

## **SMALL/MEDIUM DAM PROJECTS**

## SMALL/MEDIUM DAM PROJECTS

S #	Name of Dam	Gross Capacity (AF)	Command Area (Acres)	Power Generation Capacity (MW)	Estimated Cost (Rs. in Billion)	Construction Period (Years)	EIRR (%)
<b>BALUCHISTAN</b>							
1	Hingol Dam, Lasbela	1,405,000	65,000	1.0	46.122	3	10.65
2	Naulong Dam Jhal Magsi	242,452	47,000	4.4	35.710	3	9.60
3	Winder Dam, Lasbela	36,484	10,000	0.3	12.712	3	10.35
4	Garuk Dam Kharan	50,695	12,500	0.3	14.736	3	9.19
5	Pelar Dam Awaran	99,175	25,650	0.3	10.092	3	8.99
<b>SINDH</b>							
6	Nai Gaj Dam Dadu	300,000	28,800	4.2	63.053	3	9.97
7	Darwat Dam Jamshoro	121,790	25,000	0.45	17.647	3	9.36
<b>KHYBER PAKHTUNKHWA</b>							
8	Bara Dam Khyber Agency	85,363	41,729	5.8	14.208	3	12.69
9	Daraban Zam D.I. Khan	69,739	16,000	0.75	5.828	3	10.11
10	Tank Zam Dam D.I. Khan	345,000	35,000	25.5	59.426	3	9.91
<b>Punjab</b>							
11	Ghabir Dam Chakwal	66,200	15,000	0.15	13.487	3	9.80
12	Papin Dam Rawalpindi	89,600	18,000	0.20	8.609	3	9.89
	<b>TOTAL</b>	<b>2,911,498</b> <b>2.9 MAF</b>	<b>339,679</b>	<b>43.35</b>	<b>301.630</b>		

# HINGOL DAM PROJECT

## LOCATION

The dam site is located at a distance of 260 kms north-west of Karachi and about 16 kms north of bridge across Hingol River on Makran Coastal Highway in district Lasbela (Balochistan).

## OBJECTIVES

- Irrigated agriculture development of 65,000 acres culturable command area.
- Hydropower generation of 1 MW.
- Socio-economic uplift, poverty reduction and women emancipation.



## SALIENT FEATURES

– Dam Type	Central Core Zoned Dam
– Height of Dam	171 ft
– Length of Dam	2,170 ft
– Gross Storage	1,205,752 AF
– Culturable Command Area	65,000 acres
– Cropping Intensity	200%
– Annual Benefits	
– Agriculture	Rs. 4.524 billion
– Power	Rs. 0.102 billion
– Fisheries	Rs. 0.024 billion
– Project Employment	
– Construction Period	5,500 Nos.
– Agriculture Sector	32,500 Nos.
– Installed capacity	1 MW
– Revised Project Cost:	Rs. 26.463 Billion

## CURRENT STATUS

- WAPDA prepared feasibility study and detailed engineering design of Hingol Dam Project with dam site at Aghor.
- Hindu community raised objections due to submergence of their holy places.
- WAPDA identified new site and prepared feasibility study and detailed engineering design at an additional Project cost of Rs. 4 billion.
- Abu Dhabi Fund may partially finance the project. Terms and conditions to be finalized.
- Government of Balochistan agrees to participation of Abu Dhabi for corporate farming.
- PC-I Proforma (new site) considered by Central Development Working Party (CDWP) in its meeting held on 19 November 2009 and cleared for approval of (Executive Committee of National Economic Council) ECNEC.
- Project Planning Report prepared by consultants and is under review for finalization.
- Tenders for construction will be invited after the approval of PC-I of the project.

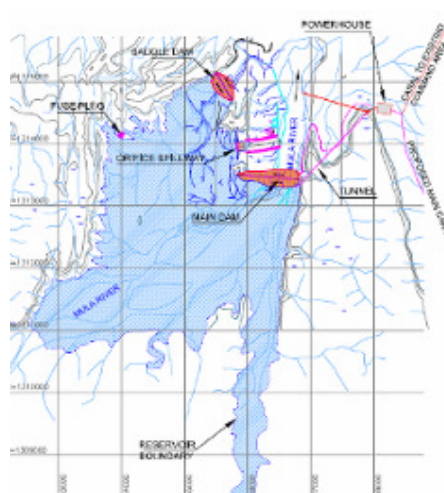
# NAULONG DAM PROJECT

## LOCATION

The proposed dam site is located on Mula river at Sunt about 30 kms from Gandawa City in tehsil and district Jhal Magsi (Balochistan).

