

# INTEGRATED WATERSHED MANAGEMENT PROGRAMME



**DPR**

**FARIDKOT – IWMP-1/10-11**



**2010-11**

**DIVISIONAL SOIL CONSERVATION OFFICER, FARIDKOT  
DEPARTMENT OF SOIL & WATER CONSERVATION, PUNJAB**

**DPR COMPILATION BY:**

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## EXECUTIVE SUMMARY

Keeping in view the serious land and water related problems faced by the state of Punjab and enlarged scope of Integrated Watershed Management Program (IWMP) of the Government of India, four central districts of Punjab namely Tarantaran, Jallundhur, Ludhiana and Faridkot were selected for the implementation of this project on a pilot basis. All the districts face variety of problems and at the micro-watershed level, these problems are seriously impacting the livelihoods of the community and no other program is seriously addressing them in a holistic manner. An area of 5000 ha in three micro-watersheds was selected to cover 24 villages of this district for 2010-11. The DPR of the project area has been recently prepared. The PRA exercises brought out the following type of problems.

**1. Depletion of Ground water: Salinity and Alkalinity Problem:** The watershed area is deficient in ground water both in quantity and quality and water table is going down at a fast rate. The groundwater has moderate salinity and sodicity in pockets which is not very suitable for irrigation in localized pockets. It is not possible to get optimum and sustained yield from these areas. All such lands which has water standing for part of the year or suffer from seasonal water logging in pockets but ground water quality is good can be considered for ground water recharge following the technology standardized by the Central Soil Salinity Research Institute Karnal.

**2. Low irrigation efficiency:** Due to sandy nature of soils, and undulating topography, irrigation efficiency is very low in the project areas. So underground pipeline conveyance system is required to convey water to far off places. The practice of lazer leveling is must in order to smooth spread and flow of irrigation water uniformly during paddy season.

**3. Menace of Village Ponds:** Each project village has one or two village ponds which are located in low lying areas in the village. These ponds act as water-harvesting structure for rain water and used to cater to drinking water requirements of village livestock population. Due to the availability of tapped water supply, the need of ponds has decreased and as a result water stagnation has become common and pond waters give foul smell. The villagers are fed up with foul smell. The water of these ponds should be used for irrigation as it contains plant nutrients. So, ponds should be renovated in order to increase their water holding capacity. The stored water is fit for irrigation and should be used for irrigation of crops. In this way, the stagnation of the standing water would also be avoided.



**Photo of village pond of Sandhwan, district Faridkot**

**Poor Soil Health:** The soil health is deteriorating day by day due to intensive cropping, excessive use of chemical fertilizers, pesticides and herbicides. The soils are low in N, P & K and micro nutrients such as Fe and Zn. The soils are low in organic matter content leading to poor soil structure. The sub-surface ground water is decreasing at alarming rate in the watershed areas.

A brief description of identified activities is given as under: -

**1 Repair, renovation and capacity enhancement of village ponds:**

**2. Construction of underground pipeline conveyance system to convey canal water to fields:**

**3. Land Development Activities- lazer leveling**

**4. Application of Gypsum to salt affected areas:**

123 ha areas in Kotkapura sub-watershed and 265 ha area in Bargari sub-watershed would be supplied Gypsum in order to increase production from these areas.

**5. Provision for chieselling to break hard pan:**

In Aryianwala Kalan sub-watershed on 212.65 ha chieselling is recommended whereas in Kotkapura sub-watershed chieselling is recommended on 138 ha of land.

**The activities proposed natural resources management:**

Renovation of **18** number of village ponds for rain water harvesting and recycling are planned in 18 project villages involving a cost of Rs 170.83 Lakhs.

The soils of the area are permeable, sandy in nature so irrigation efficiency is very low. To increase irrigation efficiency, underground pipeline system is recommended to convey water from water source to the fields 20.76 km length of underground pipe lines is recommended.

*For uniform and easy conveyance of irrigation water in the crop lands particularly for paddy crop, the laser leveling is recommended on 1659.6 ha of land involving cost of Rs. 62.19 Lacs.*

*Due to the presence of salts at certain depth in the soil and to redress the problem of soil salinity, the application of Gypsum to 388 ha of area is recommended at a cost of Rs. 10.91 Lacs.*

*The problem of development of hard pan below root zone is noticed in patches in all the three sub-watersheds. So to break the hard pan and to improve permeability of soils, the activity of chiselling is recommended over an area of 350.65 ha at a cost of Rs. 18.42 Lacs.*

*The **entry point activities** which emerged from discussions primarily relate to construction of shed at Bus Stands on approach roads in the villages, arrangement of sitting benches at common places like daramshalas, bus stand, and grave-yards is recommended. The activity of supply of drinking water to poor basties by construction of water storage tanks under the ground and installing hand pumps on them is recommended.*

*The institutional and capacity building framework has also been suggested. . Number of Self Help Groups have been formed or activated to take up income generating activities.*

### **Proposed Production System:**

*Crop diversification mainly to reduce area under paddy is recommended in whole of the Punjab state. Cultivation of winter maize, turmeric, garlic, Amla, herb, Bahera, Coffee, green onion, direct sown paddy etc. has attracted the attention of farmers and so it is proposed to promote such crops under this programme. Similarly, there is acute shortage of pulses and incidentally short duration pulse varieties have been developed particularly in case of moong. It is proposed to cover some area under pulses in the project. In case of production improvement, large number of demos on high value crops, vegetables, medicinal plants and promotion of floriculture is recommended. These are to be supported by organic farming/vermin composting and subsidiary occupations like bee-keeping and mushroom cultivation.*

*The department of **horticulture** is making all out effort to promote horticulture in the area and there is good amount of subsidy under horticulture mission hence no major activity was proposed for horticulture development except supply of 7900 fruit plants for raising in the back yard and on tube-wells. In addition cultivation of flowers is also proposed for promotion. High density guava shall be promoted in some area.*

***Vegetables** as such are not raised on large scale mainly because of poor quality of ground water. The farmers of the area have not shown much interest in vegetable cultivation because there is no big city close to the project area except Faridkot and Kotkपुरa where traditionally vegetable raising is common and there appears no need of additional support.*

### **Livestock improvement including fodder production**

*The livestock improvement activities include awareness camps, common diseases control and supply of mineral mixture. Improved fodder seeds will be provided to increase the availability of good quality fodder for animals. The plantation has been recommended on common places in the village.*