

Gibika

Securing livelihoods against climate change

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Overview – Gibika
Securing livelihoods against climate change

All key drivers of risk are present in Bangladesh: natural hazards, rapid urbanisation, demographic changes and poverty in many regions of the country. With Gibika the project partners aim to increase resilience of people affected by disasters and climate change and to secure livelihoods also during crisis.

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During monsoon flooding is part of everyday life in many parts of Bangladesh. This boy on his regular way to school has to cross 800 meters in deep water.



Editorial – Safeguarding livelihoods and protecting life in Bangladesh

Resilience describes the ability of people or communities to better cope with shocks such as natural disasters, environmental or system changes. The overall objective is to minimise losses and damage. Ideally, having overcome a shock or stress situation, individuals and communities emerge with renewed strength and fresh knowledge.

Cyclone Amphan, which hit India and Bangladesh on 20 May 2020, once again demonstrated the importance of resilience. It was only thanks to the prevention measures in India and Bangladesh that the death toll could be kept low. Fortunately, our project area escaped without major damage, as wind speeds here no longer reached extreme values.

Gibika is the Bengali word for subsistence or livelihood. One focus of our work is the strengthening of gibika in Bangladesh. This means providing opportunities for people in at-risk communities to develop their own ideas, strategies and a secure income through their own efforts. This can be very difficult, particularly in very poor and mostly remote communities. Employment opportunities are often limited, and external shocks can easily result in severe damage to the already fragile infrastructure. For example, large portions of the rural population are dependent on agriculture.

Droughts, floods, or the salinisation of soils can cause immense stress and damage. They often have a two-fold impact on the affected communities: crops fail, and the food supply for families is endangered. Surpluses can no longer be sold, and as a result,

income quickly decreases. Young people are then often pushed to move to the cities in order to find other sources of income. Population shifts from these areas lead to a scarcity of valuable agricultural workers. As a result, the community gradually becomes even more vulnerable.

Gibika wishes to explore and, if possible strengthen, the ability to vary livelihood opportunities. At the same time, local communities, together with the project partners, should develop tools to improve their reaction and response to shocks.

Munich Re Foundation supported the project financially, while also giving advice and sharing its networks. However, the biggest parts of the projects were organised by our friends and colleagues from UNU-EHS and ICCCAD. We thank them from the bottom of our hearts for an extremely fruitful and beneficial five-year partnership. We are convinced that Gibika will make a difference for and in Bangladesh, even after the end of our funding period.

We wish you an interesting read.

Christian Barthelt

Christian Barthelt

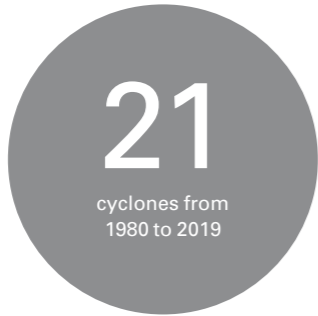


Cover page:
Two boys sitting on a new dike looking at their new family house in Dalbanga South. Relocating behind the dike is a good safety strategy, however, building there also means using agricultural land for living.

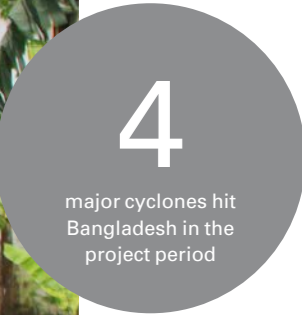
Bangladesh – Risks are ubiquitous

Bangladesh is a fascinating country. Over 160 million people, more than half of whom are not even 20 years old, live in an area less than half the size of a country like Germany. It is situated at the confluence of the Ganges, Brahmaputra and Meghna rivers and ranks 147th of 187 in the Human Development Index, making it one of the most vulnerable countries in the world. Climate change will most likely exacerbate the situation. Bangladesh will be one of the most heavily hit countries.

It is not only one of the poorest countries in the world, but its development also regularly experiences setbacks due to weather disasters. Scientists are predicting an increase in risks, one reason more for Munich Re Foundation to invest in a new resilience project for communities at risk. The project was started jointly with UNU-EHS and ICCCAD in 2013 after an analysis of the current and probable future situation.