## OBJECTIVES

- Irrigated agriculture development of 47,000 acres of culturable command area.
- Hydropower generation of 4.4MW.
- Flood Mitigation.
- Socio-economic uplift, poverty reduction and women emancipation.



## SALIENT FEATURES

- Dam Type	Earth fill
- Dam Height	186 ft
- Gross Storage	242,452 AF
- Live Storage	200,000 AF
- Culturable Command Area	47,000 acres
- Cropping Intensity	200%
- Annual Benefits	
- Agriculture	Rs. 2.017 billion
- Power	Rs. 0.413 billion
- Fisheries	Rs. 0.018 billion
- Flood protection	Rs. 0.122 billion
- Employment Generation	
- Construction Period	4,300 Nos.
- Agriculture Sector	23,500 Nos.
- Power Generation	4.4 MW
- Annual Energy	26.6 GWh
- Revised Project Cost	
- Phase – I (Dam & appurtenant structures)	Rs.21.549 billion
- Phase – II (HEIS Development)	Rs. 4.700 billion
Total	Rs. 26.249 billion

## CURRENT STATUS

- Feasibility study and detailed engineering design of the Project completed in 2009.
- Project approved by ECNEC in its meeting held on 3 September 2009. Revised PC-1 amounting to Rs. 21.55 billion submitted to MoW&P for arranging approval of ECNEC.
- Tenders for construction received and opened on 17 April 2010.
- Letter of Intent (LOI) issued to the lowest bidder M/s. Descon - Zargoan JV. (Bid Price: Rs. 15.600 billion).
- Government of Balochistan assured full security to the contractor including Chinese contractors.
- M/s Sinohydro (China) is preparing proposal with M/s. Descon JV for construction of the project.
- Contractor is likely to mobilize by February 2012.

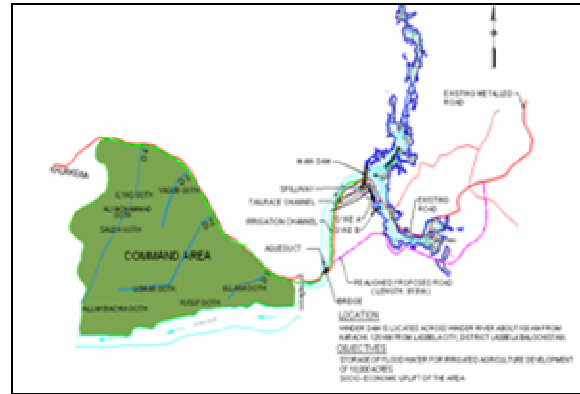
# WINDER DAM PROJECT

## LOCATION

Winder dam site is located across Winder River about 100 kms from Karachi in district Lasbela (Balochistan).

## OBJECTIVES

- Irrigated agriculture development of 10,000 acres of culturable command area.
- Hydropower generation of 300 KW.
- Socio-economic uplift, poverty reduction and women emancipation.



## SALIENT FEATURES

- Type of the Dam	Earth Core Rock fill
- Height of Dam	102 ft
- Length of Dam	1,696 ft
- Gross Storage	36,484 AF
- Live Storage	36,167 AF
- Culturable Command Area	10,000 acres
- Annual Benefits	
- Agriculture	Rs. 1.386 billion
- Power	Rs. 0.017 billion
- Fisheries	Rs. 0.007 billion
- Employment Generation	
- Construction Period	1,500 Nos.
- Agriculture Sector	5,000 Nos.
- Hydropower Generation	300 KW
- Revised Project Cost	
- Phase – I (Dam & appurtenant structures)	Rs.10.026 billion
- Phase – II (HEIS Development)	Rs. 1.000 billion
<b>Total</b>	<b>Rs. 11.026 billion</b>

## CURRENT STATUS

- Project approved by ECNEC in its meeting held on 3 September 2009; revised approval being sought for construction.
- Groundbreaking ceremony was graced by the President of Pakistan on 1 January 2010.
- Letter of Acceptance (LOA) issued to M/s. Techno Engineering - RSWI JV on 15 February 2010.
- Due to non-submission of performance guarantee by M/s Techno Engineering – RSWI JV issued LOA alongwith tendering process cancelled.
- Project will be re-tendered after undertaking detailed engineering design and tender documents of the project.

