

# **Project, DUCHNIPORA RAJPORA**

## **INTRODUCTION**

Jammu and Kashmir State has a total geographical area of 24.17 lac hecets. Out of which only 7.30 lac hecets. are under cultivation. District Anantnag/ Pulwama of J&K State are the most fertile / scenic belt enriched with vast potential of water resources. Dachnipora/ Rajpora Command Area is located in Bijbihara, Pahalgam and Tral block of Distt. Anantnag and Pulwama. The canal takes off from Lidder Nallah on its lift . Nallah lidder is a perennial source originating from the snow melts of Sheshnagh and Kolhi Glaciers. This nallah covers most of pump areas of the Distt. Anantnag. The area falls on left side of Srinagar- Bijbihara road and Bijbihara Pahallgam road traverses through most of the Command Area of the Project. The Rajpora Tral Command Area will be augmented by the lift irrigation scheme from River Jehlum at Awantipora.

For development of sustainable agriculture production in the project area of Dachnipora. Rajpora Command efficient water management is a most, critical component. There is a growing awareness of the scarcity of water especially for last years as the valley has suffered a severe drought, because of which efficient water management is exceedingly important for maximizing the crop yield on sustainable basis without causing any land and environmental degradation. The project area has a mixed type of topography, broadly consisting of mountain range pediment Karewa formation and flood plains. The relief varies from subnormal to excursive. The altitude varies from 5300 Ft. to 6000 Ft. above M.S.L with slope varying from 1 to 20%. In the project area a good position is also occupied by ravines and gullies.

The main drainage line of the project area is Lidder Nallah and River Jehlum through various perennial Nallahs. But the area adjoining National highway is flood prone and remains submerged for the most time during the year.

Topography is undulating, slope ranges between 2% to 18%, soils are shallow to medium infested with boulders as soft rock in the upper reaches of the Tral canal soil texture is coarse resulting in heavy seepage losses with the result the cropped areas located on the tail reaches of the canal face water scarcity. The net work to irrigation distribution has to cover more than 42 villages in Tral and Pampore blocks.

The project area envisages the execution and implementation of O.F.D works for efficient management of crop, water and soils for maximum production of crops on sustainable basis. The schemes as recommended by Government of India, Ministry of water Resources for Centrally Sponsored Command Area Development programme have been proposed for the development of Command Area.

## **Project, DEHGAM-VEERINAG**

### **INTRODUCTION**

The valley of Kashmir is gifted with the vast perennial water resources. The utilization of water for various purposes has been the aim of mankind right from primitive time. The source of water supply for Irrigation purposes has been local stream, Nallahs and springs besides ground water.

District Anantnag has a very good potential of Agricultural production because of its vast fertile land. This is the reason which brings the District at the top w.r.t agricultural production among all Districts of Jammu & Kashmir State. But having such a fame in the state production fields , it is not fair to call it a self sufficient District as like other District. It is also dependent upon importation of agricultural products from the other state of country. To bring the District, Anantnag to the position of its self sufficiency its vast network of irrigation Khul/ canals need to be taken up in large and to increase their efficiency so that the output of its fertile lands may get increased.

Dehgam Veerinag Khul takes off from the famous spring known as "VEERINAG SPRING" which is situated below the famous Pirpanchal Ranges and by the side of Srinagar Jammu National Highway. The spring is main source of River Jehlum. This khul is only means of irrigation to about 390 hectares besides Dehgam Veerinag another Shah and Lallan canal irrigates 184 and main source of this canals Halsidar Nallah. Zan-Zan lad, Check lad and Pranigam lad have source of irrigation from the Vetsta spring which cover the area of 234 hectares of land. Panzath lad takes off from the Panzath spring near Qazigund which cover an area of 71 hectares of land. Besides these canals there are Kouserbal lad, Ringath lad, Pargarladi which cover an area of 154 hectares of fertile land belonging to the poor inhabitants of backward communities of D.H. Pora Block of Distt., Anantnag. Verinag, Boonigund, Poolia, Kanilgund, Kachhalgund, Chainagund, Nowdoora, Kralmar, Mandipora, Shistergam, Guchan, Dalwatch, Gogisgund, Targam, Saransoo, Panzath, Chaimullah, Shampora, Qazigund, Dardikote, Babapora, Ringath, Nengarpora, Tsimble, Nagam, Peshpora, Nagam, Peshpora, Ahmad- abad, Louspora, and Kouserbal. These Khuls are aligned through plane and in some reaches along semi hilly terrain having undefined section at reaches, which cause damages to the adjacent public property besides reduction in irrigation

supplies. These conditions of the Khuls at number of places is also in deteriorated condition due to topographical features. The network of these Khuls is vulnerable to damages during heavy rains and cloud bursts and Deptt. of Irrigation has taken up these Khuls under improvement on war footing basis.

The condition of the Khul/ canals is satisfactory enough to fulfill the irrigation needs, The area falling under these Khuls is quite fertile and if proper irrigation is provided to it, the economic position of the people will really get boosted up. In order to over come the problems faced by the Zamindars. It has been proposed to take improvements in form of farm development works, so that the Command Area can get assured irrigation for optimum yield.

