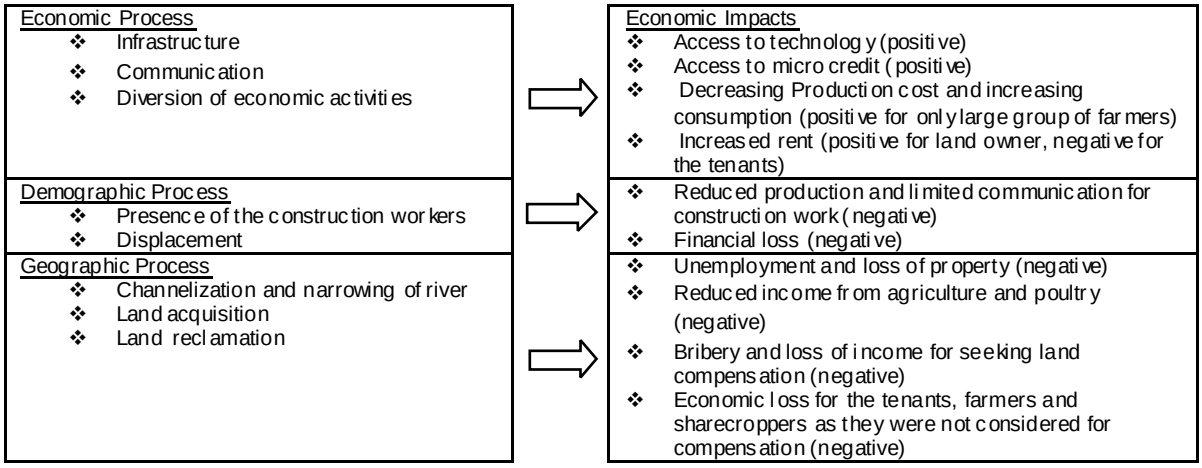

Figure 2: Influence of change processes on economic impacts of *Jamuna* Bridge

Quality of the Living Environment

Storage of chemical in a certain place and disposal of solid waste for the construction purpose deteriorate soil quality. Dredging process increased sedimentation. Ground water quality also deteriorates for spillage of toxic chemical. Surface drainages were blocked by the construction of embankments and approach roads cause increased risk of flooding (Badruzzaman and Ahmed, 1995). Dust from the use of vehicle and machinery, waste burning, dredging for construction work caused air pollution. Dust derived from the construction site, blockage of drainage, increased probability of flooding damaged agriculture production. At the same time level of noise pollution increased in the concerned area for use of vehicle, electricity generator, pile driving operation and dredging. Dust, noise vehicle might affect the existence of flora and fauna. Aquatic life and biodiversity might also get affected from the dredging. Piling work would interruption the river traffic and navigation(Badruzzaman and Ahmed, 1995). Figure 3 reveals the impacts of geographic change process like blockage of drainage, change in river navigation, existence of toxic chemical, increased vehicles impacts on the quality of living environment by increasing probability of flooding, occurring pollution, threatening biodiversity, and noise pollution

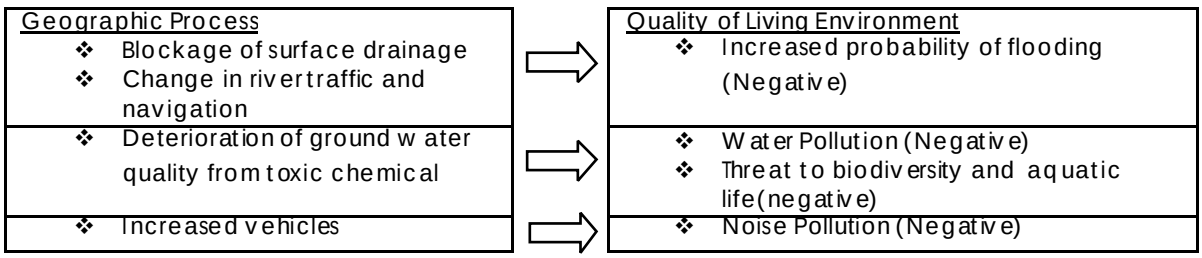

Figure 3: Influence of change process on quality of living environment of *Jamuna* Bridge

Impacts on Health and Well being

The increased frequency of flood and erosion by the shifting river threatened lives of the people living in the *char* (islands). Some *chars* that were stable for 30 years deluged in a few days for the construction of the bridge (Dulu, 2003).

