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Informing and Involving the Flood Exposed Community in Fulcharri Upazila at Ghaibandha District Bangladesh on Flood Risks and Mitigation

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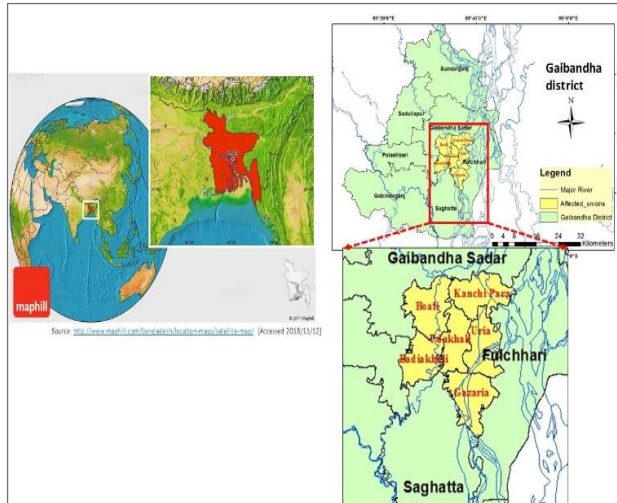
Synopsis

Involving citizens, and a broad range of stakeholders and beneficiaries from the government, private and non-profit sectors, more regularly and directly is one of the key components in project design, development, decision-making and implementation process. Traditional top-down approach to project implementation have increasingly lost public participation and support and been replaced with more deliberative, inclusive and communicative with the local people. This article is discussing the effective engagement of the stakeholders and beneficiaries through the project workshop, a key part of the component 1, 'Flood Disaster Risk Assessment and Mitigation' under the project Disaster Prevention/Mitigation Measures against Floods and Storm Surges in Bangladesh. Gaibandha one of the highly river flood prone districts in Bangladesh is considered as a case study under this project. This article presenting the active community participation, collecting their response and sharing knowledge to empower the participants and to improve the project on flood risks assessment and mitigation process to minimise the flash flood impacts and to ensure sustainability.

Key words : Top-down and Bottom-up approach, Community Workshop, Flood disaster, Risks and mitigation

1. Introduction

Almost every low-laying coastal country are experiencing coastal erosion and flooding, which is first-hand effect of climate change. The global annual average loses due to flood and other extreme climate events is more than hundreds of billions of dollars, which not only included infrastructure but also lives (Reyers *et al.*, 2017). Bangladesh is a real example of extreme flood victim country in the world. Almost every year



the country gets affected by flood and storm surges. Beside the changing global climate, geographical location and the unique hydraulic system is another prime reason of flood in Bangladesh. However, floods in Bangladesh are two types, one is drastic damaging flood and other is blessing one. During the monsoon (from June to September), almost one-fifth of Bangladesh get flooded due to heavy rain. One other hand off-season tidal flood deposit fertile alluvial silt, which consider as flood blessing for farming (Hossain *et al.*, 2016). To understand and assess the flood risks and the mitigation process in Bangladesh, a large-scale project titled “**Disaster Prevention/Mitigation Measures Against Floods and Storm Surges in Bangladesh**” initiated under SATREPS (Science and Technology Research Partnership for Sustainable Development). SATREPS is a JST and JICA program for research projects targeting global issues and involving partnerships between researchers in Japan and developing countries (SATREPS, 2018). One of the components of SATREPS project in Bangladesh is “**Flood Disaster Risks Assessment and Mitigation**”. This part of the research is conducted in Gaibandha district in northern part of Bangladesh. Gaibandha is one of the highly flood prone districts and located in such a geo-paradox that exposed it both the monsoon and tidal flood. The district is located in the basin of 7 different rivers and its distributaries. Namely Brahmaputra-Jamuna, Teesta, Karatoya, Bangali and Ghaghat rivers. The major rivers that contributes floods in this area are Brahmaputra-Jamuna, Bangali

and Ghaghat also Teesta and Karatoya also contribute heavy flooding in this area. River flood causes extensive damages to crop, infrastructures and lives. In Gaibandha district, Gaibandha Sadar, Fulchhari and Saghatta are the three most flood affected Upazilas. Among those areas 4 unions (lowest level of Local government territory) under Fulchhari Upaziala named Udakhali, Uria, Kanchipara and Gozaria are most exposed to flood and get affected frequently.

