



PC-1

Improvement & Development of Chashma Barrage Wetland Biodiversity

ORIGINAL APPROVED COST	PKR Million. 89.234/-
1st REVISED PROPOSED COST	PKR Million. 91.860/-
ORIGINAL APPROVED GESTATION	60 Months Till June 2022
1st REVISED PROPOSED GESTATION	72 Months Till June 2023
APPROVAL FORUM	DDSC (DDSC)

1. NAME OF THE PROJECT

Improvement & Development of Chashma Barrage Wetland Biodiversity

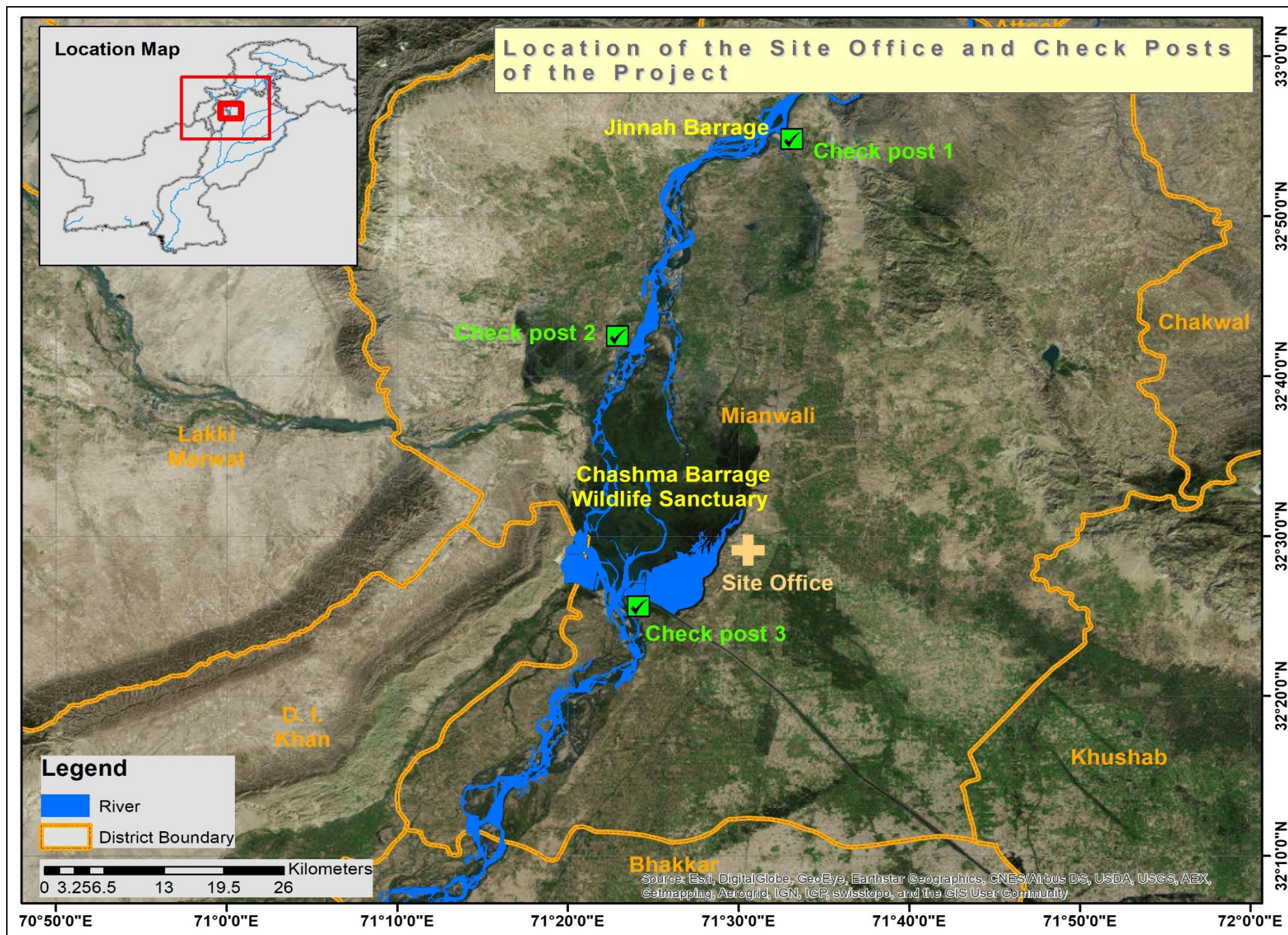
2. LOCATION OF THE PROJECT

2.1. DISTRICT(S)

I. MIANWALI

2.2. TEHSIL(S)

I. PIPLAN



3. AUTHORITIES RESPONSIBLE FOR

3.1. SPONSORING AGENCY

- FORESTRY, WILDLIFE, FISHERIES

3.2. EXECUTION AGENCY

- COMMUNICATION & WORKS DEPARTMENT
- FORESTRY, WILDLIFE & FISHERIES

3.3. OPERATIONS AND MAINTENANCE AGENCY

- WILDLIFE

3.4. CONCERNED FEDERAL MINISTRY

4. PLAN PROVISION

Sr #	Description
1	Source of Funding: Scheme Listed in ADP CFY
2	Proposed Allocation: 0.000
3	GS No: 4448
4	Total Allocation: 21.174
5	Funds Diverted: 0.000
6	Balance Funds: 21.174

5. PROJECT OBJECTIVES

Punjab Wildlife & Parks Department is responsible for Protection, Preservation, Conservation and Management of Wildlife in the Punjab Province. The Department, since its establishment, has been involved in different in-situ and ex-situ conservation efforts to save the wildlife fauna of the province.