For development of sustainable agriculture production in the project area of Dehgam-Veerinag Command Area, efficient water management is a most important. There is a growing awareness of the scarcity of water especially for last years as the valley has suffered a severe drought, because of which efficient water management is exceedingly important for maximizing the crop yield on sustainable basis without causing any land and environmental degradation. The project area has a mixed type of topography, broadly consisting of mountain range pediment Karewas formation and flood plains.

Command Area development programme was initiated in 1974-75 as a Centrally Sponsored scheme with the objective of improving utilization of created irrigation potential and optimizing productivity and production from irrigated agriculture. As the programme mainly revolves around the development and management of irrigation water were included under the programme. Components briefly cover development of infra structure at the micro- level and taking up innovative management techniques of scientific water management for optimizing agriculture production and sustainable development.

The project area envisages the execution and implementation of O.F.D works for efficient management of crop, water and soils for optimum production of crops on sustainable basis. The schemes as recommended by Government of India, Ministry of water Resources for Centrally Sponsored Command Area Development programme have been proposed for the development of Dehgam Veerinag Command

# **Project, VAISHOW**

## **INTRODUCTION**

Jammu and Kashmir State has a total geographical area of 24.17 lac hecets. out of which 7.30 lac hecets. are under cultivation. District Kulgam /Shopian of J&K State is one of the most fertile and scenic belts enriched with vast potential of water resources. Veshaw Canal Command Area is located in Shopian and Kulgam blocks of District Kulgam and Shopian and is irrigated by the Bumen, Sonamen, Grimtoo& Mav. Canal which takes off from Vesho Nallah on its left bank near village Ferripora, Nihama, Chengi, and Adijan villages respectively .Vesho nallah is a perennial source of water originating from the snow melts of Kousem nag glacier flowing down through famous Aharbal fall and covers the entire project area under gravity flow. The area falls in the remote corner of the valley and agriculture is the main source of income for the residents of the area. The size of land holdings is small ranging from 0.5 to 1.5 hecets. The area is well drained Karewa's under Orchards and rainfed agriculture while as foot hills and some plain areas are stabilized under Paddy, cultivation Fodder, Maize and Pulses are also cultivated in the area. Yields are low due to inadequate irrigation.

For the development of sustainable agriculture in the project area of Vaishow Canal Command efficient water management is the most critical component. There is a growing awareness of the scarcity of water especially for the last years valley has suffered under critical drought conditions where in the efficient management of available water resources is exceedingly important for maximizing the crop yields on sustainable basis without causing land and

environmental degradation. There is a large gap between potential created and its efficient utilization which is attributed to various factors such as huge water losses in conveyance net work and in farmers fields, significant change in cropping pattern, lack of awareness among farmers regarding efficient utilization of water and other related aspects.

Topography is undulating, slope ranges between 2 % to 18%, soils are shallow to medium infested with boulders and soft rock in the upper reaches of the Vaishow Nallah. Soil texture is coarse resulting in heavy seepage losses with the result the cropped areas located on the tail reaches of the canal face water scarcity. The net work of irrigation distribution has to cover more than 172 villages in Kulgam and Shopian blocks where in more than 60% of the water available for irrigation goes waste due to the prevailing faulty irrigation practices. Gullies, ravines and Karewa's are other prominent topographical features of the project area.

Vaishow Nallah is the main drainage line of the project area, fields are well placed on gentle slopes and water logging is nonexistent. The water component during high intensity rains swells due to low carrying capacity of existing drainage lines, mostly zamindari khuls, resulting in the damage and siltation of these lines. An efficient surface drainage system needs to be developed for the safe disposal of excess of water on peak flow rates without causing soil erosion.

Proposals in brief:-

The project report envisages the execution and implementation of On Farm Development works for the efficient management of crop, water and soils for optimum production of crops on sustainable basis. The schemes as recommended by Government of India, Ministry of Water Resources for Centrally Sponsored Command Area Development programme have been proposed for the development of the Bumen, Mav, Sonamon and Grimtoo canal Command Area.

## **Project, TONGRI**

### **INTRODUCTION**

Jammu and Kashmir State has a total geographical area of 24.17 lac hecets. out of which 7.30 lac hecets. are under cultivation. District Shopian of J&K State is one of the most fertile and scenic belts enriched with vast potential of water resources. Tongri Canal Command Area is located in Shopian blocks of District Shopian and is irrigated by the Tongri canal which takes off from Vesho Nallah on its left bank near village Adjan. Vesho nallah is a perennial source of water originating from the snow melts of Kouser nag glacier flowing down through famous Aharbal fall and covers the entire project area under gravity flow. The area falls in the remote corner of the valley and agriculture is the main source of income for the residents of the area. And holding are small ranging from 0.5 to 1.5 hecets. The area is well drained Karewa's under Orchards and rain-fed agriculture while as foot hills an some plain areas are stabilized under Paddy cultivation Fodder, Maize and Pulses are also cultivated in the area. Yields are low due to inadequate irrigation.

For the development of sustainable agriculture in the project area of Tongri Canal Command efficient water management is the most critical component. There is a growing awareness of the scarcity of water especially for the last years valley has suffered under critical drought conditions where in the efficient management of available water resources is exceedingly important for maximizing the crop yields on sustainable basis without causing land and environmental degradation. There is a large gap between potential created and its efficient utilization which is attributed to various factors such as huge water losses in conveyance net work and in farmers fields, significant change in cropping pattern, lack of awareness among farmers regarding efficient utilization of water and other related aspects.

