

Transforming homesteads of moderately saline area to adopt climate extremes in coastal region (Bangladesh)



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INTRODUCTION

Coastal areas of Bangladesh is characterised by salinity of soils and water in dry season, accumulation of salt on the soil surface, limited fresh water in ponds or ditch, soils became hard to plough. On the other hand, most of the lands remain flooded up to 1 m for more than 6 moths. The area is predominantly single cropland with poor to moderate yield. Climate extremes like cyclone, Sidre, heavy downpour also limit farming in this area.

Endeavours initiated by government and non-government sectors to increase cropping intensity have been observed in south-west coastal areas of Bangladesh. Transforming homesteads to a small area of unique production unit in moderately saline areas coastal region is one of the best approaches. Growing vegetables, raising livestock & poultry and producing fish in one compact parcel of homesteads to skip soil water salinity and water logging in dry (rabi) and kharif (wet) growing periods respectively. A unit of about 0.22 ha consisting of a “farm pond” for fish and sweet water source for small scale irrigation; growing vegetables on raised pond ridge/dykes, tower gardening or in sag begs to skip soil salinity and water logging; raising livestock and poultry, vermin compost preparation to improve soil health from livestock refuse beside the residence. Pond is used to reserve fresh water, dykes and raised platforms are utilized for growing year-round vegetables such as cauliflower, knolkhol, tomato, potato, bottle gourd, chilli, spinach etc. in dry (rabi) season; sweet gourd, okra, rib gourd, snake gourd in wet (Kharif) season. The other sub-technologies (such as tower garden, pocket method, sag bag method, pitcher irrigation, mulching, bed system, pit system, vine of pond, use of compost fertilizer, use of sex pheromone trap, bottle method, use of banana chopping) are also practiced for reducing water salinity, and tipi-tap method for irrigating land.

METHODOLOGY

SLM is based on four pillars:

- Targeted policy and institutional support, including the development of incentive mechanisms for SLM adoption and income generation at the local level
- Land-user-driven and participatory approaches
- Integrated use of natural resources on farms and at the ecosystem scale
- Multilevel, multi-stakeholder involvement and partnerships at all levels – land users, technical experts and policy-makers

This SLM was documented following Questionnaire on (SLM) Technologies (QT), which covers the following sections (wocat.net):

- General information
- Description of an SLM Technology
- Classification of the SLM Technology
- Technical specifications, implementation activities, inputs, and costs
- Natural and human environment
- Impacts and concluding statements
- References and links
- ANNEX.

RESULTS

A homesteads in saline area was transformed in to a productive unit, which previously either remain fallow or unproductive throughout the season due to salinity in dry season and water logged in rainy season.



Pictures from L to R: (Top row) The farmer with soil heap (tower) to skip water logged to grow year round vegetables; Vegetable creeping net on pond; Vegetables (Gourds) on creeping net; Small fresh water reservoir; Second row, L to R: Small shade for composting; A view of the homestead; Vegetables on raised land; Vegetables growing in sag bags.

Outcome of the SLM best practices are:

- Livelihood improved
- Skipped soil salinity
- Increase crop production
- Improved food security
- Local resource usage
- Improved livestock health
- Adopt climate extremes
- Adopt water logged situation

CONCLUSIONS

SLM combines technologies to integrate the management of physical and socio-economic principles to meet human needs while ensuring the long-term sustainability of ecosystem services and livelihoods. SLM integrates land, water, biodiversity, and environmental management to meet rising demands of land users offering solutions that go beyond technologic recommendations by including aspects of social participation and policy dialogue. It needs scaling up and scaling out as per local demand.

The farmers having access to extension and marketing scaled up SLM best practices to adopt local situation of soil salinity and water logged condition. Strong advocacy and capacity building of the farmers through mainstreaming SLM best practices in sector policies are required.

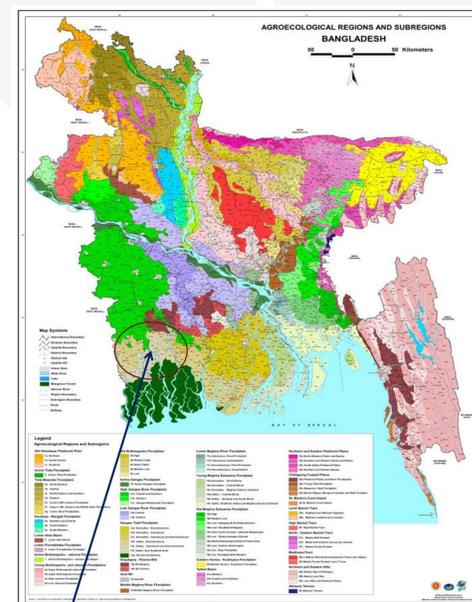


Fig-1: Agro-ecological Map of Bangladesh, showing the study area

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GLOBAL SYMPOSIUM ON
SALT-AFFECTED SOILS

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