In-situ conservation efforts mainly include;

Protection and conservation of wild fauna in their habitats.

Controlling illegal hunting and poaching of wildlife

Creation and management of protected areas

Promotion of sustainable management of the Wildlife Habitats

Protection and restoration of degraded areas

Introduction of legislation

Information, education and mass awareness

Involvement of local communities for wildlife conservation

For conservation and propagation of wildlife resources, the department has implemented various development schemes related to wildlife sector. Many projects are under implementation, which envisage protection and conservation of wildlife in nature, propagation under captivity, population monitoring of endangered species and training of staff in wildlife management / research in different aspects of wildlife biology.

Keeping in view the condition of rapidly deteriorating wildlife resources, the department is also focusing on Biodiversity conservation of Protected Areas of Punjab. Chashma Barrage is a large barrage on the

Indus river with a series of embankments or flood bunds which, at low water levels, divide the reservoir into five shallow lakes each of up to 250 ha in area. The construction was completed in 1971. Maximum flooding occurs in spring. The depth of the five lakes varies from 0.2m in the dry season to 5.0m at the height of the flood season; the depth of the main river channel varies from 4.6m to 8.8m. PH values range from 6.5 to 7.2.

Chashma Barrage wetland is located on river Indus downstream of Jannah Barrage and up stream of Taunsa Barrage. The Chashma Barrage is located in revenue limits of Tehsil Piplan & Mianwali of District Mianwali. Chashma Barrage remained under WAPDA Fisheries for long time; then it was handed over to Punjab Fisheries Department. Fishing is a regular activity at Chashma Barrage and Fisheries Department auctions fishing rights to private parties for fishing. Numbers of Sindhi fishermen are brought to Chashma Barrage by fishing contactors.

The wetland was first declared as a Wildlife Sanctuary of 33,084 ha in 1974. The Sanctuary was re-notified in July 1984, and again in January 1989. Some important areas on the right bank of the River Indus and the reservoir were not included in the sanctuary.

Chashma Barrage wetland is an important biological resource. In addition to resident fauna, many migratory species of waterfowl such as Mallard, Pochard, Pintail, Shoveler, Tufted Duck, Coot, Wigeon and Geese species migrate to this wetland. Due to withering of wetlands resources waterfowl species are not very secure. The data / information available on biodiversity of Chashma Barrage (e.g., small and large mammals, reptiles and amphibians, resident and migratory birds etc.) is patchy, also there is a need to conduct temporal surveys of the area to establish biodiversity baseline for future conservation strategies & improvement plans.

The fishermen make permanent settlements near river and indulged in various illegal activities including netting of waterfowls. Netting of waterfowls has become a menace and influential persons of the area patronize these illegal activities. It is necessary to effectively stop illegal netting/hunting of waterfowl and other valuable wildlife species to maintain eco system of this precious wetland.

Current project is planned with aim to protect, conserve and manage the Biodiversity of Chashma Barrage with a conservation of endangered wildlife species through strengthening of protection regime and development of baseline data and management plan to improve wildlife conservation / management measures.

Objectives of the project preferably in Quantitative Terms

Conservation of highly important wildlife species like Indus Dolphin, Freshwater Turtle and migratory waterfowls by enhancing the level of protection.

Management Planning of the Wildlife Sanctuary.

Enhanced capacity of Wildlife Staff in wetland conservation and management.

A source of Education / Research for the students and scientists.

Promotion of Eco-tourism.

GIS based boundary mapping of the Wildlife Sanctuary.

6. DESCRIPTION AND JUSTIFICATION OF PROJECT

6.1 JUSTIFICATION OF PROJECT

Description of Project

Current project is planned to protect, conserve and manage the Biodiversity of Chashma Barrage Wetland which is a wildlife sanctuary and a RAMSAR site. The project will also contribute towards the conservation of wildlife species through strengthening of protection regime. Following would be the key activities of the project;

Assessment of Wetland Biodiversity (Studies on resident/migratory birds, Mammals, Reptiles etc.).

Capacity Building of Wildlife Staff in Wetland Conservation and Management.

Control over illegal hunting / poaching of Wildlife and destruction of Habitat.

GIS based boundary delineation, demarcation and re-notification of the Chashma Barrage Wildlife Sanctuary.

Mass awareness campaign for the conservation of wetland biodiversity of Chashma Barrage

The project interventions will include the development of infrastructure, hiring of human resource, short consultancies to conduct baseline biodiversity surveys leading to management plan of the wildlife sanctuary, GIS / Remote Sensing studies, training of wildlife staff in survey / census techniques and wetland management.

Justification

Chashma Barrage wetland is protected area where hunting / netting of birds & animals is prohibited. Chashma Barrage wildlife sanctuary comprises of an area of over 81,750 acres and is bifurcated in many parts by river streams. The area is also inhabited by outlaws & gangster. The fishing operation is very extensive which may also be regularized. The fishing contractor brought fishermen from Sindh & with the passage of time fishermen settled in periphery of Barrage and gradually involved in illegal netting / hunting of birds. Some local influentials are also involved in massive illegal hunting and netting of wildlife of the area. To cope with the illegal activities in the Chashma Barrage, an elegant and separate protection setup is inevitable.