Topography is undulating, slope ranges between 2 % to 18%, soils are shallow to medium infested with boulders and soft rock in the upper reaches of the Tongri Canal. Soil texture is coarse resulting in heavy seepage losses with the result the cropped areas located on the tail reaches of the canal face water scarcity. The net work of irrigation distribution has to cover more than 72 villages in Kulgam and Shopian blocks where in more than 60% of the water available for irrigation goes waste due to the prevailing faulty irrigation practices. Gullies, ravines and Karewa's are other prominent topographical features of the project area.

Vaisho Nallah is the main drainage line of the project area, fields are well placed on gentle slopes and water logging is nonexistent. The water component during high intensity rains swells due to low carrying capacity of existing drainage lines, mostly

zamindari khuls, resulting in the damage and siltation of these lines. An efficient surface drainage system needs to be developed for the safe disposal of excess of water on peak flow rates without causing soil erosion.

Proposals in brief:-

The project report envisages the execution and implementation of On Farm Development works for the efficient management of crop, water and soils for optimum production of crops on sustainable basis. The schemes as recommended by Government of India, Ministry of Water Resources for Centrally Sponsored Command Area Development programme have been proposed for the development of the Tongri Canal Command Area.

## **Project, AHARBAL**

### **INTRODUCTION**

Command Area Development Programme has been conceived as an integrated programme to orchestrate all the activities crucial for increasing Agriculture productivity in the command area leading to better utilization of created irrigation potential to optimize the production. In our state (J&K) the C.A.D. Programme has been initiated in the year 1981-82 with the objectives of optimizing productivity and production from irrigated agriculture .

Command Area Development Project "AHARBAL" is located in District Anantnag of Jammu & Kashmir State with a total CCA of 3220 Ha.of fertile and productive land spread in 28 villages of District Anantnag /Pulwama District



Anantnag is famous for its vast potential of irrigation water. Visho-Nallha is the main source of Irrigation following down from Kousernag Glascier and covers the entire project area through three gravity canals viz Reshnagri, Noorabad & Yari Canals .The area falls in the remote corner of valley in Damhall Hanjipora and Shopian Blocks. The farming was both rain-fed and irrigated. Production levels were low and standard of living was below average.

The project area is located at a distance of 52 Kms. From srinagar city and starts from famous Ahrabal fall about 40Kms. From Kulgam town . The project area can be approached by Kulgam – Aharbal road Shopian – Noorabad road, and many other link roads with a radius of 30 to 40Kms. From Shopian and Kulgam respectively.

Topography is undulating, slope ranges between 2 to 20% in the GCA, soils are shallow to medium infested with boulders in the upper reaches of the canals. Soil texture is coarse which resulted in heavy seepage losses during the course of irrigation only head reaches of the area received irrigation water, although not properly managed, fields unlevelled, mostly without field distribution system of irrigation water resulted in scarcity of water in the tail reaches of these canals. All these three canals have been modernized for additional potential of irrigation water and in the total CCA of 3220 hectares of land 1338 hectares of land already under irrigation have received assured irrigation and in addition 1882 Ha.

of new, barren and rain-fed agriculture land have been brought under irrigation. Switch over in cropping pattern from dry land- cropping to irrigated crop production have been observed in the entire area, resulting in the overall and systematic development of the area in all fields of agriculture and other spheres of rural development.

Vishu – Nallha is the main drainage line of the area, fields are well placed on gentle slopes. The water component during high intensity rains , used to swell due to low carrying capacity of existing drainage lines mostly zamindari Khuls, which resulted in damage and siltation of these drainage lines . An efficient surface drainage system has been developed in the entire project area.

The project report envisaged the execution and implementation of On Farm development works for the efficient and scientific management of water and crops for the systematic development of this remote rural area. The works executed comprises 1. Topographical Survey 2. Const. of field channels 3. Field drainage system 4. Warabandi 5. Adaptive trails research and demonstration 6. Institutional support to W.U.A.

The above executed activities viz topographical survey, Const.of field channel, Const. of field drainage system, Warabandi, and Adaptive trails have been taken up and completed in full as per proposals made in the project report.

## **Project, BRINGI**

### **INTRODUCTION**

Command Area Development Programme was initiated in 1974-75 as a Centrally Sponsored scheme with the objective of improving utilization of created irrigation potential and optimizing productivity and production from irrigated agriculture. As the programme mainly revolves around the development and management of irrigated agriculture, all the components related with development and management of irrigation water were included under the programme. Components briefly cover development of infra-structure at the micro-level and taking up innovative management techniques of scientific water management for optimizing agriculture production and sustainable development.

