

# 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) yielded 1.2-1.5 mt/ha 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;
- Survey 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 (12/2016)
<b>DAE staff training and workshops</b>			
Orientation of staff	no.	1	1
Training of Trainers (ToT)	no.	13	13
<b>Farmers training</b>			
1. Orientation meetings (Farmers Forum)	no.	90	106
2. 1 day technical training	batch	1100	1100
3. 4 day technical training	batch	95	95
4. Motivational tours	batch	72	72
5. Field days	no.	84	84
<b>Field crop demonstrations</b>	No.	1080	1080
<b>Adaptive research</b>			
Survey and monitoring	no.	7	7
Seasonal workshops	no.	12	12
Value Chain workshop	no.	6	6
Annual Workshop	no.	3	3

### 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 were 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



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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. In conducting trials appropriate crops and varieties were found adaptable. Only these have been introduced in the project area. A number of 8 experimental trials are conducted at farmer plots and home garden to explore potential new technologies.

### Technology Introduction and dissemination

Pre project a very few technologies were used resulted low yield harvested by the farmers. With the introduction and adoption of modern new technologies such as Productivity zoning (PDZ) to combat salinity, Rain water harvest, Vertical garden, Sorjon method of vegetable cultivation, Selection of appropriate technology for coastal area, IPM application, Introduced HYV, Hybrid technology, Introduced new crop, Line sowing of rice, piercing etc. yield has been increased significantly within the period.

### Salinity in project chars

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 5 years. In combination with the introduction of high yielding crop varieties as an important element of CDSP IV's extension development strategy, 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	April 2015	Dec. 2016
Nangulia	25.3	16.1	7.2	6.28	3.25
Noler	28.0	13.0	9.8	14.25	6.25
Caring	32.2	15.1	11.0	11.22	6.14
Ziauddin	14.2	3.1	2.8	1.64	1.77
Urir	16.1	11.1	10.3	14.31	3.75
<b>Average</b>	<b>23.2</b>	<b>11.7</b>	<b>8.2</b>	<b>9.54</b>	<b>4.32</b>

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

### Increased agricultural production

Before CDSP-IV Chars are unprotected and flooded by saline water. Only raised land/homestead area grew some creeping vegetables, local T. Aman rice/Bontil cultivated in the low lying area. After CDSP-IV intervention embankment, sluice, canal excavation are completed by agencies and situation gradually improving for Agriculture production. Different HYV /hybrid rice

and vegetables are demonstrated in the farmers plot also transferred technology through 1 day field based/4 day residential training. In the project period more and more rice/vegetables are cultivated and production /crop yield gradually increased from 4-6 mt/ha. Four times Agriculture Survey were conducted by DAE. Cropping intensity was increased by 127 to 194 in 2016.



### Value chain

Value chain introduced in sub component & supported by DAE. There are Market actor and producer in char areas under CDSP-IV. Mid- term Supervision Mission recommended this component must be included in the DAE component and then DAE conducted 6 workshops to make plan, strategy. Through workshop the value chain products are identified which are country bean, country bean seeds, hybrid cucumber, hybrid bitter gourd, okra, watermelon, soybean, banana, chili, tomato, snake gourd, ribbed gourd and sweetgourd. Up market are Sonapur, Majidee, Choumohini, Laksam, Nimsar, Comilla, Jatrabari, Kawran bazaar, Sandwip, Companigonj, Feni, Riazuddin market. Above value chain products are marketed 20291 MT/2014, 26524 MT/2015 and 33633 MT/2016 in those up market

### Agricultural Publications

To support farmers, the project published a number of publications such as Coastal Farmers Resource Book, Technical Report 2, 3, Guidelines for participatory Farmers Organization, Survey reports 4 vol., Seasonal report 48 vol., Annual report 2 vol., Strategic plan for value chain and enormous leaflet, booklet etc.

### 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](http://www.cdsp.org.bd).

For questions or comments please contact us directly through:

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