The data / information available on biodiversity of Chashma Barrage e.g., small and large mammals, reptiles and amphibians, resident and migratory birds etc. is patchy, also there is a need to conduct temporal surveys of the area to establish biodiversity baseline for future strategic interventions.

Current project will help to protect, conserve and manage the Biodiversity of Chashma Barrage Wetland which is a wildlife sanctuary and a RAMSAR site. This project will also contribute towards the conservation of endangered wildlife species through strengthening of the protection regime and develop first baseline data of the wildlife sanctuary to ensure better conservation and management of wildlife.

6.2 SECTORAL SPECIFIC INFORMATION

Not applicable

7. CAPITAL COST ESTIMATES

Financial Components: Capital
Cost Center:OTHERS- (OTHERS)
Fund Center (Controlling):LE4217

Grant Number:Government Buildings - (PC12042)
LO NO:LO17007415
A/C To be Credited:Account-I

PKR Million

S r #	Object Code	2017-2018		2018-2019		2019-2020		2020-2021		2021-2022		2022-2023	
		Local	Foreign	Local	Foreign	Local	Foreign	Local	Foreign	Local	Foreign	Local	Foreign
1	A12403-Other Buildings	0.000	0.000	3.500	0.000	2.297	0.000	6.000	0.000	22.621	0.000	0.000	0.000
	Total	0.000	0.000	3.500	0.000	2.297	0.000	6.000	0.000	22.621	0.000	0.000	0.000

Financial Components: Revenue
Cost Center:OTHERS- (OTHERS)
Fund Center (Controlling):N/A

Grant Number:Development - (PC22036)
LO NO:LO17007415
A/C To be Credited:Account-I

PKR Million

S r #	Object Code	2017-2018		2018-2019		2019-2020		2020-2021		2021-2022		2022-2023	
		Local	Foreign	Local	Foreign	Local	Foreign	Local	Foreign	Local	Foreign	Local	Foreign
1	A01101-Basic Pay	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.060	0.000	1.844	0.000
2	A01151-Basic Pay	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.538	0.000	4.481	0.000

3	A01202-House Rent Allowance	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.087	0.000	0.535	0.000
4	A01203-Conveyance Allowance	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.108	0.000	0.663	0.000
5	A0120D-Integrated Allowance	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.000	0.032	0.000
6	A01216-Qualification Allowance	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.180	0.000
7	A01217-Medical Allowance	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.071	0.000	0.446	0.000
8	A0122M-Adhoc Relief Allowance-2016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.049	0.000	0.000	0.000
9	A0122Y-Ad-Hoc Relief Allowance 2017	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.059	0.000	0.000	0.000
10	A0123G-Ad-Hoc Relief Allowance-2018	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.059	0.000	0.000	0.000
11	A0123P-Ad-Hoc Relief Allowance-2019	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.059	0.000	0.000	0.000
12	A0124H-Special Allowance 2021	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.027	0.000
13	A0124T-Special Allowance - 2022	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.616	0.000

14	A0124R- A0124R - Adhoc Relief Allowance 2022	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.616	0.000
15	A01270-Other	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.178	0.000	1.624	0.000
16	A02203- Consultant based Research and Surveys	0.000	0.000	0.373	0.000	0.562	0.000	0.000	0.000	5.219	0.000	2.000	0.000
17	A03202- Telephone And Trunk Call	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.098	0.000	0.000	0.000
18	A03303- Electricity	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.499	0.000	0.200	0.000
19	A03304-Hot and Cold Weather Charges	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.049	0.000	0.100	0.000
20	A03407-Rates and Taxes	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.230	0.000
21	A03805- Travelling Allowance	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.700	0.000
22	A03807-P.O.L Charges A.Planes H.Coptors S.Car	0.000	0.000	0.136	0.000	0.000	0.000	0.000	0.000	1.499	0.000	2.000	0.000
23	A03901- Stationery	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.099	0.000	0.130	0.000
24	A03902- Printing and Publication	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.199	0.000	0.300	0.000

25	A03903-Conference / Seminars / Workshops / Sy	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	1.500	0.000
26	A03906-Uniforms and Protective Clothing	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.199	0.000	0.200	0.000
27	A03907-Advertising and Publicity	0.000	0.000	0.084	0.000	0.000	0.000	0.000	0.000	0.315	0.000	0.200	0.000
28	A03970-Others	0.000	0.000	0.047	0.000	0.000	0.000	0.000	0.000	0.999	0.000	0.200	0.000
29	A13001-Transport	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.999	0.000	0.200	0.000
30	A13101-R & M Of Machinery And Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.149	0.000	0.150	0.000
31	A09501-Purchase of Transport	0.000	0.000	0.111	0.000	0.000	0.000	0.000	0.000	1.011	0.000	0.000	0.000
32	A09601-Purchase of Plant and Machinery	0.000	0.000	1.885	0.000	0.098	0.000	0.000	0.000	17.806	0.000	1.000	0.000
33	A09701-Purchase of Furniture and Fixture	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	2.560	0.000	0.000	0.000
Total		0.000	0.000	2.636	0.000	0.660	0.000	0.000	0.000	32.972	0.000	21.174	0.000

8. ANNUAL OPERATING COST (POST COMPLETION)

Financial Components: Revenue
Cost Center: OTHERS- (OTHERS)

Grant Number: Development - (PC22036)
LO NO: LO17007415

		PKR Million
Sr #	Object Code	
Total		

9. DEMAND AND SUPPLY ANALYSIS

Not applicable

10. FINANCIAL PLAN AND MODE OF FINANCING

10.1 FINANCIAL PLAN EQUITY INFORMATION

The project would be financed through ADP funding of Government of the Punjab.