Command Area Development Project "BRINGI" is located in Anantnag district of Jammu and Kashmir State between 74<sup>o</sup>-20' to 70<sup>o</sup>-25' longitude and 30<sup>o</sup>-0' to 34<sup>o</sup>-32' latitude. The area starts from village Wandevalgam at a distance of 30 Kms. from Anantnag town and stretches upto Larkipora village located in the out skirts of Anantnag town at a distance of 4 Kms. from Anantnag on Anantnag- Kokernagh road. The Culturable Command Area of the scheme is 3366 ha. of land covered by Bringi canal and Bringi-Dehgam canal in Kokernagh and Larkipora blocks of Anantnag district. 70% of the area is irrigated by perennial waters of Bringi Nallah through gravity flow. The soils are fertile mostly clay loam in texture and the main crop grown is paddy. In the high reaches of the canal adjacent to famous Kokernagh spring Maize, Pulses and Orchard areas are developed, but down below the areas are mostly cultivated for paddy. The topography of

the project area is undulating Broken by Nallahs Ravines and gullies coming down from the high mountains of Gadole hills in continuation with the famous Pir-Panchal range. The slope varies from 2 to 12% in the cultivated area but steep slopes do also exist in the gross Command Area. An area of about 700 hectares or even more was unproductive because of non-availability of irrigation water which has been brought under assured irrigation after the improvement of the Bringi- Dehgam canal in the project area. The main drainage line is Bringi Nallah. Bringi canal and Bringi-Dehgam canal after providing irrigation water to the entire area through a network of distribution finally drain into the Bringi Nallah under gravity flow. Famous Srinagar- Kokernagh road is the main approach to project area. It is linked to a series of roads operating in the project area.

Bringi canal derives its supplies from Bringi Nallah which is one of the main tributaries of river Jehlum and originate from higher reaches of gadole. The Nallah is partly glacier fed and becomes active during summer at the time of high intensity rains in the upper catchment.

In addition to Bringi Nallah, the Bringi- Dehgam Kul is augmented by Kokernagh spring to meet the peak demand. Maximum requirement of water for Bringi- Dehgam canal and Bringi canal comes out to 11.00 cumecs out of which 9.00 cumecs can be made available from Bringi-Nallah and 2 cumecs from Kokernagh- Spring.

The minimum discharge available in Bringi- Nallah during peak irrigation season (May- June) worked out for last 20 years is 12-75 cumecs. Which is sufficient to meet the requirement of proposed project area. The failure of crops on account of drought and non- availability of water at the appropriate time, especially during peak irrigation season in the areas

located at the tail reaches of the canal had hampered, the Socio-economic development of the project area. The irrigation losses due to seepage, percolation, and the uncontrolled free flooding in the head reaches of the canal had further increased the problem and adequate and appropriate supplies of irrigation water as per crop requirement and feeding area was the priority need of the entire project area to ensure the optimum production of agricultural crops.

## **Project, MARTAND**

### **INTRODUCTION**

The Jammu and Kashmir State has a total geographical area of 24.17 lac hect. out of which 7.30 lac hect. are under cultivation. District Anantnag of J&K State is one of the most fertile and scenic belts enriched with vast potential of water resources. Command Area Development project Martand is located in District, Anantnag of Jammu & Kashmir State on left side of Lidder Nallah tributary of River Jehlum flowing from Pahalgam with a perennial discharge of 74 to 175 cumecs from May to September.

Martand Canal also known as "Shah Khul" is the first canal that takes off from Lidder Nallah on the left side near village Ganeshpora at a distance of 30 Kms. From Anantnag town on Srinagar-Khanabal Road. The canal is designed for a discharge of 13 cumecs and is the only source of irrigation water for the entire CAD Project.

The canal has been named as Martand canal as it passes through the famous Martand Karewa locating the ancient "Sun Temple". Also the name Shah Khul has been derived from the famous ruler of Kashmir Zainulabdin known as Badshah.

The project area with a gross command area of 6882 hectares and a culturable Command Area of 4337 hectares of land is stretched along the main canal and its distributories in 62 villages of District Anantnag starting from village Ganeshpora head works upto the tail portion of Martnad Karewa near out skirts of Anantnag town.

The total survey has revealed that the project area has a steep to moderately sloping to topography in the upper reaches comprising the areas of Ganeshpora, Hapatnar, valley, Ashmuqam and adjacent areas of hilly and tedious terrain. The Av. Slope is 10 to 12%. The soils are shallow to moderately deep, sandy loam to clay loam in texture, with high porosity over shingle and boulder strata, resulting in heavy water losses due to seepage and percolation losses in the water conveyance system and in the cultivated fields reducing the duty of water as low as 228.80 heccts./cumec.

Lower belts of the project are located on tail distribution of Martand canal cover most of the command area. These area comprise Brah, Bunzoo, Rakh Brah, Brakpora, Rampora, Martand Kerewa etc. these areas are mostly cultivated for paddy having flat to undulating topography with gentle slopes. The soils are fertile, moderately deep clay loam in texture and ideal for paddy cultivation percolation and seepage losses are less as compared to head reaches of the project and duty of water has been worked out 429 heccts./cumec.

The Martand canal has sufficient design and discharge to irrigate new areas through lift irrigation schemes in addition to extend irrigation through gravity flow. The lift irrigation schemes under report are:-

1.	Vainagbal Lift	202 Ha.
2.	Hapatnar Lift	206 Ha.
3.	Satranj Maidan Lift	142 Ha.
4.	Brah Lift	283 Ha.
5.	Brakpora Lift	100 Ha.
	<b>Total</b>	<b>= 933 Ha.</b>

With the coming of more potential areas under irrigated farming as listed above, the ultimate irrigation potential will be utilized in the best possible way by extending OFD works through CAD Programme. Presently these areas are under rain fed cultivation either producing low yields or prove complete crop failure during droughts. Out of these five lift irrigation schemes Hapatnar lift irrigation scheme and Vail Nagbal lift irrigation schemes are in operation, but the irrigation potential created has not been utilized properly to the desired benefits due to broken and faulty water conveyance system and uneven fields. The other three lift irrigation schemes which are under different stages of completion will irrigate a total CCA of 525 hectares of land in Brah, Brakpora and Satranj Maidan areas. The water for all the lift irrigation schemes will be provided by Martand canal and its distributaries.