Fig. 1 shows the most flood affected areas in Gaibandha.

“Flood Disaster Risks Assessment and Mitigation”, research project component is almost at the end phase and the last part of the project is to have local workshop with the local communities who are the key beneficiaries. With that local community workshop taken place on 5th of November 2018 in Fulchhari Upaziala. The local workshop was to meet the local community, local government representatives (Union Chairman) National government representatives and representatives from development organizations (NGOs) working for the local community. This article presents the summarised version of the workshop out comes, where the local representatives have their queries about the project outcome and share their knowledge and ideas with the research team. At the same time the research team explain their research and answer the queries. Which is nothing but the philosophy of exchange ideas and sharing knowledge to make the project a sustainable one.

2. Local workshop

The aim of the local workshop was

To obtain opinions from local leaders and residents to make the final version of flood risk and hazard maps.

The aim of the workshop is also justified by three key objectives and those objectives are:

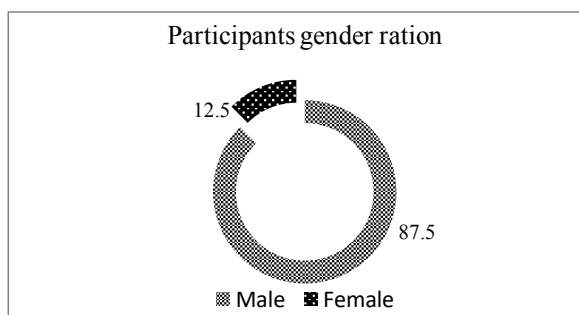
- **To show the participants tentative flood risk and hazard maps.**
- **To gather opinions to modify the tentative maps.**
- **To know what kind of information can be useful and helpful for the flood disaster prevention.**

Local workshop was organized by one of the project partners, Bangladesh University of Engineering Technology (BUET) with the support of a local NGO named *Gana Unnayan Kendra (GUK)*. The program was coordinated by one of the project leaders Prof. Dr Md. Munsur Rahman (Institute of Water and Flood Management (IWFM), BUET).

2.1 Welcome note

As a project coordinator and team leader and coordinator Prof. Dr Md. Munsur Rahman welcome the participants and explain the aim and objectives of the workshop. Following is the translated version of the welcome note by Prof. Dr Munsur Rahman

“We have very limited understanding and ideas about this area as we are not from here. However, you have as you been the son of this soil. You know this area, rivers, land, and weather much better than us. No matter how much we try and how many researches we have completed it is not possible for us to know this land better than you all. Yet we are here to share and exchange our understanding, our research and knowledge about this area with you. We are here to talk to you all to enhance our knowledge and experiences to work in this area.



A big promise started in our country to make it a better place for our kids and our next generation. We all work hard to earn and save to secure our kids future, so they can enjoy a better life. But if we fail to make the whole country a safe and better place to survive, our savings, our property won't bring any good for them. I know I am talking about our emotions and we do need emotions to complete a task. Without emotion a work is nothing but a mechanical solution. If the machine gets defected it won't work anymore. But our project is for the local people of this area and we work with them for their betterment, so we do need emotions to complete it. For this emotion and feelings for this area we are here today. For example, we have public representatives from both the local and the central government. We have union chairman (local government), representatives from LGERD (central government). You all came here in this workshop willingly. You have an urge to be here, which is our emotion to feel and to work for the community.

In today's workshop we are going discuss and share our thoughts and research on "Flood disasters risk reduction and mitigation". In simple how can we mitigate the flood risks in this area, that we are going share and discuss with you all. We have projects in every corner, South, East and West of Bangladesh

about different disaster risks. For example, cyclone is a predominating natural disaster in Southern part of Bangladesh. We also work on flood risks in Sylhet. However, cyclone is not an alarming or threatening natural disaster here in North. Flood and river erosion are the two most prominent disasters here. This morning I had a chance to talk to the people during my morning walk. They all pointed that river embankment breach is one of the key reasons of having flood. Sometime embankment breach due to river erosion, sometime some people cut the embankment for their own interest. There is a strong relation between flood and embankment breach. Embankment breach cause flood and vice versa. I am going to talk how to minimize the flood damages and risks. It is important to know how to minimize the flood damages and also how to minimize flood risks. Here Professor Mashfiqus Salehin from BUET and my Japanese colleague Dr. Kenji Kawaike from Kyoto University are accompanying me to explain those facts in detail. Please welcome them in our today's workshop."