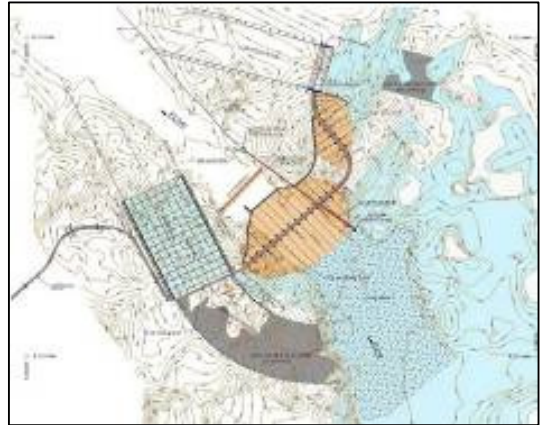
# GARUK DAM PROJECT

## LOCATION

The dam site is located about 47 kms south east of Kharan Town across Garuk River in District Kharan (Balochistan).

## OBJECTIVES

- Storage of flood water for irrigated agriculture development of 12,500 acres of culturable command area.
- Hydropower generation of 300 KW.
- Socio-economic uplift, poverty reduction and women emancipation.



## SALIENT FEATURES

- Type of Dam	Earth Core Rock fill
- Height of Dam	184 ft
- Length of Dam	2,323 ft
- Reservoir Capacity	50,695 AF
- Culturable Command Area	12,500 acres
- Cropping Intensity	200%
- Annual Benefits	
- Agriculture	Rs. 1.022 billion
- Power	Rs. 0.002 billion
- Fisheries	Rs. 0.034 billion
- Drinking water	Rs. 0.001 billion
- Project Employment	
- Construction Period	1,300 Nos.
- Agriculture Sector	6,250 Nos.
- Power Generation	300 KW
- Revised Project Cost	
- Phase – I (Dam & appurtenant structures)	Rs. 6.671 billion
- Phase – II (HEIS Development)	Rs. 1.250 billion
Total	Rs. 7.921 billion

## CURRENT STATUS

- PC-I approved by ECNEC in its meeting held on 3 September 2009. Revised PC-I is prepared and under submission for approval.
- Tenders of Garuk Dam on EPC basis invited on 3 Oct and 19 Nov 2009, 20 Feb, 24 Mar, 20 Oct and 23 Dec 2010. No bid received.
- WAPDA proposed the Project through local district contractors by subletting the various components to increase participation of the local community and local monetary benefits.

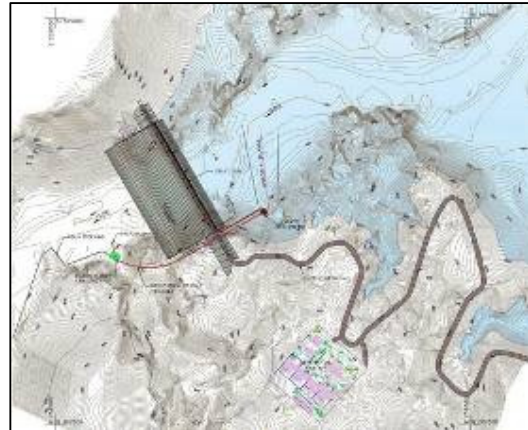
# PELAR DAM PROJECT

## LOCATION

The dam site is located about 160 kms from Awaran Town in District Awaran (Balochistan).

## OBJECTIVES

- Storage of flood water for irrigated agriculture development of 25,650 acres of culturable command area.
- Hydropower generation of 300 KW.
- Socio-economic uplift, poverty reduction and women emancipation.