Cow peacefully grazing on a dike and a fisherman in the river. The picture on the right gives an impression of the massive riverbed erosion in the area.



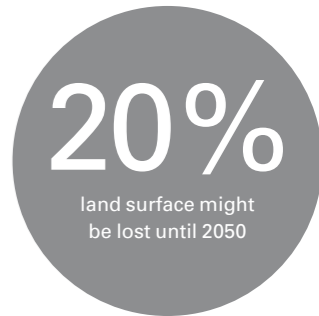
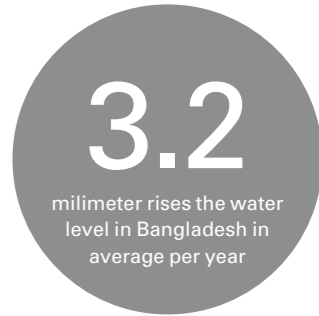
Three school girls stand in front of a cyclone shelter in Dalbanga South. In normal times the building is used as a regular school building.

Climate change and risk management in Bangladesh – The launch of a new foundation project

Already today, floods, storms, surges and droughts cause repeated setbacks to development in this predominantly agricultural country. In autumn 2007, Cyclone Sidr left a trail of devastation in its wake. Several thousand people lost their lives, 775,000 houses were damaged, and large numbers of livestock and poultry perished. During the project period (2013 to 2018), Bangladesh had to face four major cyclones: Mahasen (2013), Komen (2015), Roanu (2016), and Mora (2017). Hundreds of people died, and over one hundred thousand lost their homes. Even in relatively normal years, extensive areas of the country along the rivers are inundated, but the inhabitants have learned to cope with the situation. Floods are part of life there. Flood shelters and elevated buildings offer people a degree of safety, even in cases of extreme

flooding. However, when molten snow and ice from the Himalayas coincides with heavy precipitation, these precautionary measures are not enough. A change in monsoon patterns can already be observed today. This often triggers heavy floods and takes people by surprise before they are able to bring their assets to safety. Farmers lose their harvest.

Rising sea levels pose a further threat to the south of the country. The water level is rising on average by some 3.2 mm per year, quicker than the rate predicted by bodies such as the International Panel on Climate Change (IPCC) in 2007. At that time, the forecasts already anticipated that Bangladesh might lose nearly 20% of its land surface by 2050. This will force some 20 million Bangladeshis to become climate migrants or even refugees. Shortfalls in food production of approximately 30% will pose a huge challenge for the population.



The first fieldwork phase of our Gibika project in Bangladesh took place from May to June 2014. Our research team stayed three days at each of the seven previously selected study sites: Gabdola, Mazer Char, Singpur, Babupur, Jamalpur, Dalbanga South, and Bhola Slum in the capital Dhaka. The map shows the locations of our sites.

Gibika research begins – Understanding livelihood risks in diverse regions of Bangladesh

The aim of the intense fieldwork was to acquire a good, qualitative understanding of people’s situations, their life, work situations, livelihoods, and the forces that drive change in livelihoods. We needed to know more about environmental stress and shocks, or threats that undermine resilience at the study sites. In addition, we studied current and past efforts to improve living conditions, as well as needs, opportunities and constraints at the study sites. Overall, the main focus was on two objectives:

1. Conducting research into resilience with respect to livelihoods, taking into account various regional risks such as riverbank erosion, flooding and drought
2. Motivating local communities to participate in developing solutions and proposals together with the Gibika field team and project partners.

More precisely, during the fieldwork the research team was able to gain some insights into the spatial realities of people’s vulnerability and into environmental and other events or shocks that affect people’s livelihoods. The team also obtained a general overview of events in the history and development of their village that the inhabitants considered to be important. It was essential for the research team to understand how people at the study sites perceive threats of different types, and the differences between households with various coping strategies.