All together 40 participants from different background attended the workshop and share and exchange their knowledge to enrich the project outcomes. Figure 2 present the gender ration of the participants to ensure equal voice in development practice.

Fig. 2: Gender ration of the participants for equal voice. (Complete list is attached as annex).

First part of the workshop was to present the research "Flood Disaster The keynote paper about the project was presented by Professor Mashfiqus Salehin from BUET and Dr Kenji Kawaike from Kyoto University also present the disaster risks and hazard map to understand the flood risks and to minimise the risks.

Second part was about public response and knowledge sharing with experts about this project outcomes. Participants also share their experiences to address where they need more technical support to minimise the flood risks in the study area. This article summarises public response in translated from.

3. Public opinion and Q& A Session

The session stated with a welcome speech by M. Abdus Salam, Chief Executive of Gana Unnayan Kendra (GUK) a national NGO working for vulnerable community in Ghaibandha district. According, Mr Salam

“I welcome you all for today's workshop. As we all know our Gaibandha is one of the most vulnerable districts to riverine flood in Norther Bangladesh. According to our knowledge almost 22 Unions out of 4 Upazilas are highly exposed to flood and get

flooded almost every year. Mainly those unions located in Brahmaputra-Jamuna and Teesta river basin. With heavy rainfall or high upstream flow almost 40 unions in Gaibandha get flooded almost every year. That means almost half of our district is always vulnerable to flood. Especially the island population and yield frequently get affected by the river flood. This workshop is organized by Bangladesh University of Engineering Technology (BUET), along JICA and Kyoto University Japan. Here I take the opportunity to thank them to initiate such workshop in Gaibandha. Every year we get affected by flood and we try to minimise the risks and losses by ourselves using our own ideas and methods. For example, we make the land bit high as it was flooded last year or we move to a new place, where the risks is low. However, we seldom get a chance to combine our ideas and methods to minimise flood risks with research and technology. Today is the day we get an opportunity to share our ideas with the researchers and experts working on flood risks mitigation in this area. I do believe if we can share and combine our knowledge with them, we would definitely be benefited to minimise flood risks and losses. BUET started a project along with Kyoto University and JICA to minimise the flood risks in the most vulnerable areas in Ghaibandha and today we are going to talk about that project. Therefore, we invite public representatives the Union Chairman, Union members, community members, School teachers, Government officials from those highly exposed and vulnerable unions to share and exchange their ideas with the experts to make this project a successful one and give the local people a better life. Here Gana Unnayan Kendra is playing the role of volunteer to be a part of this workshop as we always work for the vulnerable people of this area.”

As a project leader Prof. Munsur Rahman presents flood risks reduction and mitigation process in the selected areas. From his research findings he stated 3 key points where the local representatives can share their knowledge and can contribute to improve the project outcomes. Those three points are:

“First, we need to understand the flood risks in this area from your local knowledge. With your local knowledge you know the risks and can mark the most vulnerable points. We also have our risks assessment data. We will combine this two information to understand the risks and can find a solution.

Second, we need to discuss about the techniques and methods to minimise the flood damages and losses. Different government departments such as LGED, and Water Development Board they are doing in

different ways to minimise flood risks and damages. At the same time local people have their ways to recover flood damages. We also have our research data and findings. If we can share and combine all those different methods, we can find a better and sustain solution for flood risks in this area.

The main purpose of this project is to empower the community to eradicate poverty. Empower the community to work, earn and saving to overcome poverty. Bangladesh government has a plan called “Delta Plan” which is a 100 years plan for poverty eradication in Bangladesh.”

3.1. Public response

1. Mr Abdus Salam Zakir, Chairman Kanchi Para Union

“All we are here are from this island and know this area. Personally, I born and bought up in the land, what you mean by son of this soil I am one of those. I do feel today we not only talk about flood but also river erosion. You have complete project on riverine flood, I think we need a complete project just on river erosion. In fact, every year river erosion causes drastic damage to compare to flood and we are more vulnerable to erosion than flood. For example, in this region usually we have flood from June to August, sometimes it may extend till September but not November. Bu today, 5th of November, 4 villages in my areas are still flooded because of erosion. We the island people believes floods are two types one is damaging flood and other one is productive flood. We do need the productive or the positive flood for crop yield. However, we are afraid the drastic flood. That drastic flood always occurs with river erosion. Every year different government bodies like water development board they are working on this erosion issues. But it depends on the local Member of Parliament (MP). We do believe we have a fertile land, favourable weather and climate for agricultural production, only if we can control river erosion then we could do much better than other parts of the country. Therefore, I am requesting you, if you please work on erosion it would be a real help for us.”