10.2 FINANCIAL PLAN DEBT INFORMATION

Not applicable

10.3 FINANCIAL PLAN GRANT INFORMATION

Not applicable

10.4 WEIGHT COST OF CAPITAL INFORMATION

Not applicable

11. PROJECT BENEFITS AND ANALYSIS

11.1 PROJECT BENEFIT ANALYSIS INFORMATION

11.2 ENVIRONMENTAL IMPACT ANALYSIS

11.3 PACT ANALYSIS

undefined

11.4 ECONOMIC ANALYSIS

This is purely a biodiversity conservation project; hence no direct financial / economic benefits are expected from the project. However, the project activities will lead towards the conservation of important and threatened wildlife species contributing a healthy impact on the ecosystem, consequently, an indirect contribution to the ecosystem services.

11.5 FINANCIAL ANALYSIS

Not applicable

12. IMPLEMENTATION SCHEDULE

12.1 IMPLEMENTATION SCHEDULE/GANTT CHART

July, 2017 to June, 2023

12.2 RESULT BASED MONITORING (RBM) INDICATORS

As enclosed in Annexure-XIII

12.3 IMPLEMENTATION PLAN

As enclosed in Annexure-IX

12.4 M&E PLAN

The regular monitoring of the project during the implementation phase will be conducted by the PM&E wing of the wildlife department, while the evaluation of the project will be done by the Directorate General Monitoring & Evaluation, Planning & Development Department

12.5 RISK MITIGATION PLAN

As enclosed in Annexure-X

12.6 PROCUREMENT PLAN

As enclosed in Annexure-XI

13. MANAGEMENT STRUCTURE AND MANPOWER REQUIREMENTS

14. ADDITIONAL PROJECTS / DECISIONS REQUIRED

15. CERTIFICATE

Focal Person Name:Syed Ali Usman Bukhari

Designation:Project Incharge

Email:

Tel. No.:

Fax No:

Address:Office of the Deputy Director Wildlife Bahawalpur Region

16. REVISION HISTORY

16.1 REVISION 1

15. Certificate

Certified that the project has been prepared as per instructions issued by the Planning Commission Government of Pakistan for the preparation of PC-I projects.

PREPARED BY:


(MUHAMMAD ZAHID IQBAL)
DEPUTY DIRECTOR WILDLIFE
SAFARI ZOO, LAHORE
(042-35321143)

CHECKED BY:


(JUNAID NADEEM)
MONITORING & EVALUATION OFFICER
PUNJAB WILDLIFE & PARKS DEPARTMENT,
HEAD OFFICE, LAHORE
(042-99212369)

COUNTERSIGNED BY:


(MALIK SANAUULLAH KHAN)
DIRECTOR GENERAL
WILDLIFE & PARKS, PUNJAB
2-SANDA ROAD, LAHORE
(042-99212367)

APPROVED BY:


(SHAHID ZAMAN)
SECRETARY
GOVERNMENT OF THE PUNJAB
FOREST, WILDLIFE & FISHERIES DEPARTMENT
(042-99211695, 99212361)

REVISION HISTORY

1st Revision

During the fiscal year 2017-18, Rs. 20.000m were allocated in the ADP as per provision of approved PC-I scheme but not released by Finance Department and taken as withdrawal. During fiscal year 2018-19, Rs. 20.000m were allocated in the ADP against the PC-I provision of Rs. 59.621m. Thus, there was a short funding of Rs. 39.621m. Moreover, 4.971m were not released by Finance Department during 4th quarter and Rs. 8.292m was surrendered by Buildings Department. Similarly, during 2019-20, Rs. 5.000m were allocated in the ADP against the PC-I provision of Rs. 29.541m. In this way, there was a short funding of Rs. 24.541m during 2019-20. Meanwhile, Finance Department had withdrawn Rs. 2.032m (Revenue Head) due to COVID-19 Pandemic. Therefore, envisaged targets of the project could not be achieved due to short funding (Rs.64.162m), surrender (Rs.13.263m) and withdrawal (Rs. 22.032m) of funds during previous years.

The construction of Dolphin Rescue & Monitoring Station, 3 Nos., 1000 Sft. each were excluded from scope due to non-availability of site. Resultantly, the procurement of Furniture & Fixture for the said stations was also excluded from the project. Similarly, Telemetry equipment with data services (10 Nos.) and National / International meeting / workshop were also excluded from the scheme. The additional provision for protection works of Kundal Checkpost i.e. stone masonry retaining wall, protection with stone pitching and raising of plinth level upto 3' was included in the PC-I Scheme. Similarly, anticipated price variation amounting to Rs.2.600m was also incorporated in the scheme.