Risks increase people’s vulnerability

To achieve this, the team conducted in-depth interviews based on individual life histories that focused on changes in people’s livelihoods. For example, one interviewee from the Bhola Slum in Dhaka explained: “Our houses were destroyed many times by big floods. We realised that it would be better to raise the house level by putting soil beneath it. This helped to reduce our vulnerability to floods.” Nevertheless, bigger floods, heat waves, overpopulation and poor sanitation keep this site highly vulnerable.

In addition, the fieldwork team was able to understand the seasonal patterns of livelihood activities, human mobility, environmental stress and food scarcity. With this background, it compiled a list of perceptions about the positive and negative changes in the research area. It also established another list with past and current projects and interventions that aim to enhance resilience and improve living conditions. These interventions can be of a technical nature, such as building flood walls, dams and shelter rooms, or longer-term approaches such as raising awareness and building capacity within the local communities. This had the purpose of avoiding redundant repetition and understanding what community members appreciate.



Babupur, Shapahar Upazila, Naugaon District



Gabtola, Sarankhola Upazila, Bagerhat District

Mazer Char, Dalbanga South and Gabtola in the south, and Singpur in the central north of Bangladesh were identified as the sites most at risk. All of them are threatened by extreme river erosion and loss of habitable land. Therefore rapid action is needed. In addition, Babupur and Jamalpur in the far northwest have water and drought problems due to their insufficient irrigation systems, but a number of NGOs are already working there. The same situation applies to the Bhola Slum in Dhaka. NGOs and development programmes are active, because the situation is still precarious. Without external support, people continue to suffer.

Focus on two project sites

Finally, the Gibika Steering Committee chose two sites to advance the implementation phase of the Gibika project:

Dalbanga South: This community in south Bangladesh faces many different risks, including floods and cyclones, but also long-term threats such as river bank erosion and salinisation. Disaster risk management technologies such as early warning systems can therefore be an important part of the solution.

Bhola Slum: This site in Dhaka has a greater capability to recover. Nevertheless, many unsolved problems such as floods and poor sanitation in combination with overpopulation remain. The people need assistance. We saw financial risk transfer mechanisms as one good possibility to improve the situation, since the community appeared to understand saving mechanisms and emergency funds. Due to the deeply entrenched clan structure, a strong local partnership must be used to advance projects in this location.

By selecting one urban and one rural site, the Gibika Steering Committee was trying to cover a wide range of different stressors and test and improve different coping strategies.



Jamalpur, Shapahar Upazila, Naugaon District



Singpur, Nikli Upazila, Kishoreganj District



Bhola slum, Dhaka City



Mazer Char, Mathbaria Upazila, Pirozpur District



Dalbanga South, Barguna Upazila, Barguna District

Gibika was supervised by the research team for five years. After hundreds of individual interviews, workshops, questionnaires, and focus group discussions a picture gradually emerged of how people react in risk situations.

Research outcomes – People at risk and their decision-making

Decision-making processes are often not rational, but are influenced by factors such as social environment, self-confidence, experience and much more. This makes it difficult to find a simple strategy for better risk prevention. Instead, the starting points must be context-specific and have to take local needs into account. Only through an interactive and participatory process can disaster risk management processes be efficiently established in the communities.

The key messages of the final research report are:



Adaptation strategies can increase people's susceptibility in other ways.

As floods, hurricanes, riverbank erosion and droughts damage agricultural land and crops, the affected people change their farming practices, seek new livelihoods or migrate. However, migration can lead to other stress factors, such as danger to life and limb encountered in urban slums, or hazardous work environments that put a great strain on the people working there.



Social and cultural boundaries need to be understood more clearly.

Although early warning systems exist in many cases, social and cultural barriers can prevent people from escaping to safety in disaster situations. ("It is the will of Allah whether or not the cyclone destroys my house.")



Bhokul (upper picture) lives in Dalbanga South. In films which were produced during the project, led by Sonja Ayeb-Karlsson (lower picture), Bhokul and others describe how natural catastrophes affect lives in Bangladesh.

Hasina (picture on the right) works in a clothing factory and lives with two sons and her husband in the Bhola slum in Dhaka. The family of 4 shares a living space of about 12 square meters. Life is hard, she says, but Hasina is very happy to live in in the Bhola community.