2. Md Liton Mia, Union Parishod Chairman.

“Every year Bangladesh Government sanction a huge amount of development budget to protect the river embankment and to control the erosion. Usually Water Development board is the assigned government authority to complete those tasks. However, Water Development Board work during the monsoon or in the flood season when these rivers are over flowed due to heavy rain and heavy upstream flow. Therefore, those protective measures

Yet, we are having flood almost every year. The embankment also breaches at different points and the Water Development Board always busy fixing that. Therefore, I do suggest it is important to mark clearly the most vulnerable and weak points of the embankment. Also, important to know at what point the embankment breach. If we have a clear information and we protect those selected vulnerable points in advance. We will be able to minimise the flood risks.”

8. Once again Chairman Mr. Abdusslam Zakir point out two different issues in regards of flood risks management

“We need dredging at list 10 km of the river Brahmaputra to channel out the high flow. If we can maintain the navigation of this part of the river it would minimise the flood risks. At the same time the local chairman and other representative may have the opportunity to learn from better examples from other districts or other country, would help them to perform better.”

While addressing the flood risks reduction methods, the research team also request the local representative to discuss more one warning system, evacuation plan during flood, after flood measures, assess the flood damages and how to minimise such flood damages based on the presentation. Prof. Dr. Mashfiqus Salehin request them to explain their methods and experiences on those topics which would help the research team to understand the fact and work in details on those issues.

9. While covering the point mentioned by Prof. Salehine one of the community representative addressed

“Unplanned embankment is one of the key challenges for flood. He addressed government keep on build embankments everywhere to protect flood, but there is no established channel to pass the upstream heavy follow during monsoon. If we don’t let the water to pass, eventually we get flooded. My suggestion is we need to dredge the river and make a proper channel to let the water pass to mitigate flood risks.”

10. While the Shirina Begum selected Women member of Madari Union parishad addressed climate, change is the key challenge not only for that particular area but also for the whole country. She pointed out

“I had a chance to visit Netherlands in 2007 as a local representative from Bangladesh. Netherlands has the same character like us. If we can learn from them and can be together to face climate change, we could make this area better place to live, work and survive.”

11. In addition, with Shirina Begum another chairman addressed that river erosion in that area become more extreme than before. He was saying

“Based on experience these days we are having extreme and frequent river erosion than before. Because the the navigation system of the river is too shallow now. The river gets wider compare to its depth and that continuously erode the embankments along the river side. Therefore, my suggestion is if the river get dredged enough to hold and pass the upstream flow, it would reduce flood risks. One more issue is the island people are the people who live right at the bottom line of the poverty and they don’t want to leave their house. If we have evacuation centre on the embankment, could save the lives of island people”

12. Chairman from another Union parishad share his experience about the flood on 2016. As he marked

“My union is located within the embankment therefore it is in a safe location compare to the islands. However, in August 22-23, 2016 we had a heavy flood and I was afraid in case the dam near to Shignra union which is one of the vulnerable point breach will cause a huge dame in my area. In fact the dam breach and we have nowhere to go. We were waterlogged for 7 days. We lost crops, agricultural land, houses schools. I believe if that dam was maintained properly and if it didn’t breach, we may not suffer that much. Therefore, I think if we can control the river flow with proper dredging and protect the dam, we can reduce flood risks.”

One of the researcher Mr Islam point out the early warning system. He addressed according to filed research within the embankment areas the early warning leave time is only two hours, outside it 8 hours and in the island, it is 24 hours. Because in the island areas local NGOs work in advance and actively communicate the waring to the community. It means people who live on the island get more time to get prepared to be in the flood shelter compare to the people who lives within the embankment areas. If the early warning leave time is longer it minimises the flood damages and also minimise the risks. He asked the local representatives to give feedback also on early warning system how that could be more effective, especially in crop production. If the local community change the crop production pattern based on the early waring may save economic losses of the yields. In that area Jute and vegetable get highly damaged by the flood. Therefore local representatives’ response on crop production will help them.

