## The Sundarbans Experiment

# Turning the Tide

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Sunderbans, the vast mangrove delta on the southern part of northeastern India supports a rich diversity of flora and fauna. The Indian part of Sunderbans comprises of six blocks of North 24 Parganas and thirteen blocks of South 24 Parganas districts of West Bengal. A majority of the population in this area is dependent on agriculture in reclaimed lands. Fishing, pisciculture, honey collection and firewood collection are other prominent occupations, after agriculture. An impoverished area in general, the conditions for women in Sunderbans are daunting in particular, Not only they have to take care of their household responsibilities, they also often have contribute to farming and other activities like firewood collection, horticulture or fishing in order to generate much needed cash incomes.

Though richly endowed with natural resources Sunderbans has many constraints that impact upon the utilization of its developmental potential in a sustainable manner. These include a) low lying mono-cropped area & salinity b) lack of high yielding planting stock as well as inadequacies of technical knowledge and associated facilities & services; c) absence of applicable bio-fertilizers and d) lack of infrastructure & low levels education amongst the population in general. On the positive side, Sundarbans area has its own institutional, agricultural and nature endowed strengths which can be effectively used for enhancing the livelihoods of its people without compromising on concerns regarding long term sustainability of the same.

It is well understood that sustainable exploitation of natural resources and developing efficient and equitable markets for the resultant produce is critical to a durable enhancement of local livelihoods. Several options are readily available in this contect that are relevant to Sunderbans region. These include mushroom cultivation, horticulture, floriculture, food processing, setting up hardening facilities for tissue culture plantlets, apiculture, pisciculture and fishing.

## BANANA: A SOURCE OF INCOME FOR WOMEN OF SUNDERBANS

Banana is the second most important commercial fruit crop in India. Results of the last five successive years revealed that tissue culture raised banana plants gave 15% to 20% higher yield than the conventionally grown banana plants. Moreover, their growth and development ▶▶

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was uniform and vigorous. The performance of these plants is being continuously monitored and extensive work has been undertaken to popularize and spread tissue culture technology among the farming community. Efforts to produce disease-pest resistant, high yielding varieties through biotechnological approaches and mutation breeding are now in progress.

Banana is a common horticultural crop in the Sunderbans region though there are hardly any cultivation of proven commercial elite varieties that can yield much higher incomes per unit of area under the crop. Poor application of, or ignorance about proper management practices result in poor yields, and hence suboptimal cash incomes. Micro propagated plantlets of proven elite varieties are either unavailable, or are too expensive for local farmers to afford.

Keeping in mind the promise that Banana holds as a cash generating crop for the Sunderbans region the Department of Science & Technology, Govt. of India (DST) had supported a project under its Young Scientists Scheme to focus on 'Selection of suitable strains of banana and standardization of micro-propagation techniques for coastal saline zone of West Bengal". The outcomes and insights generated through the project led to a follow-on field application project to evaluate the "Techno-economic feasibility of micro propagated banana plantlets". The project was implemented in the Kultali block of Sundarbans located on the fringes of the Sunderbans region. A very backward area Kuntali has total population of about 1.5 Lacs of which about 54% belongs to SC/ST groups.

Recognising the challenges faced by women of Sunderbans region, as mentioned earlier, one of the important goals of this project was to involve women in nurturing micro propagated plantlets of banana and market them to generate cash incomes for their families.

The project has been successful achieving several of its objectives and has been able to usher in several selected cultivars of banana into mass productions. Selected cultivars have been brought into mass production and trials have been undertaken with hardened tissue cultures platelets and nursery plantlets. 2-5 women have been selected to supply hardened plantlets from nurseries at the Gram Panchayat level and give feed back regarding the performance of these plantlets in the field.

## CONCLUSION

The task of exposing rural women of a socio-economically backward area like Sunderbans to new technologies that can help them to generate income and improve quality of life is challenging. The model of technology transfer that emerged from this experiment in Sundarbans has a potential of large scale replication in the country. ■