## SALIENT FEATURES

- Type of Dam	Concrete Gravity
- Height of Dam	60 ft
- Length of Dam	714 ft
- Reservoir Capacity	99,175 AF
- Culturable Command Area	25,650 acres
- Cropping Intensity	200%
- Annual Benefits	
- Agriculture	Rs. 1.195 billion
- Power	Rs. 0.003 billion
- Fisheries	Rs. 0.027 billion
- Drinking water	Rs. 0.002 billion
- Project Employment	
- Construction Period	2,400 Nos.
- Agriculture Sector	12,825 Nos.
- Power Generation	300 KW
- Revised Project Cost	
- Phase – I (Dam & appurtenant structures)	Rs. 7.505 billion
- Phase – II (HEIS Development)	Rs. 2.565 billion
Total	Rs.10.070 billion

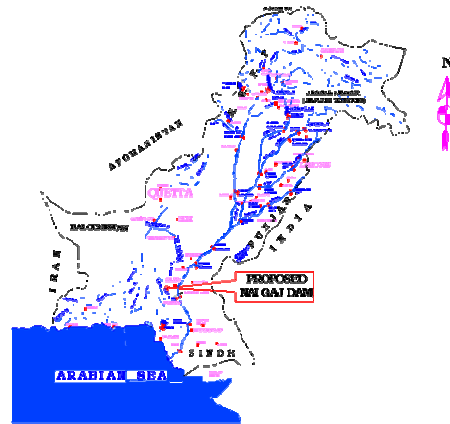
## CURRENT STATUS

- PC-I approved by ECNEC in its meeting held on 3 September 2009. Revised PC-I is prepared and under submission for approval.
- Tenders of Pelar Dam on EPC basis invited on 30 Sep and 12 Nov 2009, 20 Feb, 17 Mar, 27 Oct and 29 Dec 2010. No bid received.
- WAPDA proposed the Project through local district contractors by subletting the various components to increase participation of the local community and local monetary benefits.

# NAI GAJ DAM PROJECT

## LOCATION

The Nai Gaj Dam Project is envisaged to be located on Gaj River about 0.5 miles west of Gaj Inspection Bunglaw in district Dadu of Sindh Province.



## OBJECTIVES

- Storage of flood water for irrigated agriculture development of 28,800 acres of culturable command area.
- Hydropower generation of 4.2 MW.
- Socio-economic uplift, poverty reduction and women emancipation.

## SALIENT FEATURES

- Dam Type	Earth Core Rock Fill Dam
- Height of Dam	194 ft
- Gross Storage Capacity	300,000 AF
- Live Storage Capacity	160,000 AF
- Culturable Command Area	28,800 Acres
- Cropping Intensity	200%
- Annual Benefits	
- Agriculture	Rs. 6.325 billion
- Power	Rs. 0.420 billion
- Fisheries	Rs. 0.086 billion
- Flood mitigation	Rs. 0.212 billion
- Power Generation	4.2 MW
- Project Employment	
- Construction Period	6,350 Nos.
- Agriculture Sector	14,500 Nos.
- Revised Project Cost	
- Phase – I (Dam & appurtenant structures)	Rs.56.534 billion
- Phase – II (HEIS Development)	Rs. 2.880 billion
Total	Rs.59.414 billion

## CURRENT STATUS

- PC-I approved by ECNEC in its meeting held on Sep. 3, 2009. Revised PC-1 amounting to Rs. 21.55 billion submitted to MoW&P for arranging approval of ECNEC.
- Tenders for construction opened on July 16, 2010. Letter of Acceptance issued to M/s NEIE – SMADB JV on 13.01.2011 (Bid Price = Rs. 38.702 Billion). Contract Agreement has been signed on April 12, 2011.
- Funds amounting to Rs. 4,000 Million required for mobilization of contractor.



# DARAWAT DAM PROJECT

## LOCATION

The proposed Darawat Storage Dam site is located at about 70 kms West of Hyderabad and 135 kms North East of Karachi across Nai Baran River in Thata / Jamshoro districts of Sindh Province.



## OBJECTIVES

- Irrigated agriculture development of 25,000 acres of culturable command area.
- Hydropower generation of 450 KW.
- Socio-economic uplift, poverty reduction and women emancipation.