Pre-revised project report envisages for the systematic development of the command area for increasing agricultural productivity by the efficient and scientific utilization of created irrigation potential through integrated management of soils, crop and water. It has been concentrated on the implementation of the

following approved activities both with Govt. of India and State. The project was included under Centrally Sponsored scheme in the year, 2000-2001. The implementation of OFD works was taken up in the month of November, 2000 itself. The achievements under the approved activities upto end of financial year, 2003-04.

## **Ahaji Beerwah**

### **INTRODUCTION**

#### **1.1 INTRODUCTION: -**

**T**he project area is located in District Budgam of Jammu & Kashmir State at a distance of 60 Kms. west of Srinagar city at  $74^{\circ} - 35^{\circ}$  east longitude and  $93^{\circ} 0'$  N latitude. Gross Command Area of the project is 9714 hectares and the Culturable Command Area is 8813 hectares in 82 villages located in Tehsil Budgam, Beerwah, Chadoora, Khansahib and Khag. The canal takes off from Nallah Sukhnagh on its right bank near village Arizal which is a perennial source of irrigation with sufficient discharge of feed the entire command area.

The main canal having a length of 8.53 Kms. with a supply channel of 1.34 Kms. and Sub-main distributaries of 225.18 Kms including two main branches Kati and Kurshan branches. The design discharge of Ahaji canal after modernization has been worked out 625 cusecs for the total culturable area of 8813 hectares. In the head and middle reaches the canal and its distribution system passes mostly through kerewa belts with deep gorges and ravines intercepting the relief having abundant water losses along the sides and bed of entire water conductor, sub mains and distributaries. The slope ranges from 1% to 20%. The soils are shallow to deep and coarse in textured. In the tail reaches,



the soils are mostly clay loam at many places, coarse textured, sandy loam soils with high porosity have been observed, in the project area.

The main drainage line of area is Sukhnagh Nallah which collects all the run off water through many tributaries which pass in the project area in the form of Zamindari Khuls and function as drainage cum irrigation channels and finally drain out in Nallah Sukhnagh which connects with River Jehlum near Singhpora on the left side of Srinagar Baramullah road.

Presently irrigation potential has been created for an area of 6394 hectares and the balance area of 2419 hectares will be newly irrigated during the course of modernization of the canal. In addition the area suffering for want of adequate irrigation will be covered under assured irrigation.

The necessity to bring the command area of Ahaji Canal under Command Area Development & Water Management Project is due to the optimum utilization of created irrigation potential for an increasing agriculture production and productivity on sustained basis.

## **Ahaji Lar**

### **INTRODUCTION**

#### **1.1 INTRODUCTION: -**

**T**he project area is located at a distance of 60 Kms. West of Srinagar City at 74° - 35° East Longitude and 33° North Latitude comprising a total Gross Command Area of 4890 hectares and Culturable Command Area of 5376 hectares in 151 villages of District Budgam. Source of irrigation is Sukhnagh Nallah which is a glacier fed perennial water source for most of the irrigation canals in the district. The catchment area of Nallah Sukhnagh above the take off point of 1<sup>st</sup> Canal i.e Ahaji Canal is 99.62 Square Kms. from Damamsar to Trikulbal. The peak discharge of the Nallah has been estimated as 12689 cusecs. This is here in place to mentioned that CAD & WM Project, Ahaji-

Beerua has already been in operation since year 2009, covering about 60 villages of Tehsil Khansahib, Beerua and Budgam.

The project report envisages to take up On Farm Development works under Centrally Sponsored Command Area Development & Water Management Programme in an area of 5376 hectares of culturable land irrigated by 17 gravitational canals which take off from Sukhnagh Nallah at different contours and cover almost entire irrigated area of Tehsil Beerwah, Khag, and Budgam. The Lar Canal is the main canal which take off from Sukhnagh Nallah at Qumiroo village with a design discharge of 420 cusecs .

Malla Kul with a design discharge of 120 cusecs and CCA of 624 hectares take off from Sukhnagh Nallah on its left bank near Kangripora village. The other irrigation canals which take off from Nallah Sukhnagh D/S of Lar and Malla Kul

## **Arin Bandipora**

### **INTRODUCTION**

#### **1.1 INTRODUCTION: -**

**T**he Command Area Development Project of Arin- Bandipora comprises of an area of **2860** Hectares of culturable land in 36 villages of Tehsil Bandipora in District Bandipora.

The area is covered by 11 No's of Gravitational Canals/ Khuls which take off from perennial Nallahs namely Arin Nallah, Bonner Nallah and Madhumati Nallah, at different contours having sufficient discharge through out the year.