13. Another Union Parishad women representative Miss Lovely Begum addressed about advance

flood (locally known as AGAM BONNA). She pointed out,

“During summertime they have advance flood due storm surge locally known as KALBOISHAKHI, that damage rice production especially in the island areas. During this advance flood the whole island goes under water, and there is no channel to pass the water and that cause huge damage on rice production. If there is a way to channel out the advance flood water, we could save our crop and economy.”

14. While addressing the local community response one of the NGO representative pointed out that

“Bangladesh Government has a 100 years plan for flood risks mitigation named “DELTA PLAN”, under the delta plan government has plan to dredge the river to maintain navigation especially in this particularly in this area to maintain the water flow and minimise the flood risks. But the problem is where to dump the sands/riverbed’s soil after dredging. He asked community to suggest on that particular matter. One of the Union chairman suggest that after dredging the sand can be deposited along the both side of the river and that would be another place for new settlement.”

At the concluding remark Prof. Munsur Rahman point out that

“Most of the community members and the local representatives’ address dredging the river for proper navigation. Even they suggest only 10 km dredging is enough to mitigate flood risks in this area instead of 35 km. Bangladesh government has already started the survey. But the problem is we are thinking from our local perspective. It’s a 3000 Km long river and only 200 km cross Bangladesh, which is even less than 10%. So, whatever we do here it will not change much at the upstream. So even we dredge the river we will still have the same siltation problem because of upstream sediment load. Bangladesh government already taking initiatives, Sirajgong near the Jamuna Bridge is a very good example. In that area government is increasing river depth and minimising the width to ensure maximum flow. Under the government delta plan by 2040 to increase navigation in this area. Government has the same plan as you are suggesting, but we also need to consider it is not always possible to do what is our plan. Because this same river flows through China and India they are constructing hydroelectric dam and other barrages on this river to meet their needs. It is not only climate change, but also human impact is there on this river. Therefore, we have to plan for

the future and look forward how we can do our best to protect this area.”

15. One of the local chairman thanked the research team and GUK, he addressed

“We are the victim of different natural disasters and every time the local NGO GUK stand next to us. So, I like to thank GUK the NGO and also the research team from BUET and KYOTO University to think and to do research about the island people to ensure a quality life for them.”

After the thanksgiving, Chief Executive of GUK Mr. Salam conclude the workshop with a lunch invitation for all the community members, local representatives’ and government official who attend the workshop and share their experiences and ideas to make this project a sustainable one.

3.2 Summary of public responses on flood risks prioritization

In the community workshop out of 40 participants 30 participants were from local government representatives (Union Chairman), Union and community members, government officials and NGO representatives. Out of those 30 participants almost 20 of them share their experiences about flood risks and mitigation and had their suggestion to the research team. From the suggestion five key issues are identified to mitigate flood risks. Those key issues are

1. River Management
2. Embankment Management
3. Hazard Map
4. Climate Change
5. Waterlogged (Adv flood)

Under the “River management” issues they mostly addressed navigation and river erosion. One the other hand “Embank management” covers identify the vulnerable sections and risks assessment of those area. Also, re-construct the dam based on the risk’s assessment during dry season. Some of the respondent addressed several issues however, based on their importance a ranking model has developed to prioritize the issues.

A ranking model has been developed to prioritize the key challenges addressed by the local communities. In Fulcharri in Ghaibandha, a total of 15 respondents identified five different issues they experienced for flood risks. A 5-degree ranking model prioritiz the challenges based on their response.

$$V = \left\{ \left(\frac{R_i}{R_t} \right) \times D_i \right\}.$$

Here, V = value under the 5-degree scale; R_i = Number of responses; R_t = Total number of respondents; and $D_i = 5$, a value of common scale.

In this prioritizing model, total number of respondents $R_t = 15$. However, number of responses $R_i = 23$. The community representatives were requested to share their knowledge and ideas and sometime one individual has his/her opinion on two or more issues for local flood risks reduction. Therefore, number of responses is more than the number of respondents. On the other hand, $D_i = 5$, as the key focus points were limited within the selected 5 issues.

Figure 3 presents the key issues identified by the local community during the workshop on flood risks management in Fulchhari, Ghaibandha on 5th November 2018. Along the river embankments and protect those areas also get high priority by the community. Local community point out about the advance flood (before monsoon) which, cause water logging and cause damages for crop production. While hazard map to minimize the risks also get priority by the community along with climate change and flood effects on that area.

