

Char Development and Settlement Project Phase IV

Agriculture Development Program

The DAE program in CDSP IV

In the context of productive cooperation, CDSP works together with the Department of Agriculture Extension (DAE) on the Agriculture Development Program. DAE provides technical and financial assistance on a needs basis.

The program runs the full length of CDSP IV and aims to increase agricultural production through improved cropping practices in the project area. This in turn strengthens the economic situation of beneficiaries in the five project chars.

Agriculture challenges

The land in newly formed and unprotected chars is only marginally productive for agriculture. The soils are generally very infertile by high soil salinity levels due to regular flooding by sea water during the monsoon season. This prevents intensive agriculture for year round crop growth. A significant portion of the coastal char land can only be used to support the transplanted aman (t. aman) rice crop in the monsoon season, when salinity levels are lower through dilution by rainwater, with risk of damage through flooding and drainage congestion. During the following dry rabi season most of the land is too saline for agriculture.

Objectives

The Agriculture Development Program has the following objectives to achieve during its implementation period:

- to increase crop production through HYV cultivation and to improve cropping practices in the char areas;
- to improve cropping patterns and increase cropping intensity with diversification of crops in the char areas;
- to select appropriate technologies for coastal chars through adaptive trials;
- to improve livelihood conditions by economic development through improved agricultural activities for the char inhabitants, with special reference to the poorest segment of the population.



These objectives contribute significantly to CDSP IV's overall goal: 'Reduced poverty and hunger for poor people living on newly accreted coastal chars'.

Targets

The Agriculture Development Program consists out of several sub-components:

- strengthening of agricultural extension services;
- support for homestead agriculture and agro forestry by contracted NGOs;
- surveys and monitoring.

The main activities and targets of the program are focused on trainings/demonstrations and adaptive research. The DAE staff provides training (e.g. on different crop production technologies), field crop demonstrations, arrange field days and motivational tours with farmers to the potential areas, and undertake adaptive trials along with some field test activities on the coastal chars. The accompanying targets and progress are shown in table 1.

Table 1. DAE activity targets and status

Activities	Unit	Target	Status (12/2014)
DAE staff training and workshops			
Orientation of staff	no.	1	1
Training of Trainers (ToT) and technical update	no.	9	9
Farmers training			
1. Orientation meetings (Farmers Forum)	no.	90	90
2. 1 day technical training	batch	1100	819
3. 4 day technical training	batch	72	55
4. Motivational tours	batch	72	51
5. Field days	no.	72	64
Field crop demonstrations			
1. High value crop	no.	360	290
2. Low value crop	no.	720	560
Adaptive research			
Participatory research	no.	6	8
Survey and monitoring	no.	6	7
Seasonal reports	no.	72	19
Seasonal workshops	no.	18	6

So far the progress of the Agriculture Development Program of CDSP IV has been high, considering the project implementation is just over halfway. The DAE staff training and workshops are complete. The farmers training has passed the 75% completion rate, with most work to be done on the motivational tours and 1 day technical trainings. Field crop completion rate lies on almost 80%, for both crop types. Adaptive research is highly season dependent, and thus will be completed as the years pass.



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Strengthening of agricultural extension services

In line with the New Agricultural Extension Policy of 1996, the formation of 'Farmers Forums' (FF) is a core group approach in extension services. With an average number of 60 members per group, and 90 FF's that have been formed, 5400 farmers are reached with 42% female representatives from 28,000 households. The remaining households will be reached and motivated through other activities such as demonstration plots and field days.

Productivity zoning

At the start of the project a survey was conducted to classify land topography into four classes for performance suitability, also known as crop 'Productivity Zones' (PDZ), which relates to salinity and depth of flooding. Each PDZ is not necessarily a homogeneous block. Crop performance in each PDZ is monitored seasonally and the concept provides useful information of the type and extent of cropping possible during the early stage of reclamation.

Adaptive research

Due to the anticipated effects of climate change in the coastal chars, it is a priority to undertake adaptive research aimed at testing a range of field and home garden crop varieties for salinity tolerance. A number of experimental trials are conducted at farmer plots and home gardens, to explore potential new technologies.

Hybrid variety cucumber introduction

United Leasing Company has distributed Tk 15-18 million to support the farmers of the chars with agriculture loans for the cultivation of cucumbers. The 'Periodic Agriculture Survey 2014' (PAS) shows that cucumbers are now intensively produced in Nangulia and Noler Char (over 1000 ha). The average cucumber price was found to be between 15-20 Tk/kg, and they are marketed to Comilla, Dhaka and Chittagong.

Salinity in project chars

The unprotected coastal chars are vulnerable to regular flooding and have thus highly saline soils. As stated earlier, only one rice crop is possible in the monsoon season, the transplanted aman (t. aman).

Monitoring of soil salinity is conducted monthly. The salinity gradually declines over the years as the area's protection through new infrastructure is improved. The results of the salinity surveys during the rabi season, as shown in table 2, underline this as the chars show a relatively steep decline in soil salinity levels in the last 3 years. In combination with the introduction of high yielding crop varieties as an important element of CDSP IV's extension development strategy, the tons per hectare yield for the five chars is steadily increasing towards the national averages.

Table 2. Top soil salinity monitoring test results (ECe, ds/m)

Char	April 2012	April 2013	April 2014
Nangulia	25.3	16.1	7.2
Noler	28.0	13.0	9.8
Caring	32.2	15.1	11.0
Ziauddin	14.2	3.1	2.8
Urir	16.1	11.1	10.3
Average	23.2	11.7	8.2

ECe, ds/m: Electrical conductivity at 10 cm soil depth

Increased agricultural production

The agriculture benchmark surveys conducted by CDSP IV in 2012, revealed that the overall cropping intensity in the project area was 127%, which is very low compared to the national average of 191%. Crop yield also started relatively low at 1.5-2.0 tons per hectare.



The PAS 2014 showed that the cropping intensity increased from 127% to 162%, that during kharif-I the HYV crop replaced 20% of the local varieties, average yield of 3.5 tons/hectare, and during kharif-II the HYV crop replaced 29%, with an average yield of 4.2 tons/hectare. Amongst rabi crops some HYV and hybrid varieties of cucumber, tomato, bitter gourd, bottle gourd and sweet potato were introduced and adapted in the project area.

Latest information and contact details

If interested in the latest CDSP IV news and progress updates, please visit our website on www.cdsp.org.bd.

For questions or comments please contact us directly through:

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