The project area is located at a distance of 65 Kms. from Srinagar city on Srinagar Bandipora road in North East of Bandipora town. at 74°- 38° (E) longitude and 34°-27° (N) latitude. On one side it is bounded by Mountains of Harmukh Range and on other side the project area slopes down to famous Wular Lake which is main drainage line of this catchment.

## 1.2 Necessity: -

Out of the total CCA of **2860** Hectares full irrigation potential has been created for **2860** hectares. It indicates that the project is highly feasible for Command Area Development and Water Management Programme, so that created irrigation potential can be utilized to its optimum requirement for increasing crop production and productivity of soil on sustained basis. Lands are undulated and at places some soil conservation works such as bench terracing, gully plugging etc. have been taken care of, but Water Management Programme has not been taken up by any Department. Slope percentage varies from 1 to 30%. Soils are hard clay loam in texture with gravel and boulder strata in upper reaches resulting in heavy losses due to seepage and percolation. The carrying capacity of existing network has been reduced due to heavy silt load from upper catchment areas which needs to be de-silted.

## Ferozpora Tangmarg

### INTRODUCTION

#### 1.1 INTRODUCTION: -

**T**he Command Area development, Programme was initiated in the year 1974-75 as a centrally sponsored scheme with the objective of faster utilization of created irrigation potential and optimum agriculture production from the irrigated lands without deterioration in soil health. In our state the programme was initiated in the year 1981-82 in an area of about 18000 hectares in District Pulwama, Anantnag and Budgam, which has been extended to more than 25 thousand hectares during the 9<sup>th</sup> five year plan.

The project report envisage to carry out land development works in the command area of Ferozpora Tangmarg gravitational irrigation scheme located in Tangmarg Pattan and Baramullah Tehsils of District Baramullah in Kashmir Division. Babul irrigation canal in one of the canals emerging from Nallah Ferozpora on its left side which is being maintained by the Ferozpora Basin Irrigation Division, Tangmarg. The take off point of the canal is situated at

village Drang and is about 3 Kms. upstream of the Tangmarg proper. The Babul Canal has already been taken separately under NABARD scheme.

The Gross Command Area of the scheme is 11050 Hectares out of which 9644 hectares are culturable. The command area starts from village Ferozpora of Tehsil Tangmarg and ends up

at village Tapper of Tehsil Pattan and village Athoora of Tehsil Baramullah covering 243 villages of District Baramullah, babul Canal being the 1<sup>st</sup> Canal which takes off from Ferozpora Nallah covers the higher contour areas of the culturable command area.

The project area can be approached through a number of roads connecting Srinagar city and Baramullah town to world famous tourist place of Gulmarg. All the roads pass through the project area. The most prominent roads are: -

- Srinagar-Gulmarg road
- Srinagar-Baramullah National Highway via Pattan
- Batapora-Nehalpora road via Pattan
- Kreeri-Kawcheck road via Tapper
- Chooru Kreeri road
- Wagoora Kalantra road via Puth-Khah

The main drainage line of the area is Ferozpora Nallah which collects all the run-off and drainage water from the most of the catchment area through a series of small streams and Nallahs and join River Jehlum near Gund Pattan on the right side of Srinagar-Baramullah road. The area has an undulating topography providing a good surface drainage to the area. Presently no water logging is observed in the project area. however construction of field drains in an area of 3900 Hectares has been proposed in the project report.

The soils are deep and fertile ranging from silty loam to clay loam in texture with slightly acidic in reaction crop production is similar as is prevailing in the other temperate regions of the state. Paddy is the main crop grown alongwith Maize. Pulses, Vegetables Fruits, Oil Seeds and Fodder are other cultivated crops. The area has very high potential for optimum Rabi Agriculture production, but the only factor crucial for meeting these objectives is the assured irrigation as per requirement of the crops.

The optimum utilization of created irrigation potential is the main objectives of Command Area Development Programme for increasing agriculture production to improve the socio-economic conditions of the area which inhabit mostly the small and marginal farmers living below the line of poverty. Agriculture is main source of income and expected benefits of the project are manifold.

## Ganderbal

### INTRODUCTION

#### 1.1 INTRODUCTION: -

The project area with a CCA of 27263 Hectares is located in the north of Kashmir Valley at a distance of 25-35 Kms. from Srinagar city. It starts from high contours and up lands of Sindh Catchment and extends upto the flat lands of District Ganderbal, Bandipora and Baramulla in the outskirts of Srinagar city. The area can be approached from Srinagar via Srinagar-Leh, Srinagar-Baramulla and Srinagar-Bandipora high way connecting all the link roads within the project area. The project area is covered by the perennial waters of Nallahs like Sindh Nagandera, Dachigam, Sukhnagh, Ferozpora, Anchar Lake and Power Canal-Sindh Extension through 11 No. of gravitational canals and 103 lift irrigation schemes having a huge carrying capacity of irrigation water. All these Nallahs have sufficient discharge of irrigation water to feed the area proposed for Command Area Development & Water Management

Programme. The project area comprises of Srinagar, Ganderbal, Lar, Kangan, Pattan, Sumbal and Hajan blocks of Districts Srinagar, Ganderbal, Bandipora and Baramulla.