Hence, the PC-I scheme was revised by extending its gestation period till 30.6.2022 to complete the left-over targets. The certain cost adjustments were also made in the scheme. The revised PC-1 scheme was approved by DDSC on 17.08.2021 at total cost of Rs. 89.234m with its gestation period starting from 01.07.2017 to 30.06.2022.

2nd Revision:

During the financial year 2021-22, an amount of Rs.97.869 was released. However, due to procedural delay in creation of new DDO Cost Center, re-appropriation of funds in relevant heads of account, recruitment of staff, etc. complete funds under Revenue Head could not be timely utilized. Furthermore, the project staff could not be recruited prior to 2021-22 due to short funding / fund withdrawal due to Covid etc.

One of the major objectives of the project was to strengthen the protection regime at Chashma Wildlife Sanctuary to conserve the endangered wildlife species. Therefore, it is pertinent to extend the gestation period of the project to achieve the envisioned benefits through the recruited protection staff. Moreover, another leftover important objective was the development of management plan of the Chashma Wildlife Sanctuary, which could not be awarded due to time constraints. Therefore, the PC-1 scheme has been revised with one year extension in its gestation period till 30.06.2023 to ensure achievement of leftover targets.

COMPARITIVE STATEMENT

CONSERVANCY & WORKS

(Rs. in million)

Sr. No.	APPROVED PC-I SCHEME					REVISED PC-I SCHEME					Diff.
	Item of Work	Qty	Unit	Rate	Cost	Item of Work	Qty	Unit	Rate	Cost	
1	Construction of Site Office cum Inspection Hut 3150 Sft i/c electrification, Water supply, Architectural features, Compound Wall, gate and gate pillars, Tuff Paver passage, Sewerage system with Septic tank and exterior finishing complete in all respects i/c external development.	3150	Sft	2567.62	8.088	Construction of Site Office cum Inspection Hut 3150 Sft i/c electrification, Water supply, Architectural features, Compound Wall, gate and gate pillars, Tuff Paver passage, Sewerage system with Septic tank and exterior finishing complete in all respects i/c external development.	3150	Sft	2567.62	8.088	0.000
2	i. Construction of Check Post 3 Nos. 1000 Sft each around Chashma Barrage areas i/c electrification, Water supply, Architectural features, Compound Wall, gate and gate Pillars, Tuff Paver Passage, Sewerage system with Septic tank and exterior finishing complete in all respects i/c external development.	3000	Sft	4007.67	12.023	i. Construction of Check Post 3 Nos. 1000 Sft each around Chashma Barrage areas i/c electrification, Water supply, Architectural features, Compound Wall, gate and gate Pillars, Tuff Paver Passage, Sewerage system with Septic tank and exterior finishing complete in all respects i/c external development.	3000	Sft	4007.67	12.023	0.000
	ii. Additional provision for protection works of Kundal Checkpost i.e. stone masonry retaining wall, protection with stone pitching and raising of plinth level upto 3'.	L.S.	L.S.	L.S.	1.172	ii. Additional provision for protection works of Kundal Check Post i.e. stone masonry retaining wall, protection with stone pitching and raising of plinth level upto 3'.	L.S	L.S	L.S	1.172	0.000

Sr. No.	APPROVED PC-I SCHEME					REVISED PC-I SCHEME					Diff.
	Item of Work	Qty	Unit	Rate	Cost	Item of Work	Qty	Unit	Rate	Cost	
3	Construction of Electric supply line 2000 Rft. with HT/LT line steel poles and 50KV Transformer i/c WAPDA and Sui gas connection charges.	LS	LS	LS	4.500	Construction of Electric supply line 2000 Rft. with HT/LT line steel poles and 50KV Transformer i/c WAPDA and Sui gas connection charges.	LS	LS	LS	4.104	(-) 0.396
4	Development of land / lawn, one acre i/c uprooting sarkanda growth, ploughing, leveling, dressing, making lawn i/c turrting, cost of turf and planting of 200 Nos. shrubs / plants of different species complete in all respects.	1	Acre	5,00,000	0.500	Development of land / lawn, one acre i/c uprooting sarkanda growth, ploughing, leveling, dressing, making lawn i/c turrting, cost of turf and planting of 200 Nos. shrubs / plants of different species complete in all respects.	1	Acre	5,00,000	0.500	0.000
	Sub Total	-	-	-	26.283	Sub Total	-	-	-	25.887	(-) 0.396
6	Add 15% external development charges on items No.1,2 & 4 (Rs.21.783m).	-	-	-	3.267	Add 15% external development charges on items No.1,2 & 4 (Rs.21.783m).	-	-	-	3.267	0.000
7	Anticipated price variation on item No.1, 2 and 4 (Rs.21.783m).	-	-	-	3.582	Anticipated price variation on item No.1, 2 and 4 (Rs.21.783m).	-	-	-	3.582	0.000
8	Add 1% Tree Plantation / Horticulture on item No.1, 2, 4 and 5 (Rs.25.050m).	-	-	-	0.250	Add 1% Tree Plantation / Horticulture on item No.1, 2, 4 and 5 (Rs.25.050m).	-	-	-	0.250	0.000
9	Add 5% PRA Charges on item No.1, 2, 4, 5 and 6 (Rs.28.632m).	-	-	-	1.432	Add 5% PRA Charges on item No.1, 2, 4, 5 and 6 (Rs.28.632m).	-	-	-	1.432	0.000
	Total				34.814	Total				34.418	(-) 0.396