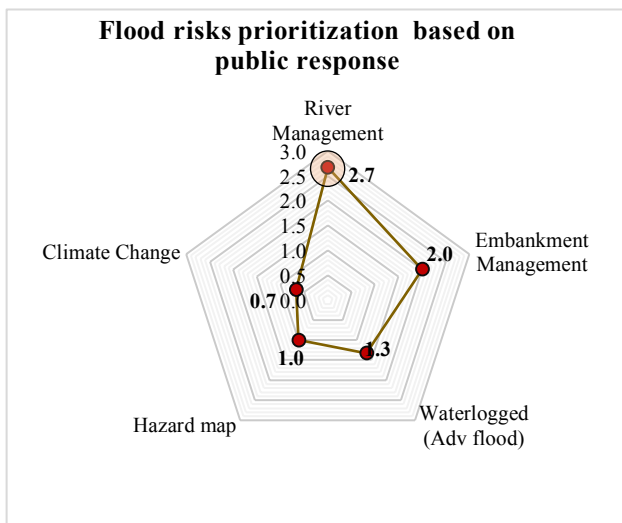


Fig.3: Community responses (2018)

According to the figure 3, most of the respondents including the local Union parishad Chairman, Community members, pointed out that river management that is dredging, proper navigation and channel out the upstream flow would be more effective to minimize the flood risks. On the other hand, embankment management, that is identify the riskiest points and the vulnerable areas

4. Recommendation

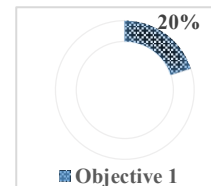
The local workshop is considered a successful one from community participation perspective as the community leader have their voice on project findings and point out

the risks in selected unions of Fulcharri Upazila. They also point out five main facts that may help to minimise the flood risks in that particular area. Yet the objectives of the local workshop were not fulfilled completely. There could be a gap to convey the real message what we want from them and also a gap what we want to show them to get their feedback and support. For example, objectives are

(1) Objective 01.

To show the participants tentative flood risk and hazard maps.

One of the key objectives was to show the local community a tentative “**Hazard map**” of the selected area, to inform and update them about the possible outcome of the project.



However, they were shown a Japanese hazard map and the community have a very limited understanding of that. Therefore, most of the respondents did not make any comments or had any feedback on a hazard map, which is linked with the second objective.

(2) Objective 02.

To gather opinion to modify the tentative maps

As addressed before, there was no real hazard map was shown to the community it was a map from Japan, the community members failed to give their opinion on that to help the research team to prepare a complete hazard map.

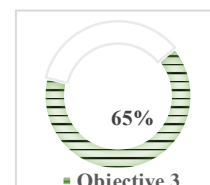


However, one of the Union Chairman (in community response number 6) addressed we need something like Japanese Hazard Map at Union Level after Dr Kenji’s explain what a hazard map is. Also, the GUK Chief Executive explain local prepared hand map for risks reduction.

(3) Objective 03.

To know what kind of information can be useful and helpful for the flood disaster prevention.

The local community members and local representative actively involved in this session and share local experiences and ideas to minimize the flood risk in the study area. This is also one of the



key objectives to gather community response to work on flood disaster prevention. However, success of a development projects like flood risks reduction depends on active public participation and that should be started right the beginning instead of implementation

phase. Active public participation need be an integrated tool of any development project to inform and involve to stakeholders and beneficiaries to achieve the goal of the project. Figure 4 presents different phases of active public participation adopted from Ontario's quarterly health report.

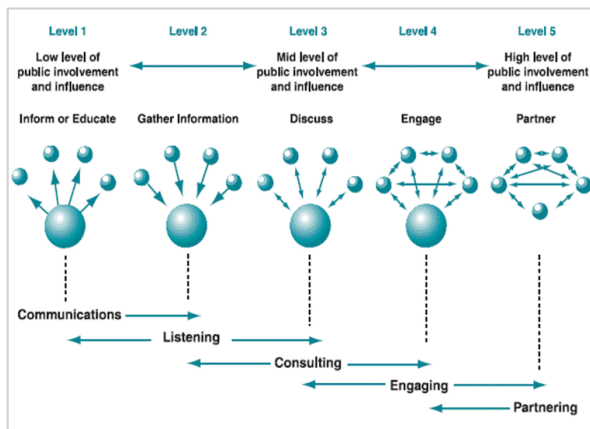


Fig.4: Public engagement and active participation in development project (Born and Laupaics, 2012).