## SALIENT FEATURES

- Type of Dam	Concrete Faced Rock fill Dam (CRFD)
- Height of Dam	118 FT
- Length of Dam	820 FT
- Gross Storage	121,790 AF
- Live Storage	87,264 AF
- Cultivable Command Area	25,000 Acres
- Cropping Intensity	200%
- Annual Benefits	
- Agriculture	Rs. 2.541 billion
- Power	Rs. 0.018 billion
- Fisheries	Rs. 0.019 billion
- Hydropower Generation	450 MW
- Construction Period	3 Years
- Employment Generation	
- Construction Period	4,450 Nos.
- Agriculture Sector	12,500 Nos.
- Revised Project Cost	
- Phase – I (Dam & appurtenant structures)	Rs.11.132 billion
- Phase – II (HEIS Development)	Rs. 2.500 billion
Total	Rs. 13.632 billion

## CURRENT STATUS

- PC-I approved by ECNEC in its meeting held on September 3, 2009. Revised PC-1 amounting to Rs. 11.132 billion submitted to MoW&P for arranging approval of ECNEC.
- Ground Breaking Ceremony was graced by the President of Pakistan on January 2, 2010.
- Project awarded to M/s. Sinohydro-MAJ JV on February 15, 2010. The Contractor mobilized to site w.e.f June 30, 2010.
- The Contractor's camp and Engineer's office established at site. Engineering Design of the Project completed based on soil investigations. Completed the topographic survey of Dam Axis, Spillway and the topographic survey of command area.
- WAPDA established a school in the project area, where substantial number of students from near vicinity has been enrolled for better education of the people of the Project area.
- Construction work at Dam Site is in progress.

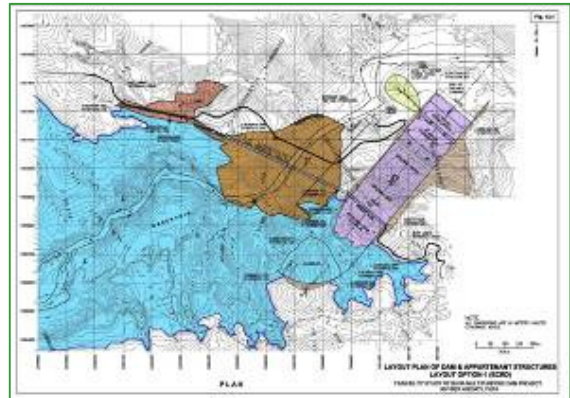
# BARA DAM PROJECT

## LOCATION

The proposed dam is located across Bara River at the confluence of Mastura River in Khyber Agency, FATA, Khyber Pakhtunkhwa.

## OBJECTIVES

- Storage of flood water for irrigated agriculture development of 41,729 acres of culturable command area.
- Hydropower generation of 5.8 MW.
- Socio-economic uplift, poverty reduction and women emancipation.
- Assured irrigation supplies to the existing irrigation schemes.



## SALIENT FEATURES

- Type	Earth core Rock fill
- Height of Dam	302 Ft
- Length of Dam	1477 Ft
- Gross storage Capacity	85,363 AF
- Reservoir Capacity	85363 AF
- Command Area	41,729 Acres
- Cropping Intensity	200%
- Power	5.8 MW
- Cost of the Project	Rs.14.208 Billion

## CURRENT STATUS

- Feasibility Study completed in 2008.
- PC-I approved by ECNEC on September 3, 2009.
- Tenders of Bara Dam on EPC basis invited on Oct 09, Nov 05, Dec. 19, 2009, Apr 08, 2010. No bid received.
- WAPDA appointed consultants for preparation of Project Planning Report and Tender Documents based on Detailed Engineering Design to invite Tenders on measurement (BOQ) basis.
- Detailed Engineering Design of the Project is in progress, to be completed by December, 2011.
- Detailed Level EIA and RAP Studies are in Progress.
- Tenders for construction will be invited on finalization of Project Planning Report and Tender Documents and on availability of funds for the Project.