COMPARITIVE STATEMENT

MACHINERY, STORES AND EQUIPMENTS

(Rs. in
million)

Sr. No.	APPROVED PC-I SCHEME				REVISED PC-I SCHEME				Diff.
	Items of Work	Qty	Rate/ Unit	Total	Items of Work	Qty	Rate/ Unit	Total	
1	Purchase of Motorcycle-125CC	7	0.111 0.180	1.191	Purchase of Motorcycle-125CC	7	0.111 0.169	1.122	(-) 0.069
2	Multipurpose boat length 20'-25', 75-100 Hp engine seating capacity 6-9 persons along with Trolley	1	3.000	3.000	Multipurpose boat length 20'-25', 75-100 Hp engine seating capacity 6-9 persons along with Trolley	1	3.685	3.685	(+) 0.685
3	Speed Boat length 11', 30-50 Hp engine seating Capacity 3-5 persons	1	2.100	2.100	Speed Boat length 11', 30-50 Hp engine seating Capacity 3-5 persons	1	3.685	3.685	(+) 1.585
4	Wooden Boat of deodar wood alongwith engine (8 -15 Hp) 20' length & 5' width alongwith Shaft & Propeller.	4	1.000	4.000	Wooden Boat of deodar wood alongwith engine (8 -15 Hp) 20' length & 5' width alongwith Shaft & Propeller.	4	0.410	1.638	(-) 2.362
5	Purchase of Generator 10KVA (non-Chinese Brand)	1	1.200	1.200	Purchase of Generator 10KVA (non-Chinese Brand)	1	1.189	1.189	(-) 0.011
6	CCTV System i/c 08 camera, DVR, networking cables and other accessories to be placed around office & inspection hut.	1 Job	1.000	1.000	CCTV System i/c 08 camera, DVR, networking cables and other accessories to be placed around office & inspection hut.	1 Job	0.387	0.387	(-) 0.613
7	Purchase of Computer Core i-7 / i-8 with full accessories i.e Printer, Mouse, Key Board and Scanner etc.	2	0.139 0.180	0.319	Purchase of Computer Core i-7 / i-8 with full accessories i.e Printer, Mouse, Key Board and Scanner etc.	2	0.139 0.160	0.299	(-) 0.020
8	Purchase of Color Printer with refill cartridges	1	0.250	0.250	Purchase of Color Printer with refill cartridges	1	0.220	0.220	(-) 0.030
9	Fax Machine	1	0.050	0.050	Fax Machine	1	0.050	0.050	0.000
10	Purchase of Digital Camera (Still/Video) SLR/DSLR with 500-600MM Lenses and tripod	1	0.900	0.900	Purchase of Digital Camera (Still/Video) SLR/DSLR with 500-600MM Lenses and tripod	1	0.940	0.940	(+) 0.040

Sr. No.	APPROVED PC-I SCHEME				REVISED PC-I SCHEME				Diff.
	Items of Work	Qty	Rate/ Unit	Total	Items of Work	Qty	Rate/ Unit	Total	
11	LED/LCD 42" with Stabilizer	1	0.185	0.185	LED/LCD 42" with Stabilizer	1	0.170	0.170	(-) 0.015
12	First Aid Box (Annex-B)	4	0.050	0.200	First Aid Box (Annex-B)	4	0.050	0.200	0.000
13	Purchase of Mechanical Handy Grass / Bush Cutter	2	0.070	0.140	Purchase of Mechanical Handy Grass / Bush Cutter	2	0.070	0.140	0.000
14	Manual Lawn Movers heavy duty	2	0.045	0.090	Manual Lawn Movers heavy duty	2	0.045	0.090	0.000
15	Professional Laser Camera Traps for nocturnal animal studies	10	0.300	3.000	Professional Laser Camera Traps for nocturnal animal studies	10	0.170	1.700	(-) 1.300
16	Purchase of Fire Fighting Equipments (Annex-C)	LS	LS	0.180	Purchase of Fire Fighting Equipments (Annex-C)	LS	LS	0.180	0.000
17	Purchase of Furniture & Fixture (Annex-D)	LS	LS	0.740	Purchase of Furniture & Fixture (Annex-D)	LS	LS	0.998	(+) 0.258
18	Plastic Pipe (1" and 3/4")	LS	LS	0.050	Plastic Pipe (1" and 3/4")	LS	LS	0.050	0.000
19	Water Dispenser	2	0.040	0.080	Water Dispenser	2	0.040	0.079	(-) 0.001
20	Chargeable Lights	10	0.005	0.050	Chargeable Lights	10	0.005	0.050	0.000
21	Purchase of Dust Bins	10	0.020	0.200	Purchase of Dust Bins	10	0.020	0.199	(-) 0.001
22	Spotting Scope 40-60 X zoom with tripod	2	0.230	0.460	Spotting Scope 40-60 X zoom with tripod	2	0.230	0.460	0.000
23	Binocular (20x50)	10	0.050	0.500	Binocular (20x50)	10	0.040	0.450	(-) 0.050
24	Drone Camera with accessories Quad copter, Full HD (1080P) Still / Video recording camera (12MP minimum), flight range 5km + flight duration 20-minutes, memory 64-GB minimum with video transmitter & backpack etc.	2	0.400	0.800	Drone Camera with accessories Quad copter, Full HD (1080P) Still / Video recording camera (12MP minimum), flight range 5km + flight duration 20-minutes, memory 64-GB minimum with video transmitter & backpack etc.	2	0.400	0.800	0.000
25	GPS receivers preferably GARMIN	10	0.073 0.090	0.764	GPS receivers preferably GARMIN	10	0.073 0.090	0.764	0.000
26	Laser Range Finder (minimum range = 500m)	2	0.125	0.250	Laser Range Finder (minimum range = 500m)	2	0.130	0.260	(+) 0.010
27	Field Survey Kit (Annex-E)	10	0.150	1.500	Field Survey Kit (Annex-E)	10	0.087	0.870	(-) 0.630