The Gibika photo-film series:
<https://tinyurl.com/yd4ujmcs>



Gender roles influence the response to disasters and the extent of climate vulnerability.

When disaster strikes, not everyone has the same opportunities to respond. What is considered acceptable social behaviour for a man may not be suitable for a woman. ("Unmarried women should not go to shelters; it only causes problems.")



The health effects of climate change and environmental shocks are poorly understood.

The loss of their livelihoods can cause people to suffer both physically and mentally. More research is needed to understand more clearly the psychological after-effects of disasters, such as post-traumatic stress disorder or depression.

The study has shown how people at risk make decisions. Unfortunately, they often do not have a particularly strong awareness of the benefits of disaster management ("Do I go to the flood shelter, or am I better to stay at home and secure my assets?"). As a result, the losses are even higher when a disaster hits, and the consequences even more destructive. Changing this – not only in Bangladesh, but also in other countries particularly affected by climate change and natural disasters – can only succeed if the results of the study are also acknowledged by the policy makers.



Selection of publications (The full list can be seen in the "Gibika Final Project Report"):

Ayeb-Karlsson, S. (2020). **When the disaster strikes: Gendered (im)mobility in Bangladesh.** Climate Risk Management. <https://doi.org/10.1016/j.crm.2020.100237>

Ayeb-Karlsson, S. (2020). **"When we were children we had dreams, then we came to Dhaka to survive": Urban stories connecting loss of well-being, displacement and (im)mobility.** Climate and Development. <https://doi.org/10.1080/17565529.2020.1777078>

Ayeb-Karlsson, S., Kniveton, D., and Cannon, T. (2020). **Trapped in the prison of the mind: Notions of climate-induced (im)mobility decision-making and well-being from an urban informal settlement in Bangladesh.** Palgrave Communications, 6(62), 1-15. <https://doi.org/10.1057/s41599-020-0443-2>

Ayeb-Karlsson, S., Kniveton, D., Cannon, T., van der Geest, K., Ahmed, I., Derrington, E. M., Florano, E., and Opondo, D. (2019). **I will not go, I cannot go: Cultural and social constraints to disaster preparedness in Asia, Africa and Oceania.** Disasters, 43, 752-770. <https://doi.org/10.1111/disa.12404>

Ayeb-Karlsson, S. (2018). **When the disaster strikes: (im)mobility decision-making in the context of environmental shocks and climate change impacts.** (Doctoral thesis in Development Studies), University of Sussex and Institute for Development Studies, Brighton. <https://doi.org/10.13140/RG.2.2.28627.43040>

Ayeb-Karlsson, S., van der Geest, K., Ahmed, I., Huq, S., and Warner, K. (2016). **A people-centred perspective on climate change, environmental stress, and livelihood resilience in Bangladesh.** Sustainability Science, 11(4), 1-16. <https://doi.org/10.1007/s11625-016-0379-z>



Around 500 people attended the activities including theatre plays during a big disaster prevention day in Dalbanga South. Experts explained the flag cyclone warning system. Further, training material and information brochures were distributed.



After finishing the comprehensive first research phase, the Gibika project implementation started in 2015. It was then developed hand in hand with the research team. The latest work results clearly showed that numerous adaptation measures are required to prepare the country for environmental changes in the long run. In the short term, the foremost concern is to save people's lives. The village of Dalbanga South was paving the way in this context. The existing flood and cyclone warning system was not working and needed to be optimised in this community - in cooperation with the people at risk.

Into action – Improving the cyclone and flood warning system in Dalbanga South

A good warning system and its constraints

Dalbanga South lies in the south of the country near Barisal. Cyclone Sidr, which hit the area in 2007 cost several thousand lives in Bangladesh. In Dalbanga South, more than 70 people lost their lives, even though a warning system and a shelter were in place. In 2010, an additional, sturdy, protective building, a cyclone shelter, was built on stone columns. People can escape to it when a flood warning is flagged. At first, this sounded good, but numerous challenges still remained:

Social restraints:

In an emergency situation, people have to make a number of very difficult decisions very quickly. Should they run to the shelter, even if the family is not all together? What has top priority and what has to be saved? Can they just abandon their house, belongings and livestock? What will happen to the goats and hens for example? Many individuals have built up a small existence. A heavy storm could rob them of everything in one blow. For this reason, most of the villagers were often reluctant to abandon their homes and animals – and decided not to go to the shelter.

