





## PRESENTATION ON ALTERNATIVE CONCEPTS OF WATER STORAGE IN SPATE AREAS OF PAKISTAN

JUNE 24, 2014

#### LAND USE IN KHYBER PAKHTUNKHWA (Million Acres)

Gross Area 18.40

Cultivable Area 6.53 (35.48% of G.A)

Irrigated Area 2.33 (35.68% of C.A)

Balance to be irrigated 4.20 (64.31% of CA)

### SPATE AREA OF KHYBER PAKHTUNKHWA

- The spate area of KPK is mostly located in the Southern District of the Province, such as Distt: D.I.Khan, Tank, Lakki Marwat, Bannu, Kohat, Karak and Hangu.
- In these Distts: flood water rights had been established by the British Govt: in the form of Riwaje –Abpashi and Kulyat, for different tribes Dwelling in the areas.
- According to the Rewaje Abpashi, the upper repairians have been given the right to divert flood water to their land and then release to the Downstream areas.

- Through this system the farmers are storing flood water in the field by 3 to 4 ft. in depth which percolate downward in the soil to a limited level which is being used by the crops through capillary action.
- This method of using Flood water for Irrigation purpose is locally called as Rod Kohi System. The Govt: of KPK helps the farmers in diverting the Flood discharge to their fields however, it is century old system and is not an efficient Irrigation System because maximum share of Flood water goes wasted due to the following reasons.
- --- uncontolled discharge
- --- Seapage losses
- --- Evaporation losse
- The Govt:of Khyber Pakhtunkhwa is working on the alternate concept of storage in the spate area in the form of Small/Medium Dams and since 1970`s 20 Nos. Small /Medium Dams have been completed which provide perennial Irrigation supply to 243282 acres of Land.

Presently 14 Nos. Small/Medium Dams are under construction through Federal & Provincial resources and Feasibility Studies of 30 Nos. Small/Medium Dams have also been completed.
 The Directorate General , Small Dams office of KPK conduct Feasibility Study in Barani area and also in the Spate area and proposed construction of Dams on

the recommendation of the Feasibility studies.

#### Sustainable irrigation supplies from Dams.

- To provide sustainable, long losting, perenial Irrigation supply, efficient utilization of the Dam water and producing maximum crop per drop of water, the following recommendations are proposed.
- 1. To carryout study of watershed management in the catchment area of the Dam.
- 2. To arrange resources for the command area development.
- 3. To introduce high efficiency Irrigation system for use of Dam water

## CONSTRUCTED SMALL DAMS IN KHYBER PAKHTUNKHWA

S.#	Name of Small Dam & Location	Year of Complet ion	Cost (Rs. M)	live Storage (A.F)	CCA	Source of Funding
1	Baran Dam District Bannu	1962	1123.76	98000	170500	Provincial Govt
2	Tanda Dam District Kohat	1967	564.480	99000	31600	Provincial Govt through WAPDA
3	Kandar Dam District Kohat	1970	18.669	2650	1400	Provincial Govt
4	Darwazai Dam District Kohat	1976	11.179	1500	650	Provincial Govt
5	Khal Dam District Haripur	1971	12.660	930	450	Provincial Govt
6	Chatri Dam District Haripur	1985	7.750	540	300	Provincial Govt
7	Khanpur Dam District Haripur	1985	1384.98	9300	3500	Federal Govt through WAPDA
	Total		3123.48	211920	207900	

Sr #	Name of small Dam & Location	Year of completion	Cost (Rs. M)	Storage Live (AF)	CCA Acres	Source of funding
8	Gandially Dam District Kohat	2004	186.600	13784	3000	Govt of Khyber Pakhtunkhwa.
9	Chanda Fateh Khan Dam District Kohat	2004	90.000	1593	2000	Govt of Khyber Pakhtunkhwa.
10	Aza Khel Dam District Peshawar	2004	43.000	3340	3500	Govt of Khyber Pakhtunkhwa.
11	Auxiliary Kandar Dm District Kohat	2005	64.129	1333	1000	Federal Govt through DERA
12	Naryab Dam District Hangu	2006	266.577	3120	4162	Federal Govt through DERA

Sr#	Name of small Dam & Location	Year of completion	Cost (Rs. M)	Storage Live (AF)	CCA Acres	Source of funding
13	Sharki Dam District Karak	2006	199.057	9996	3000	Federal Govt through DERA
14	Changhoz Dam District Karak	2006	196.91	11550	3300	Federal Govt through DERA
15	Barganattu Dam District Bannu	2009	270.00	2135	1190	DERA-II Program
16	Khair Bara Dam Haripur	2013	284	489	1600	Federal Govt through PSDP
	Total		1600.27	47340	22752	-