Sr. No.	APPROVED PC-I SCHEME				REVISED PC-I SCHEME				Diff.
	Items of Work	Qty	Rate/ Unit	Total	Items of Work	Qty	Rate/ Unit	Total	
28	Iron Cots for Checkposts	20	0.010	0.200	Iron Cots for Checkposts	20	0.020	0.199	(-) 0.001
29	Dolphin Rescue Kit (Annex-F)	2	0.100	0.200	Dolphin Rescue Kit (Annex-F)	2	0.140	0.280	(+) 0.080
30	Cabinet A.C. 2 Ton D.C. Inverter	1	0.300	0.300	Cabinet A.C. 2 Ton D.C. Inverter	1	0.168	0.168	(-) 0.132
31	Split A.C. 1.5 Ton DC Inverter	2	0.100	0.200	Split A.C. 1.5 Ton DC Inverter	2	0.112	0.223	(+) 0.023
32	Cost of Furniture & Fixture for inspection hut	(Annex-D1)	2.170	2.170	Cost of Furniture & Fixture for inspection hut (Cost of items No. 34-38 is included).	(Annex-D1)	1.570	1.570	(-) 0.600
33	Cost of Furniture & Fixture for Checkpost, 3 Nos.	(Annex-D2)	0.350	0.350	Cost of Furniture & Fixture for Checkpost, 3 Nos.	(Annex-D2)	0.356	0.356	(+) 0.006
34	-	-	-	-	Weapon Pistol 9mm (30 Bore)	5	0.200	1.000	(+) 1.000
Total				26.619	Total				(-) 2.148

COMPARITIVE STATEMENT

COST OF ESTABLISHMENT

(Rs. in million)

Sr. No.	APPROVED PC-I SCHEME				REVISED PC-I SCHEME				Diff.
	Name of Post	BPS	No. of Post	Total	Name of Post	BPS	No. of Post	Total	
1	Deputy Director Wildlife	18	1	0.818	Deputy Director Wildlife	18	1	1.128	(+) 0.310
2	Biodiversity Specialist	17	1	0.705	Biodiversity Specialist	17	1	1.080	(+) 0.375
3	GIS/RS Analyst	17	1	0.705	GIS/RS Analyst	17	1	1.140	(+) 0.435
4	Wildlife Supervisor	15	2	0.696	Wildlife Supervisor	15	2	1.432	(+) 0.736
5	Junior Clerk	11	1	0.277	Junior Clerk	11	1	0.606	(+) 0.329
6	Wildlife Inspector	9	3	0.757	Wildlife Inspector	9	3	1.460	(+) 0.703
7	Wildlife Watcher	5	9	2.008	Wildlife Watcher	9	9	4.293	(+) 2.285
8	Boat man	1	2	0.406	Boat man	1	2	0.741	(+) 0.335
9	Naib Qasid	1	1	0.204	Naib Qasid	1	1	0.374	(+) 0.170
10	Chowkidar	1	1	0.204	Chowkidar	1	1	0.354	(+) 0.150
11	Baildar	1	1	0.204	Baildar	1	1	0.354	(+) 0.150
12	Sweeper	1	1	0.204	Sweeper	1	1	0.374	(+) 0.170
Total			24	7.188	Total			13.336	(+) 6.148