The area is presently cultivated for major crops like paddy and maize in Kharief and Oil Seeds, Fodder in Rabi and orchard crops (Apple). Crop yields are low due to inadequate irrigation especially during peak water requirements in the months of June, July and August. All though adequate irrigation components are available for the area but due to poor water

management, optimum utilization of created irrigation potential is lacking. Poor maintenance of irrigation canals and lack of adequate irrigation network in the cultivated fields coupled with reduced carrying capacity of existing Khuls, leads to inadequate irrigation for the crops thereby effects the yields per unit area. Water losses are abundant due to seepage, deep percolation and over bank flow. Prevailing flood irrigation methods not only absorb and utilize heavy water component in the head reaches but also removes the nutrients from field thereby effects productivity.

## **1.2 NECESSITY: -**

In order to utilize the created irrigation potential properly with scientific and technical approach as per requirements of crops the area is proposed for Command Area Development & Water Management Programme. Optimum dose of irrigation alongwith other inputs will give a boost in crop production, proper water management and mechanized farming with introduction of high yielding varieties of crops optimum dose of nutrients, pesticides etc. Land Development Works have been given emphasis in the proposed projects for increasing agricultural productivity and production on sustained basis.

# **Kehmil Kupwara**

## **INTRODUCTION**

### **1.1 INTRODUCTION: -**

**T**he Project area is located in District Kupwara of Kashmir Division at a distance of 120 Kms from Srinagar city. Kahmil Nallah is the main source of irrigation which feeds compact area of 7300 hectares through 48 irrigation schemes mostly gravitational canals. The area proposed for Command Area Development and Water Management Project falls in Tehsil Handwara and Kupwara mostly stabilized through these old age canals with paddy as main crop cultivated in the project area.

The head reaches of the project area on the left side have undulating topography with slope %age of 1-20. Soils are shallow to medium with boulder strata and fields have zig-zag conventional terraces difficult to scientific management of crop production. Water losses are tremendous resulting inadequate irrigation to the main crop belt of Handwara and Kupwara Tehsils located at the tail reaches of the irrigation distribution system. Handwara area has mostly flat topography and very fertile soils for intensive crop and fruit production.

Although there is sufficient discharge available as perennial water resources for adequate irrigation in the project area, the crop yields are very low due to the drought like conditions which have been recorded in the last five years. Irrigation component is the main factor responsible for crop production.

The project report envisages for the efficient management of irrigation water to initiate all techniques for optimum crop production. As per prevailing guidelines the following OFD works have been proposed in the project area of Kahmil Kupwara.

# Lar Sukhnag

## INTRODUCTION

### 1.1 INTRODUCTION: -

The project area Lar Sukhnag is located at a distance of 60 Kms. West of Srinagar City at  $74^{\circ} - 35^{\circ}$  East Longitude and  $93^{\circ}$  North Latitude. Gross Command Area of the project is 18693 Hectares and the Culturable Command Area is 13305 Hectares in 154 villages located in Tehsil Beerua, Budgam, Khansahib and Khag.

The Sukhnag Nallah takes off from the natural pond namely Damamsar located in Tosmaidan area of Pripanjal range of hills. The different canals which take off from the Sukhnag Nallah are Ahaji Canal, Lar Canal, Malla Khul, Gabigrat Canal, Sonmai Canal, Rathson Canal, Humri Canal, Lianz Canal and Sumbal Canal. Command Area Develop & Water Management Project Ahaji-Beerua has already been sanctioned and presently is operational. The Lar canal, Sonmai Canal, Rathson Canal and Sumbal Canal takes off on the right side of the Sukhnag Nallah at villages Qumroo, Beerwah, Rathson, and Kawoosa respectively. Whereas Malla Khul Canal, Gabigrath Canal, Humri Canal and Lianz Canal takes off on the left side of the Sukhnag Nallah at village Kangripora and Arwah and Zagoo Kharyan respectively.

The Sursh Khul, Gogaldara Canal, Maninar Canal and Bamradah Canal takes off from the glaciers and natural springs of Pirpanchal range of mountains and flows down the Kusturvan hill and Gogaldara hill and irrigates the upper, middle and lower reaches of whole area of Tehsil Khag and some catchment areas of Tehsil Beerua.



The main canal after Ahaji Canal is Lar Canal having a length of 10 Kms and sub-main distributaries and water sources flowing through out the project area. The design discharge of Lar canal after modernization has been worked out 420 cusecs for the total Culturable area of 7333 hectares. On the head and middle reaches the canal and its distribution system pass mostly through Karewa belts with deep gorges and ravines intercepting the relief having abundant water losses along the sides and bed of entire water conductor, sub mains and distributaries. The slope ranges from 1% - 20%. The soils are shallow to deep and coarse in texture. In the tail reaches the soils are mostly clay loam at places coarse textured sandy loam soils with high porosity have been observed in the project area.

The main drainage line of area is Sukhnagh Nallah which collects all the run off water through many tributaries which pass in the project area in the form of Zamindari Khuls and function as drainage cum irrigation channels and finally drains out in Nallah Sukhnagh which connects River Jehlum near Singhpora, on the Left side of Srinagar-Baramulla road.

Presently irrigation potential has been created for an area of 9619 hectares and the balance area of 3686 hectares will be newly irrigated during the course of modernization of the canals. In addition the area suffering for want of adequate irrigation will be covered under assured irrigation.