Though, it was reported that immunization, use of contraception, number of deep tube well and sanitary latrine increased in the post project period (Ghosh, Rahman and Rana,2010). Simultaneously, inadequate drainage system in the resettlement site caused water logging and outbreak water borne diseases (Ghosh, Rahman and Rana, 2010). Use of chemicals and machinery in the construction work and increased traffic augmented health hazards of the workers, and also of local people (Badruzzaman and Ahmed, 1995). Lack of drinking water and sanitation facilities in the contractor labour camp erected in the construction site contributed to increased risk of diseases. Gathering in the construction site may lead to immoral practice and prostitution with the propobility of risk of tranmission of diseases. At the same time, open storage of water for the construction would spread diseases through the breeding

of the vector like mosquito (Badruzzaman and Ahmed, 1995). Figure 4 reveals the distinction between social change and impacts and their relationships.

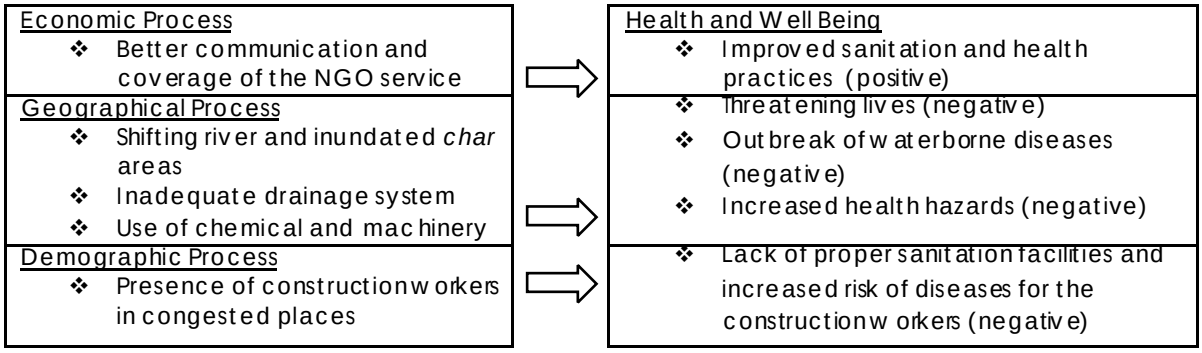

Figure 4: Influence of change process on health and well being impacts of *Jamuna* Bridge

Cultural Impact

Cultural impacts have often been less focused in the impact assessment process of Bangladesh. For the case of *Jamuna* Bridge, change process like migration, presence of affluent and improved communication impacted significantly on culture.

People were reluctant to move to the resettlement site for they feared that the different culture in a new community would hamper the *pardah* (seclusion) of the women (Ghosh, Rahman and Rana, 2010).Also, small, unsuitable plots for the joint family, lack of space, difficulty of construction thwart their migration to the resettlement site (Ghosh, Rahman and Rana, 2010).

The affected areas were agriculture dominated in the pre project era. In the post project period, a leaning toward business and employment was found. Improved communication and better transportation facilities reduced production cost for the small businessman like who used to sell local dresses and thus encouraged more people to be involved in the business. The affected household those were compelled to buy land in the resettlement areas found it difficult to transfer agricultural products to their house for long distance (Ghosh, Rahman and Rana, 2010).

People were forced to migrate for three or more times for the construction of the bridges that also causes shift in social and cultural traditions. For they have migrated to main lands and shifted their profession to rickshaw pulling and day labourers where they live in more congested place where there is no room for gardening and animal husbandry (Dulu, 2003). However, shifting of occupation had other cultural impacts. For instance people involved in river transport like ferry workers while shifting job as road transport labours faced resentment and unsupportive attitude from the existing workers. People who changed their occupation from agriculture to day labour or rickshaw pulling had to go through a change of social status for these occupations are considered less prestigious in comparison to agriculture and they had to adopt to the culture of the lower class people. Also, resettlement of people and inmigration of comparatively affluent people from outside interrupted the local lives and culture (Dulu, 2003).Figure 5 shows the impacts of change process on culture aspects.