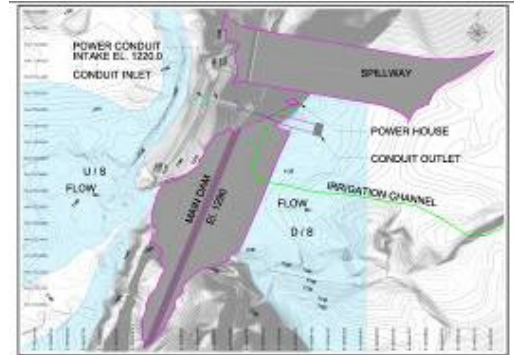
# DARABAN DAM PROJECT

## LOCATION

The dam is located on Khora River near existing Zam Burg Tower, 69 KM South West of D.I Khan.

## OBJECTIVES

- Storage of flood water for irrigated agriculture development of 15,000 acres of culturable command area.
- Hydropower generation of 0.75 MW.
- Socio-economic uplift, poverty reduction and women emancipation.



## SALIENT FEATURES

- Type of Dam	Earth Core Rock fill
- Height of Dam	154 FT
- Length of Dam	1426 FT
- Catchment Area	410 Sq. Miles
- Mean Annual Flow	50,274 AF
- Gross Storage	69,739 Acres
- Cultivable Command Area	15,000 Acres
- Cropping Intensity	200%
- Power Generation	0.75 MW
- Cost of the Project	Rs.5.828 Billion

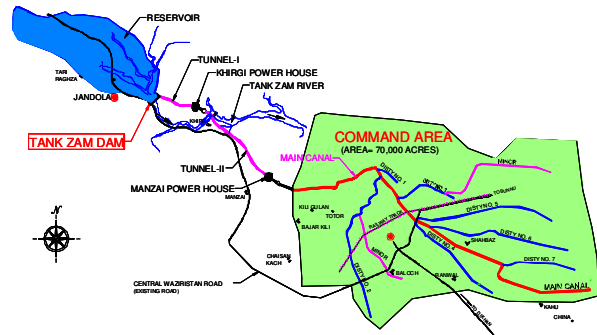
## CURRENT STATUS

- PC-I amounting to Rs.2.751 Billion approved by ECNEC on Sept. 03, 2009.
- Tenders for construction on EPC basis invited / received on July 20, 2010. M/s DESCON submitted bid, evaluated and post-qualified.
- WAPDA Authority in its meeting held on January 19, 2011 deferred the construction of the Project keeping in view of non allocation of funds in PSDP for the Project and inauspicious security situation in the Project area and it was decided to conduct Detailed Engineering Design of the Project to invite tenders on measurement (BOQ) basis.
- Revised PC-I is under preparation.

# TANK ZAM DAM PROJECT

## LOCATION

The proposed Tank Zam Dam is situated across Tank Zam River near Hinis Tangi about 30 miles from D.I. Khan in Khyber Pakhtunkhwa Province.



## OBJECTIVES

- Irrigated agriculture development of 35,000 acres of culturable command area.
- Hydropower generation of 25.5 KW.
- Socio-economic uplift, poverty reduction and women emancipation.
- Flood mitigation.
- Recreation

## SALIENT FEATURES

- Height of Dam	292 FT
- Gross Storage	345,000 AF
- Live Storage	289,000 AF
- Cultivable Command Area	35,000 Acres
- Cropping Intensity	200%
- Hydropower Generation	25.5 MW
- Cost of the Project	Rs. 19.90 billion

## CURRENT STATUS

- Feasibility studies completed in 1988.
- Govt. of Khyber Pakhtunkhwa requested WAPDA to take up the project for construction in Phase-I of Small/Medium Dams.
- WAPDA appointed consultants for preparation of Project Planning Report and Tender Documents based on Detailed Engineering Design to invite Tenders.
- Draft Project planning report prepared by Consultants and under review for finalization.
- Revised PC-I is under submission to Ministry of Water & Power for arranging approval of ECNEC.
- Tenders for construction will be invited on finalization of Project Planning Report and Tender Documents, approval of PC-I of the Project and on availability of funds for the Project.

