

M/S. Rocky Dockyard Khulna, Bangladesh



Consultation on development of climate change adaptation strategies for companies

Given the geographic location as well as socio-economic conditions of Bangladesh, exposure to climatic changes is high and the adaptive capacity to cope with climate risks is rather low. Climate change currently poses a high risk to the sustainable development and economic growth of Bangladesh and will become even more severe in future. The communities and especially small- and medium sized companies (SME) belong to the most vulnerable groups. SME often lack the skills, resources and infrastructures needed for adaptation to climate change.

This case study has been developed in the framework of the global programme 'Private Sector Adaptation to Climate Change (PSACC) implemented by GIZ. The aim of the global programme is to develop and test instruments to build SMEs' adaptation capacities to cope up with climate change risks and increase their resilience.

About the company

M/S. Rocky Dockyard is a family run business that was founded in 1992 and is registered in Khulna. The company offers two kinds of services: cargo transportation, which covers 70 % and the dockyard which covers 30 % of the service and includes mainly repair services as well as the construction of new (cargo-) vessels and pontoons.

| | |
|---------------------|--|
| Location | Khulna, Bangladesh |
| Sector | Inland Water Transport and Shipbuilding Sector |
| Products | Cargo transport, ship building and ship repair services |
| Company size | Turnover per annum: n.a. / Employees: Around 100 (20 permanent, 80 temporary staff, depending on orders) |



M/S. Rocky Dockyard Working area (© adelphi, 2016)

How is the company affected by climate change?

Climate change impacts the inland water transport and shipbuilding sectors in various ways. On the one hand, various ship accidents can be related to extreme weather events which have reportedly increased in the last decades. Due to siltation of rivers, business activities have to stop for longer annual periods and important transport routes had to be closed leading to challenges for many companies in the inland water transport sector. On the other hand, the inland water transport is temporarily the only mode of transport for flooded regions. The sector depends on its waterways which have shrunk from more than 20,000 km to less than 3,000 km in the last decades, not only but certainly also due to climate change impacts like stronger erosions in the catchment, more sedimentation due to salinization and less lean flows in the dry season.







Key climate phenomenon

Extreme weather events like heavy and continuous rain occur regularly during rainy season, and increasingly also outside the rainy season. During heavy rain events, working processes in the dockyard are hampered as there is no roofing to continue working with electronic devices and proceed with painting work. The company location is sensitive towards erratic rainfalls because of the adjacent river. Floods, which are caused by heavy rain events, lead to river erosion and create stronger siltation in the river banks.



UTEXRA premises (© adelphi, 2016)

Climate risks and Adaptation measures

| Climate Phenomenon / Impacts | Climate Risks | Identified adaptation measures |
|--|---|---|
| Rising temperatures  | <ul style="list-style-type: none"> • Lower productivity of workers • Energy interruptions • Lack of affordable alternative electricity generation • Slipping challenges | <ul style="list-style-type: none"> • Fixed shade construction/ Tree plantation • Training on energy efficiency / energy-efficient electrical appliances • Deployment of solar system |
| Storms  | <ul style="list-style-type: none"> • Interruption of Cargo Service • No or half loading activities • Accidents / safety challenges | <ul style="list-style-type: none"> • Improved weather information • Navigation training for captains/staff • Navigation equipment • Climate proofed ship designs |
| Heavy rainfall  | <ul style="list-style-type: none"> • Interruption of repair/ painting activities • Accidents with electrical appliances | <ul style="list-style-type: none"> • Dry dock • Fixed shed • Safety trainings |
| River flooding  | <ul style="list-style-type: none"> • Interruption of cargo service • Interruption of repair/ painting activities • Accidents / Safety challenges • Navigation Problems | <ul style="list-style-type: none"> • Navigation training for captains/staff • Navigation equipment • Climate proofed ship designs |
| Salt water intrusion  | <ul style="list-style-type: none"> • Faster corrosion and damage of ships and equipment | <ul style="list-style-type: none"> • Improved anti-corrosive paints/ Hardener coat • Equipment maintenance training |
| Siltation  | <ul style="list-style-type: none"> • Slipping problems • Navigation problems • Half cargo loading | <ul style="list-style-type: none"> • Hydraulic structures / Water jet pumps |

Adaptation strategy

Climate risk management tools provide information for SMEs to build adaptation capacity and to develop individual adaptation strategies. PSACC developed the climate risk management tool “Climate Expert” (www.climate-expert.org), which in addition to assessing vulnerabilities, includes guidance on assessing costs and benefits of different climate risk management options. The Climate Expert Assessment enabled the identification of the following prioritized adaptation options for M/S. Rocky Dockyard:

- Navigation training and navigation equipment to improve the navigation abilities in rough weather and silted waterways
- Improved anti-corrosive paintings to increase lifetime of ships
- Energy-efficiency training for electrical devices to save energy and lower energy dependency
- Use of water jets and/or water pumps to ensure continuous slip ways for the vessels

M/S Rocky Dockyard has now identified and prioritised adaptation measures to reduce the risks posed by climate change. The next steps will be to decide on which measures M/S Rocky Dockyard would like to implement and to identify possible funding options. As companies from the same sector face similar challenges like M/S Rocky Dockyard, this case study can inspire and raise the awareness for climate risks of other dockyard companies as well.

For more information on this case study and PSACC, contact us

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