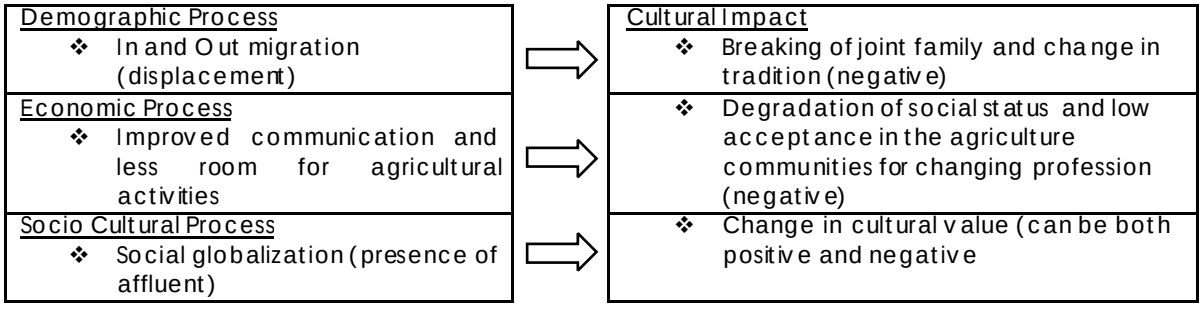

Figure 5: Influence of change process on cultural impacts of *Jamuna* Bridge

Gender Relation

In the pre project period women were mainly involved in household activities like assisting in agriculture. In the post project period, women were more likely to get involved in income generating activities like sewing, embroidery and rearing poultry that contributed to increased income and women empowerment (Ghosh, Rahman and Rana, 2010). At the same time, women had to travel to town for accessing health care for inadequate health care service in the resettlement site (Ghosh, Rahman and Rana, 2010). The impacts of migration to the resettlement site were more severe to women in comparison to men in terms of security and social status. In the *char* areas they could move freely to the neighbours. In the main land's they are treated outsiders and harassed by the men that limit their movement. Also, unemployment by the men caused increased tension in the family (Dulu, 2003). Affected widows were not considered for any compensation (Dulu, 2003). Figure 6 demonstrates influence of change process on gender relations.

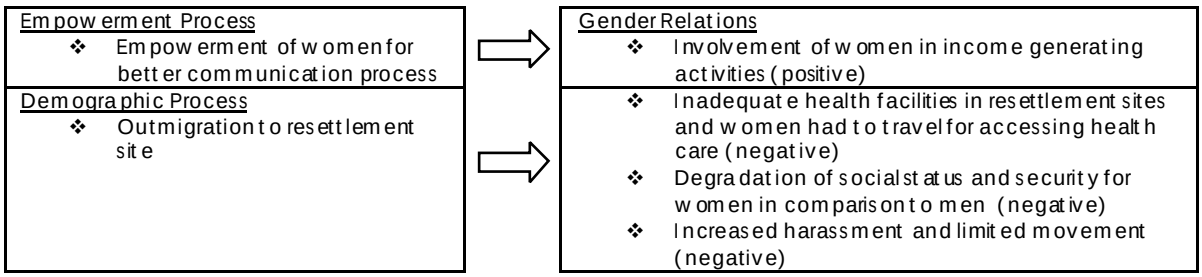

Figure 6: Influence of change process on gender relation

Concluding Remarks

In the context of a developing country like Bangladesh, SIA is a comparatively less focussed filed. The first institutional framework for environmental impact assessment was established in 1992 of which SIA was one of the components (Cox, 2008; Momtaz, 2005). Still, SIA has not been institutionalized in Bangladesh for lack of clear legislative mandate (Momtaz, 2005). Legal documents (Environmental Conservation Act 1995; Environmental Conservation Rules 1997) that contains provision for EIA in Bangladesh do not mention SIA (Momtaz, 2005; Sharif and Hannan, 1999; DOE, 1997). Though, social impact assessment has emerged as an important area of specialization since 1992 in Bangladesh (Momtaz, 2005); it lacks a common framework of understanding and implementation strategy. SIA as a process and as it is practiced in Bangladesh failed to appreciate the distinction between social change process and impact assessmentand thus is less effective in reducing the negative impacts and expanding positive impacts.

Acknowledgement

I would like to thank University of Groningen, the Netherlands for giving me the opportunity for the conduction of the study. I also would like to express my deepest gratitude to Dr. Kazi Maruful Islam, University of Dhaka for his continuous support during study.