Organisational gaps:

The local warning system had been in place for decades, but was often not sufficiently reliable. The warning flags hoisted did not always correspond to the actual warning level. Incorrect interpretations could lead to many different warnings. This caused confusion. What is right, and what is wrong? As a result, a lot of village residents, in particular older people, stayed in their houses. Apart from the person officially in charge, the task force for the entire community of Dalbanga South consisted of two further volunteers. These three helpers had to coordinate over 1,500 people – without constant training, this was a Herculean task.

Infrastructure challenges:

The cyclone shelter only has room for three hundred persons at most. But in contingency situations, as many as 1,500 persons must be brought to safety. The school is still used as an emergency shelter in such cases. In addition, gender segregation has high cultural priority. However, the shelter only has one room. Such social aspects must therefore also be integrated into infrastructure planning.

Raising risk awareness for disasters

To achieve greater efficiency in existing disaster risk management processes, the village residents were to be made more aware of the different kinds of risks and of the early warning system. Regularly practising the automatic processes, what has to be done in the case of an emergency and, above all, integrating children and young people, helped to do this. We also intended to increase, not only the number of voluntary helpers, but also the visibility and outreach of the warning system. In addition to an increased number of warning flags, which would be set up in frequently visited locations, the use of sirens was planned to strengthen the warning effect. Moreover, the warnings would be announced on the radio and notified in mobile phone text messages.

Enhancing volunteers' engagement

One of the fundamental ideas of the Gibika action phase was to enhance the effectiveness of volunteer activities. Volunteers can play a crucial role in community-based disaster management. Enhancing volunteers' engagement and creating strong bonds within the community play a key role in early



warning training and activities. This is an important step towards anchoring disaster prevention in the region, even after the Gibika project has ended.

Street theatre for children

Children are a key part of resilient communities. Mim Abashon, a theatre group and a Gibika partner, began to focus on the role of children in disaster risk reduction. On the balcony of the local school, the theatre group performed a public play about the importance of disaster preparedness. The main message of the little drama was that everybody has to move to the cyclone shelters when a warning is issued. Because not evacuating was the main cause of the high numbers of victims of powerful cyclones in the past.

School girls present a map showing the area of the community including safety spots (upper picture). Risk prevention against natural catastrophes and training have become a standard part of school lessons with the Gibika-project.

Better preparation through mock drills

Mock drills are considered to be an integral part of capacity building for preparedness, as they can strongly influence behaviour before and during an emergency. The Mim Abashon group therefore held mock drills. The drill started with a wedding scenario. All of a sudden volunteers issued a warning and hoisted coloured flags to alarm the community. Experts then monitored the ongoing activities in the village – some villagers did not follow the instructions properly and neglected warnings. According to the individual behaviours during the mock drills, groups received tailored training afterwards.

Strengthening pupils' skills in disaster preparedness

In November 2016, students from Dalbanga participated in school kit preparation activities facilitated by the Gibika team. The main objective of these activities was to enrich their knowledge of disaster preparedness and strengthen their capacity to take immediate decisions before and during disasters. The pupils identified their own risk situation in Dalbanga and listed the risks according to their impact. After that, they created a risk map of Dalbanga, showing the environment, infrastructure and risk information. Pupils highlighted the priority of using the Dalbanga cyclone shelter for evacuation.