It is important to communicate with the local community and practice an active public participation to make the project a successful one at the implementation phase. For example

01. The local expert and research team (BUET) & community in Fulcharri Upazila at Ghaibandha need to work together to understand and develop a **Hazard map** that reflects local flood disaster risks, shelters, evacuation path, time and warning. Rather seeing a Japanese hazard map, which is good to enjoy not to implement.

02. Review the project outcomes over the time **consult**, **communicate** and **share** the findings with the local communities at implementation and monitoring phase.

03. **Engaging** and **partnering** with the local community would reflect the project outcomes a successful one now and future.

5. Reference

Born, K. and Laupaics, A. (2012) *Public engagement in ontario's Hospitals – opportunities and challenges*. [online] Available at: <https://www.longwoods.com/product/download/code/23159> [Accessed 12 Jul. 2019].

Hossain, M. S. *et al.* (2016) 'Recent changes in ecosystem services and human well-being in the Bangladesh coastal zone', *Regional Environmental Change*. doi: 10.1007/s10113-014-0748-z.

Reyers, B. *et al.* (2017) 'Essential Variables help to focus Sustainable Development Goals monitoring', *Current Opinion in Environmental Sustainability*. doi: 10.1016/j.cosust.2017.05.003.

SATREPS (2018) *Consider Action on Floods and Storm Surges to Break the Disaster-poverty Spiral in Bangladesh, Science and Technology Research Partnership for Sustainable Development Program*. Available at:

https://www.jst.go.jp/global/english/public/shiryo/brochure2018_en.pdf (Accessed: 5 November 2018).

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Annexe 1.

List of the participants

No	Full Name	Title/Affiliation
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2	Mashfiqus Salehin	Professor, BUET
3	Hamidul Huq	Professor, UIU
4	KM Nabiul Islam	Former Senior Research Fellow, BIDS
5	Arup Talukder	Research Associate, BUET
6	Kenji Kawaike	Associate Professor, Kyoto University
7	Tomonori Deguchi	Geophysicist, Nittetsu Mining Consultant
8	Suuko Terayama	PC
9	A.K.M. Idris Ali	District Relief and Rehabilitation Officer, DDM, Gaibandha
10	Md. Showkat Osman	District Training Officer, Department of Agriculture Extension (DAE)
11	Md. Mominur Rahman	Sub-Assistant Engineer, LGED, Saghata Upazilla
12	Md. Emdudul Haque Molla	Sub-Assistant Engineer, LGED, Fulchori Upazilla
13	Abdul Jalil Sorkar	Bharatkali Union, UP
14	Md. Azizur Rhaman	Chairman, Erendabari Union
15	Abul Malak	Volunteer, Erendabari Union
16	Md. Abu Hanif	Chairman, Fazlupur Union
17	Shapla	Fazlupur Union, UP
18	Md. Abu Talab Mowla	Fazlupur Union, UP
19	Md. Abu Hanif	Volunteer, Fazlupur Union
20	Md. Zamadul Haque	Disaster Volunteer, Fulchori Upazilla
21	MST Shirin Begum	Fulchori Upazilla, UP
22	Md. Abdus Salam	Chairman, Kamarjani Union, UP
23	Md. Sofiqul Islam	Kamarjani Union, UP
24	MST Shampa Begum	Kamarjani Union, UP
25	Md. Khalil	Panel Chairman, Kanchipara Union
26	Md. Liton	Chairman, Kanchipara Union
27	Md. Abdul Hye Mondal	Chairman, Mollarchar Union, UP
28	Md. Mohasin Mia	Mollarchar Union, UP
29	MST Hamida Begum	Mollarchar Union, UP
30	Md. Anower Hossain	Chairman, Udakhali Union
31	Md. Amzad	Udakhali Union, UP
32	Md. Mohatab Uddin	Chairman, Uria Union
33	Md. Abdul Mannan	Uria Union, UP
34	Md. Haydar Ali	Uria Union, UP
35	Labli	Uria Union, UP
36	M. Abdus Salam	Chief Executive, GUK
37	MA Hossain	Coordinator, GUK
38	Md. Rokonzaman Zillulla	Coordinator, GUK
39	Md. Al-Faruque	Project Officer, GUK
40	Aftab Hossain	GUK