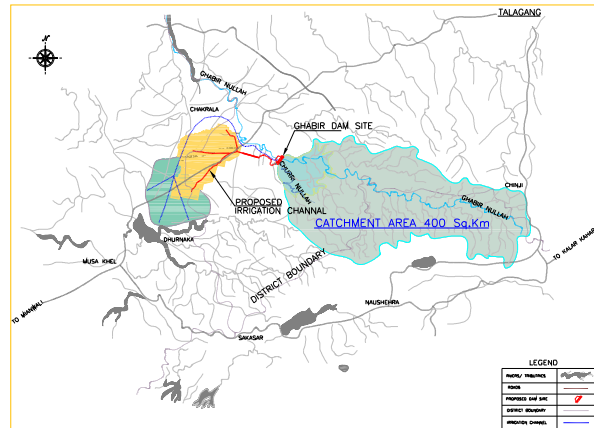
# GHABIR DAM PROJECT

## LOCATION

The Ghabir Dam project is proposed across the Ghabir River, a tributary of Soan River, little upstream of confluence of Ghabir River and Churi Khas a tributary of Ghabir River. It is located 9 km from village Danda Shah Bilawal and about 60 km from Talagang Mianwali Road.

## OBJECTIVES

- Irrigated agriculture development of 15,000 acres of culturable command area.
- Hydropower generation of 150 KW.
- Socio-economic uplift, poverty reduction and women emancipation.



## SALIENT FEATURES

- Type of Dam	Earth Core Rock fill Dam
- Height of Dam	138 FT
- Length of Dam	3,117 FT
- Catchment Area	161 Sq. Miles
- Mean Annual Flow	38,428 AF
- Gross Storage Capacity	66,200 AF
- Live storage Capacity	26,000 AF
- Reservoir Area	1,544 Acres
- Spillway Design Flood	47,675 Cusecs
- Cultivable Command Area	15,000 Acres
- Cropping Intensity	200%
- Annual Benefits	
- Agriculture	Rs. 1.973 billion
- Power	Rs. 0.001 billion
- Fisheries	Rs. 0.001 billion
- Power Generation	150 KW
- Employment Generation	
- Construction Period	2,380 Nos.
- Agriculture Sector	7,500 Nos.
- Revised Project Cost	
- Phase – I (Dam & appurtenant structures)	Rs.10.179 billion
- Phase – II (HEIS Development)	Rs. 1.500 billion
Total	Rs.11.679 billion

## CURRENT STATUS

- PC-I approved by ECNEC on Sept. 03, 2009. Revised PC-1 amounting to Rs. 11.679 billion submitted to MoW&P for arranging approval of ECNEC.
- Letter of Acceptance on EPC basis issued to the lowest bidder M/s Dongfeng-Technical Associates & Habib Construction JV at a Contract Price of Rs. 6.01 billion on September 09, 2010.
- Due to non submission of performance guarantee, Letter of Acceptance issued to M/s Dongfeng-Technical Associates & Habib Construction JV has been cancelled.
- Proposal of 2<sup>nd</sup> lowest bidder is under consideration. Revised PC-I amounting to Rs. 11.679 Billion submitted to Ministry of Water & Power for arranging approval of ECNEC.

# PAPIN DAM PROJECT

## LOCATION

The dam is located on Wadala Kas at a distance of about 22 KM on Rawat Dhudhial road in District Rawalpindi.

## OBJECTIVES

- Storage of flood water for irrigated agriculture development of 18,000 acres of culturable command area.
- Hydropower generation of 200 kW.
- Socio-economic uplift, poverty reduction and women emancipation.



## SALIENT FEATURES

- Type of Dam	Concrete Gravity
- Height of Dam	105 FT
- Length of Dam	460 FT
- Catchment Area	417 Sq. Km
- Mean Annual Flow	136,426 AF
- Gross Storage Capacity	89,600 AF
- Live Storage	48,600 AF
- Reservoir Area	2,790 Acres
- Design Flood	46,900 Cusecs
- Cultivable Command Area	18,000 Acres
- Cropping Intensity	200%
- Installed Capacity	200 KW
- Cost of the Project	Rs.8.609 Billion

## CURRENT STATUS

- PC-I amounting to Rs. 1.136 Billion approved by ECNEC in its meeting held on September 3, 2009.
- Revised PC-1 amounting to Rs. 8.609 Billion submitted to Ministry of Water & Power for arranging approval of ECNEC.
- Tenders for construction will be invited on allocation / release of funds and approval of PC-I of the Project.