References

Atahar, S. A. (2013), Development Project, Land Acquisition and Resettlement in Bangladesh; A Quest for Well Formulated National Resettlement and Rehabilitation Policy, *International Journal of Humanities and Social Science, 3* (7), 306-319

Badruzzaman, A. B. M., &Ahmed, M. F. (1995), Construction Related Environmental Impacts of the Jamuna Multipurpose Bridge, *Journal of the Civil Engineering Division, Institution of Engineers Bangladesh; CE 23* (1) 1-18

Barrow, C.J. (1997), Environmental and Social Impact Assessment —An introduction. Centre for Development Studies, University of Wales Swansea, Retrieved from https://www.google.com.bd/url?sa=t&rct=j&q=&esrc=s&frm=1&source=web&cd=1&ved=0CCEQFjAA&url=https%3A%2F%2Fwww.dlsweb.rmit.edu.au%2Fconenv%2Fenvi1128%2FReading-Barrow.pdf&ei=DZGKVKeGMIqSuAS8olKIBQ&usg=AFQjCNFQI8y3THtsgQLjmLdsxyBkmUMeSg&sig2=irf6X5R7z5YoMUT8PUONgA&bvm=bv.81828268,d.c2E

Barua, T.K., Nath S.R., & Jahan S. (1993), Jamuna Mutipuporse Bridge: Surveys of residual land and project affected persons, Dhaka, Bangladesh, . Research and Evaluation Division, BRAC

Bayes, A. (2007), Impact Assessment of Jamuna Multipurpose Bridge Project (JMBP) on Poverty Reduction, Japan Bank For International Cooperation (JBIC)

Burdge, R. &Vanclay, F. (1995), Social impact assessment. In: Vanclay F, Bronstein DA, editors. *Environmental and Social Impact Assessment.* pp. 31–65. Chichester: Wiley

Cox, G, Dale, A,& Morrson, T. (2000), Social assessment and resource management in Australia. In: Dale A, Taylor N, Lane M, editors. *Social Assessment in natural resource management institutions*.. p. 74–92.CSIRO Publishing: Collingwood, Australia

Department of Environment (DOE). (1997), EIA guidelines for industries. DOE: Dhaka, Bangladesh; Retrieved fromhttp://www.slideshare.net/ShakilURP06BUET/eia-guidelines-for-industriesbangladeshdoe-moef-gobjune1997part-3

Dulu, M.H. (2003), The Experience of Jamuna Bridge: Issues and Perspectives in Clark, D., Fox, J., Treakle, K., editors. *Demanding Accountability,*;. p. 93-114, United States of America, Rowman & Littlefield Publishers, Inc

Vanclay, F., & Broeder,L. (2011) Emphasising enhancement in all forms of impact assessment: introduction to a special issue, Impact *Assessment and Project Appraisal, 29 (*3), 170-180, DOI

Franks, D., & Vanclay, F. (2013), "Social Impact Management Plans: Innovation in corporate and public policy", *Environmental Impact Assessment Review 43* (1), 40-48.

Ghosh, S. C., Rahman, H., & Rana, M. (2010), Revisiting Jamuna Bridge Resettlement Areas: Exploring Livelihood Status of the Affected People, Dhaka, Bangladesh , BRAC Research Report,

Hanna, P.,&Vanclay, F. (2013) "Human rights, Indigenous peoples and the concept of Free, Prior and Informed Consent", *Impact Assessment & Project Appraisal*; *31*(2), 146-157

Khan, M. M. (1998), Administrative Reforms in Bangladesh,Dhaka, Bangladesh, The University Press Limited (UPL)

Luppino, M., Gajewski, G., Zohir, S., Khondker, B.,& Crowther, D. (2004), Estimating The Impacts Of The Jamuna Bridge On Poverty Levels In Bangladesh Using Sam And Cge Models: A Comparative Study , Washington, DC 20037, The Louis Berger Group, Inc.

Momtaz, S. (2005), Institutionalizing social impact assessment in Bangladesh resource management: limitations and opportunities, *Environmental Impact Assessment Review*, *25* (1) , 33-45

Penze, P., Drydyk, J., & Bose, P. (2011), Displaced by Development: Ethics and Responsibilities, New York, Cambridge University Press

Rahman, H. (2001), *Resettlement in JMBP; Assessing Process and Outcome,* Dhaka, Bangladesh, Power and Participation Research Centre (PPRC)

Sharif, M.I.,& Hannan, M.A. (1999).*Guide to the Environmental Conservation Act 1995 and Rules 1997*. Dhaka, Bangladesh. Bangladesh Centre for Advance Studies (BCAS).

Siddique, T. (2013, 8 January), Policies and Issues in Resettlement of the Displaced, The Daily Star,

Vanclay, F. (2002), Conceptualizing Social Impacts, *Environmental Impact Assessment Review, 22* (3), 183-211

Vanclay, F. (2003), International Principles for Social Impact Assessment, *Impact Assessment and Project Appraisal21*(1)