## UNDER CONSTRUCTION SMALL DAMS IN KHYBER PAKHTUNKHWA

S#	Name of Dam & Location	Estimated Cost (M)	Live Storage (AF)	CCA (acres)	Status
1	Darmalak Dam Kohat	468.434	8209	3500	Physical Progress: 70%
2	Loughar Dam Karak	519.539	3185	1970	Physical Progress:99%
3	Karak Dam Karak	403.491	1549	1175	Physical Progress:99%
4	Jabba Khattak Nowshera	114.85	205	465	Physical Progress:98%
5	Ghole Banda, Dam Karak	273.616	4531	1500	Physical Progress 75%
6	Mardan Khel, Dam Karak	220.00	283	1300	Physical Progress 35%

S #	Name of Dam & Location	Estimated Cost (M)	Live Storage (AF)	CCA (acres)	Status
7	Palai Dam Charsadda	911.45	3650	500	Physical Progress:95%
8	Kundal Dam Swabi	817.73	3602	5000	Physical Progress:35%
9	Zamir Gul Dam Kohat	643.76	5468	3000	Physical Progress:25%
10	Jhangra Dam Haripur	435.72	999	1800	Physical Progress:65%
11	Gul Dheri dam Nowshera	563.33	1602	1000	Physical Progress:70%
12	Kiyala Dam Abbotabad	914.0		3000	Physical Progress:30%
13	Gadwalian Dam Haripur	825.09	1052	3700	Physical Progress:35%
14	Jalozai Dam Nowshera	642.00	800	900	
	Total			28810	

# FEASIBLE SITES FOR CONSTRUCTION OF SMALL DAMS IN KHYBER PAKHTUNKHWA

S #	Name of Dam & Location	Estimated Cost (M)	Live Storage (AF)	CCA (acres)	Status
1	Panjtar Dam Bunir	487.86	10000	1815	Feasibility Study Completed. Detail Design will start shortly. PC-I framed
2	Chamak Mera Dam Abbotabad	805.42	1300	3000	Feasibility Study Completed. Detail Design will start shortly. PC-I framed
3	Pezu Dam Laki Marwat	393.25	3500	800	Feasibility Study Completed. PC-I framed
4	Sitti Kali Dam Bannu	510.00		1500	Feasibility Study Completed. Detail Design will start shortly. PC-I framed
5	Sheikh Haider Zam Dam D.I.Khan	3918.07	90680	19398	Feasibility Study Completed. Detail Design awarded. PC-I framed
6	Bada Dam Swabi	1177.94	3335	3000	Feasibility Study & Detail Design Completed. PC-I framed
7	Sumari Payan Dam Kohat	668.43	5507	1850	Feasibility Study & Detail Design Completed. PC-I framed
8	Sher Dara Dam Swabi	920.00	2810	1600	Feasibility Study & Detail Design Completed. PC-I framed

S #	Name of Dam & Location	Estimated Cost (M)	Live Storage (AF)	CCA (acres)	Status
9	Latamber Dam Karak	232.14		930	Feasibility Study Completed. PC-I framed
10	Chapra Dam Haripur	491.99	735	2000	Feasibility Study & Detail Design Completed. PC-I framed
11	Chashma Akora Khel Dam Karak	442.52	4900	5600	Feasibility Study Completed. PC-I framed
12	Surkhawai Dam Mardan	894.3	1400	1622	Feasibility Study Completed. Detail design will start shortly. PC-I framed
13	Kora Nullah Dam D.I.Khan	649.18	15700	6500	Feasibility Study Completed. PC-I framed
14	Makh Banda Karak	365.63	1500	750	Feasibility Study Completed. PC-I framed

S #	Name of Dam & Location	Estimated Cost (M)	Live Storage (AF)	CCA (acres)	Status
15	Ghaus Dara Dam Kohat	820.00	1700	525	Feasibility Study Completed.
16	Makh Banda Karak	780.00	1500	1166	Feasibility Study Completed.
17	Barwasa Dam Haripur	705.00	1200	625	Feasibility Study Completed.
18	Surkhawai Dam Mardan	894.3	1400	1622	Feasibility Study Completed.
19	Bahader Khel Nowshera	540.00	750	914	Feasibility Study Completed.
20	Ichar Nullah Mansehra	970.00	-	1500	Feasibility Study Completed.

#### **PHOTO GALLERY**

#### NARYAB DAM DISTRICT HANGU, KHYBER PAKHTUNKHWA YEAR OF CONSTRUCTION: 2006