A question of sustainability

Since the Munich Re Foundation project's funding expired in 2018, the task of the last months was to transform the activities into a sustainable development for the region. To reach this goal, a number of measures were taken. The successful community capacity building programme and the courtyard learning sessions for better disaster risk management were continued and intensified with local stakeholders. All activities were monitored in a survey and evaluated in accompanying research projects by the United Nations University – Institute for Environment and Human Security (UNU-EHS). The project was scaled up to include five additional villages in the area and the team established strategies with local stakeholders for long-term implementation. In Mollarhora, West Golbunia, North Dalvanga, Majkhali and Latabaria, the Gibika campaigners held ten courtyard learning sessions. The team also started to recruit student groups to develop action plans in each of the villages.

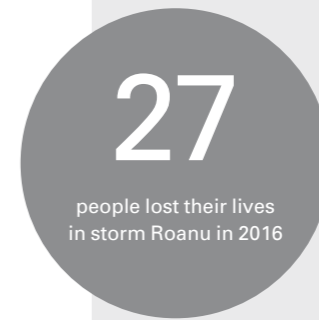
Further community-based capacity building

Building capacity on a community basis was one of the main goals of the project. This included extensive training for eight Gibika campaigners, who can now conduct the courtyard learning sessions independently. Furthermore, the student group sessions were continued to develop implementation strategies for the disaster action plan. They had mapped these in an earlier session. The



students also finalized and performed their street drama on 'Cyclone early warning and preparation'. The performance was attended by more than 500 villagers, including local authorities. It gained great attention and the headmaster announced that the school will again organize a street drama in the coming years. This will help to keep risk awareness on the agenda in the daily lives of the local people. The passion and excitement of the participating pupils also helps. The project's core activity – the courtyard learning sessions – were held each month to give villagers the opportunity to participate in a long-term learning process on how to reduce risk in the event of a cyclone. In total, the local capacity building process is at a very advanced stage, since all activities can now be organized by locals independently. This will ensure a continuous resilience building process for the future. This and the commitment of the people in the communities should contribute to build strong ownership.

To ensure that the process of local capacity building will continue in the future, cooperations were developed with the local NGO Jago Nari and BRAC, a regional disaster management programme. These cooperations should provide project monitoring as well as further training for the Gibika campaigners. The activities look very promising, and we are convinced that the project will take the next step to become a sustainable resilience structure – and hopefully serve as a blueprint for other regions.



Tropical storm Roanu rages through Bangladesh

On 18 May 2016, a low-pressure system in the North Indian Ocean turned into a cyclone and made its way north along the east coast of India towards Bangladesh. The losses: roughly 20 kilometres of dams destroyed, several villages flooded, and more than 50,000 houses damaged. 27 people lost their lives – most of them due to collapsing buildings or falling trees. Around 1.3 million persons were directly affected by the cyclone's impact. Approximately half a million people from the coastal regions in Bangladesh were able to be brought to safety. Bangladesh regularly has to cope with cyclones and their impact. Twenty-seven deaths are still too many, even though, in comparison to earlier cyclones, this number can be deemed an improvement. Storm disasters in the past claimed many more lives. Over 300,000 people died in 1970; during a storm of similar intensity in 1991, more than 100,000 people lost their lives.

Thanks to comprehensive disaster risk reduction and preventative measures, the risk and vulnerability to natural disasters could be mitigated and the number of deaths drastically reduced. The Gibika implementation had begun at exactly the right time. According to reports from our cooperation partners on the ground, the Dalbanga community was better prepared this time. The flags signalling a storm strength of 1–6 were hoisted in time, people reacted better and in the end there were no major injuries.



“When the warning flags are raised, we dig a deep hole” — Interview with local inhabitants

As part of the Gibika project, people at risk in the south of Bangladesh received emergency training from the beginning of 2016 until the end of 2017. The local inhabitants – both male or female, young and old – attended public workshops, discussions and street theatre performances. There they learned about flood warning systems and what to do when an alert is issued. Shaun, a 15-year-old school pupil, played a leading role in a street theatre performance on the subject of flood warning. Bakhi, a 28-year-old housewife, took part in the emergency drills together with her family of four.

Shaun, on the big theatre day, you played a boy involved in the flood warning drill who has to collect people and bring them to the shelters. What was that like for you?