The necessity to bring the command area of mentioned canal under Command Area Development & Water Management Project is due to the optimum utilization of created irrigation potential for an increasing agriculture production and productivity on sustained basis. The contents of the Centrally Sponsored Command Area Development Programme as envisaged in this project.

# Rafiabad

## INTRODUCTION

### 1.1 INTRODUCTION: -

The Command Area Development Project of Rafiabad envisages land development works in the Command Area of Rafiabad High Lift Irrigation Scheme. It has a vast chunk of land situated in District Baramullah between 74°-20° and 70°-25° longitude and 30°-0 and 34°-32° Latitude. The area starts 3 Kms away from Baramullah and is extended upto 25 Kms away from Baramullah on both sides of Baramullah-Handwara road. The project falls in the Kashmir Division of J & K State at a distance of 60 Kms. from Srinagar City. It has forests on its North and River Jehlum and Nallah Pohroo on its South East. This portion of land is situated between 1570 – 1600 Mts. Above main sea level (M.S.L) and drains towards River Jehlum. The area is dependent on perennial waters of Hammal and Viji Nallahs augmented by Rafiabad High Lift Irrigation Scheme covering an area of 2932 hectares, in addition to the area irrigated by perennial sources as a result the total C.C.A of the revised project has been estimated as 4576 Hectares covering 62 villages of District Baramullah.

The topography of Tehsil Baramullah and Sopore in which the project area falls is almost flate with some undulating patches having narrow valleys. Some of the command area of the irrigation scheme is located at the foot steps of hills. The command area has a slope ranging from 1% to 15%.

The paddy crop in this area has been observed generally to fail at final stage for want of critical irrigation as the water conveyance is poor and there is loss of water, no control of water regulation system exists. An area of 2132 hectares covered under CAD & WM Project from 2001-2002 to 2007-2008 wherein infrastructure has

been developed for scientific management of irrigation water which has given encouraging results in crop production. The average yield for the main crop paddy have been recorded as 50 Quintals/ hectare, in the area covered under CAD & WM activities whereas the production in the uncovered area is very low.

## **1.2 Necessity: -**

Agriculture is one of the main sector of economy of the area and assured irrigation system in urgent need of the area to safeguard the inhabitants of the area from recurrent damages on this account. The total cropped area of this belt is about 6000 Hectares. Out of which 60% is paddy land and rest is orchards. The area is presently irrigated by gravity Kuls which originate from Viji and Hammal Nallahs. These water basins fall short of demand in peak irrigation months resulting in drought conditions especially in tail portions of these Kuls. This has put the local inhabitants in a lot of trouble as they are never sure as to when the drought will strike. As the Govt. is giving top priority for system, adequate water regulation and distribution system and other Command Area Development activities for efficient and judicious utilization of created irrigation potential.

As mentioned earlier gravity system is already deficit, tube well irrigation was also tried in the area that too failed. The only viable alternative being lifting of water from River Jehlum (Average level 1571.50 mts.) to a command level of 1600 mts. and feeding the area through gravity canal system. For this purpose the Irrigation Department is going to lift water from River Jehlum near village Ladoora to village Tragpora and Ferozpora, where from it will be fed through gravity canal to present irrigation system.

The Irrigation Department is to lift water and the irrigation to crops will be assured, but the distribution system and field channels

need to be constructed by the Command Area Development . Also land within the command is to be brought to a condition in which it will be fit

to receive irrigation water. The existing water courses are to be remodeled through out the project area.

The development of land is necessary in order to reduce the gape between the potential being created and its fuller utilization by the farmers falling in the command area.

The total capacity of all the Command Area Development Project is to ensure irrigation potential to full utilization of the area that are already under cultivation and protective irrigation to that area which is presently cultivated under rainfed conditions. Thus the irrigation potential which will be created is envisaged to provide continuous and assured irrigation facilities for raising the Paddy crop and provide life saving irrigation to other dry crops during dry spells, there by raising the yields to the optimum level.

The advanced agriculture practices will have to be implemented in the project area. Agricultural activities will have to be carried out in whole command area of Rafiabad High Lift Irrigation Scheme.

The revised project report will cover a Total C.C.A of 4576 Hectares out which an area of 2132 Hectares had covered under original project of report of Rafiabad.

The revised scheme is envisaged at a cost of Rs. 652.86 Lacs for balance area of 1644 Hectares and the project will be completed in three years and will benefit the residents of whole command area of Rafiabad comprising of 62 villages:

# URI-Narvaw

## **INTRODUCTION**

### **1.1 INTRODUCTION: -**

**T**he project report envisages for efficient management of irrigation water to initiate all techniques for optimum crop production in the command areas of different irrigation canals located in Baramullah, Uri and Boniyar Tehsil of Baramullah District of Kashmir division. The command area of the project is situated at a distance of 60 Kms. from Srinagar city on Srinagar-Uri national highway. All the irrigation canals are dependent on River Jehlum and its tributaries. The lift irrigation schemes as well as gravitational canals are continuous with each other, thus form a compact and continuous belt stretching from Delina Baramullah to Uroosa Uri. For these reasons and for convenience sake these minor irrigation schemes have been clubbed together to form the present command area development project report. The project is well connected through national highway from Srinagar to Uri via Lalpul. The command area has rolling and undulating topography with a slope ranging between 1% to 60%. The irrigation canals are being maintained by Irrigation Division Baramullah.