Shaun: Well, of course, it was a really exciting time. At first, being picked as an actor was a bit of a shock. But at the same time, I was delighted. We practised a lot because the performance had to be really good. We took everything seriously, but we still had a lot of laughs while practising.

Shaun (15) was one of the young actors who appeared in the risk prevention theatre play. He was very proud of having been chosen. “I am looking forward to further activities around disaster prevention” he said.



Why was that?

Shaun: Well, the whole story was a bit crazy. My favourite scene was where a matchmaker was supposed to bring a woman and a man together. But they weren't able to because of the cyclone, and I couldn't stop laughing.

But you did great, nobody noticed it during the performance. In fact, it all looked terribly serious. We found it really fascinating. We liked the story and the acting.

Bakhi, why did you go to the training courses?

Bakhi: Honestly, we didn't know anything about flood or cyclone warnings. We really had no idea. So when the invitation came, my whole family went. I have two children, but my grandparents, my brother-in-law and sisters-in-law all attended as well.

Bakhi (28), a housewife from Dalbanga South and her daughter. The whole family took part in the warning drills.



And what did you learn from the drills?

Bakhi: An incredible amount. Up to now, river erosion, which is slowly eating its way into our village, has been the main topic of discussion. We are constantly asking ourselves when some houses will have to be moved. But we were paying less and less attention to the threat from major cyclones. And it's a long time since the cyclone shelter was built. Now we know exactly what to do again.

And what is that?

Bakhi: When the third warning flag goes up, my husband digs a hole one metre deep, and buries our papers and valuables in it. I pack some fruit and provisions and organise the family. Every second counts, because the cyclone shelter can fill up very quickly, and the nearest one is three kilometres away.

Shaun: We have school lessons in the shelter over here, and the rooms are used as shelters in an emergency. They are built on metre-high stilts.

Talking of school lessons, how did the other pupils react to the drills?

Shaun: It was a really big deal. We received little notebooks with instructions and pictures from Gibika, and later we had to draw maps and talk

about evacuation. Everyone thought it was great. Finally, we were having something different in lessons, although I must say I enjoy going to school. And, of course, my performance in the street theatre was talked about a lot (laughs).

So what happens next?

Shaun: I hope they do it again because it brought the whole village together. It was a wonderful day.

Bakhi: The training courses need to continue. We had only one single drill in all the years before. And not everyone took part, because many people didn't know anything about them. Now, the people responsible must be nominated and exact rules should be set up. We have a lot of volunteers here in the village, and there is a strong sense of solidarity.

Our partner institute, the ICCCAD in Dhaka, is already in negotiations with BRAC and with a local NGO, Jago Nari. A lot of organisations are interested in getting involved.

Bakhi: That is good news. Do you know how we felt after the drills? We felt a lot more self-confident again.

Reflections – Climate change is forcing us to work together

In 2018, our five-year “research to action” project about livelihoods and climate change effects came to an end. Climate change is presenting countries with different challenges on various levels. Bangladesh is greatly affected by its impact in many ways. Since Bangladesh is a coastal country, criss-crossed by the Meghna, Ganges and Brahmaputra rivers, confrontation with the element water is inevitable. The extraordinary amount of water in the country due to the Himalayan river systems is constantly being multiplied by rising sea levels.

The most dangerous times are during the monsoon seasons. This is when people and their livelihoods are really threatened. Risks inland are also emerging, mainly as floods and severe river bank erosion take place. Unfortunately, monsoon patterns have already changed. The weather phenomenon sometimes arrives early and is often much stronger. Closer to the coast, people are exposed to cyclones, storm surges, coastal inundation, soil salinisation and erosion. Another climate change-related challenge occurred in the late 1990s in the form of severe, recurrent droughts, mainly in the north-west of the country. At stake are families, all their belongings, livelihoods and land. Hence people’s identities. Self-determined actions are very limited when homes have to be abandoned.

In order to understand the effects that environmental changes have on individuals, societies and ultimately humanity, the world has to move together. There is a great need for cooperation between countries, and especially for support for those which are less developed as regards infrastructure, and who are therefore highly vulnerable. Social scientists are focusing increasingly on how to improve the capacity of those most at risk to adapt to changes. What can be done to enhance livelihood resilience in areas most affected, and can we predict what to expect in the future?

Besides environmental threats, what are the factors contributing to precarious life circumstances and causing social vulnerability? What role is played by population growth and urbanisation? And, last but not least, which areas should be chosen to foster resilience? The answer to this last question is challenging because financial resources are limited and choices have to be made.

Can we predict what to expect in the future?

What role is played by population growth and urbanisation?

The Dalbanga community suffers from massive riverbed erosion. It is only a matter of time before the water eats its way further into land and tears soil and houses into the floods.



Which areas should be chosen to foster resilience?



The project team of UNU-EHS, ICCAD and MRF on a field excursion with kids in Dalbanga South (upper picture).

The Gibika research helped tremendously to understand how people prioritise decision-making. When you ask people what they need for a good and safe life, disaster protection is often not mentioned, even though, the risk may be very high. But people need to prepare. Unknown challenges arise, such as gender conflicts in provisional emergency accommodation. Furthermore, our research also stresses the importance of the concept of trapped populations. This refers to people who want to move but are unable to escape from hazardous zones.

Having been so close to the people of Bangladesh, Kees van der Geest (UNU-EHS), Sonja Ayeb-Karlsson (UNU-EHS), her colleague Istiak Ahmed from ICCAD in Dhaka and the rest of the project team see huge potential, not only for our project communities, but also for other regions in Bangladesh and beyond, to learn valuable lessons from the Gibika project. This is no longer the challenge for one country. Climate change is forcing all of us to work together.

What can be done to enhance livelihood resilience?

A trader in Singpur is on his way to the market. The island is increasingly threatened by heavy monsoon rains (picture below).



Project partners

The Institute for Environment and Human Security (EHS)

is one of 15 research and training centres and programmes of the United Nations University (UNU) operating worldwide. UNU, with headquarters in Tokyo, connects an international community of scholars and forms a bridge between the United Nations and the academic world. Its mission is to contribute to efforts to resolve the pressing global problems that are the concern of the United Nations and its member states. UNU's current activities regarding research and training are mainly focused on the environment and sustainable development on the one hand, and peace and governance on the other. UNU disseminates the knowledge gained in its activities to the United Nations and its agencies, to scholars and to the public, in order to increase dynamic interactions in the worldwide community of learning and research. UNU-EHS spearheaded the research.



The International Centre for Climate Change and Development (ICCCAD)

is one of the leading research and capacity building organisations working on climate change and development in Bangladesh. ICCCAD's aim is to develop a world-class institution that is closely related to local experience, knowledge and research in one of the countries most affected by climate change. It's mission is to gain and distribute knowledge on climate change and, specifically adaptation to it, thereby helping people to adapt to climate change with a focus on the global south. By focusing on such work in Bangladesh, ICCCAD allows international participants to gain direct knowledge of the issues in a real-world context. Through the expertise of ICCCAD and its local partners, international organisations will be exposed to relevant and grounded knowledge that can be shared and transmitted around the world for the benefit of other LDCs, and their governments, donors and international NGOs.



Munich Re Foundation (MRF)

is a non-profit foundation established in 2005 by the Münchener Rückversicherungsgesellschaft Aktiengesellschaft in München ("Munich Re") on the occasion of its 125th anniversary. People are ultimately at the core of what MRF's work is all about. MRF's task is to minimise the risks to which they are exposed. It clarifies issues and provides support, including in developing countries. MRF's aim is to prepare people to cope with risk and to improve their living conditions in relation to: water as a resource and risk factor, population development, poverty, urbanization and megacities, disaster prevention, environmental and climate change. The activities of MRF concentrate on four fields: knowledge accumulation and implementation, clarification and sensitization, networking, direct help and support.



Water is part of life in Bangladesh. However, with increasing floods due to climate change and new monsoon patterns this house at the river banks is at risk.



Children of a slum area enjoy playing on a water pipe in the few open fields outside Dhaka. The city is one of the fastest growing megacities in the world.

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