COMPARITIVE STATEMENT

COMMODITIES & SERVICES

Sr. No.	APPROVED PC-I SCHEME		REVISED PC-I SCHEME		Diff.
	Items	Total	Items	Total	
1	Short Consultancies regarding Biodiversity Studies i. Resident and Migratory Birds ii. Small Mammals iii. Large Mammals iv. Reptiles and Amphibians v. GIS / Remote Sensing (Broader Scope of Studies is attached as Annex-H (Sr.No.i @ Rs.0.750m and remaining @ Rs.1.500m / each)	6.750	Short Consultancies regarding Biodiversity Studies i. Resident and Migratory Birds ii. Small Mammals iii. Large Mammals iv. Reptiles and Amphibians v. GIS / Remote Sensing (Broader Scope of Studies is attached as Annex-H (Sr.No.i @ Rs.0.750m and remaining @ Rs.1.500m / each).	5.856	(-) 0.894
2	Survey & Telemetry Study regarding Translocation of Indus Blind Dolphin with Stretches between Jinnah to Chashma, Chashma to Taunsa and Taunsa to Guddu) (Short Consultancy)	2.980	Survey & Telemetry Study regarding Translocation of Indus Blind Dolphin with Stretches between Jinnah to Chashma, Chashma to Taunsa and Taunsa to Guddu) (Short Consultancy)	0.298	(-) 2.682
3	Development of Management Plan for Chashma Barrage (Short Consultancy)	4.000	Development of Management Plan for Chashma Barrage (Short Consultancy)	2.000	(-) 2.000
4	Establishment of local conservation committee for community mobilization / their participation in the project and quarterly meetings	1.500	Establishment of local conservation committee for community mobilization / their participation in the project and quarterly meetings (SOPs attached as Annexure- I)	1.500	0.000
5	Office Stationary	0.100	Office Stationery	0.229	(+) 0.129
6	Telephone and Trunk Call (Wireless, Internet Services, etc.)	0.100	Telephone and Trunk Call (Wireless, Internet Services, etc.)	0.098	(-) 0.002
7	Electricity Charges	0.500	Electricity Charges	0.699	(+) 0.199
8	Hot & Cold	0.050	Hot & Cold	0.149	(+) 0.099
9	POL Charges	1.636	POL Charges	3.635	(+) 1.999
10	Publicity & Advertisement Charges	0.400	Publicity & Advertisement Charges	0.599	(+) 0.199
11	Uniform for staff	0.200	Uniform for staff	0.399	(+) 0.199
12	Maintenance of machinery and store equipment	0.150	Maintenance of machinery and store equipment	0.299	(+) 0.149

Sr. No.	APPROVED PC-I SCHEME		REVISED PC-I SCHEME		Diff.
	Items	Total	Items	Total	
13	Maintenance & Improvement of existing Vehicle	1.000	Maintenance & Improvement of existing Vehicle	1.199	(+) 0.199
14	Printing charges	0.200	Printing charges	0.499	(+) 0.299
15	Others	1.047	Others	1.246	(+) 0.199
16	-	-	Rate & Taxes	0.230	(+) 0.230
17	-	-	TA	0.700	(+) 0.700
Total		20.613	Total	19.635	(-) 0.978

COMPARITIVE STATEMENT

SUMMARAY OF COST

(Rs. in

million)

Sr. No.	APPROVED PC-I SCHEME		REVISED PC-I SCHEME		Diff.
	Items	Total	Items	Total	
1	Conservancy & Works	34.814	Conservancy & Works	34.418	(-) 0.396
2	Machinery, tools, Stores and Equipment	26.619	Machinery, tools, Stores and Equipment	24.471	(-) 2.148
3	Establishment	7.188	Establishment	13.336	(+) 6.148
4	Commodities & Services	20.613	Commodities & Services	19.635	(-) 0.978
	Total	89.234	Total	91.860	(+) 2.626

Annexure(s)

ANNEXURE-I**IMPROVEMENT AND DEVELOPMENT OF CHASHMA BARRAGE WETLAND
BIODIVERSITY****CONSERVANCY & WORKS****(Rs. in Million)**

Sr. No	Item of Work	Qty	Unit	Rate	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	Total
1	Construction of Site Office cum Inspection Hut 3150 Sft i/c electrification, Water supply, Architectural features, Compound Wall, gate and gate pillars, Tuff Paver passage, Sewerage system with Septic tank and exterior finishing complete in all respects i/c external development.	3150	Sft	2567.62	0.000	0.000	0.000	0.000	8.088	-	8.088
2	i. Construction of Check Post 3 Nos. 1000 Sft each around Chashma Barrage areas i/c electrification, Water supply, Architectural features, Compound Wall, gate and gate Pillars, Tuff Paver Passage, Sewerage system with Septic tank and exterior finishing complete in all respects i/c external development.	3000	Sft	4007.67	0.000	3.500	2.297	2.915	3.311	-	12.023
	ii. Additional provision for protection works of Kundal Checkpost i.e. stone masonry retaining wall, protection with stone	L.S.	L.S	L.S.	0.000	0.000	0.000	1.000	0.172	-	1.172

Annexure01 - Cost of Conservancy & Works

Sr. No .	Item of Work	Qty	Unit	Rate	2017 -18	2018 -19	2019 -20	2020 -21	2021- 22	2022- 23	Total
	pitching and raising of plinth level upto 3'.										
3	Construction of Electric supply line 2000 Rft. with HT/LT line steel poles and 50KV Transformer i/c WAPDA and Sui gas connection charges.	LS	LS	LS	0.000	0.000	0.000	1.800	2.304	-	4.104
4	Development of land / lawn, one acre i/c uprooting sarkanda growth, ploughing, leveling, dressing, making lawn i/c turring, cost of turf and planting of 200 Nos. shrubs / plants of different species complete in all respects.	1	Acre	5,00,000	0.000	0.000	0.000	0.000	0.500	-	0.500
Sub Total					0.000	3.500	2.297	5.715	14.375	-	25.887
5	Add 15% external development charges on items No.1,2 & 4 Rs.21.783m	-	-	-	0.000	0.000	0.000	0.000	3.267	-	3.267
6	Anticipated price variation on item No.1, 2, and 4 Rs.21.783m	-	-	-	0.000	0.000	0.000	0.000	3.582	-	3.582
7	Add 1% Tree Plantation / Horticulture on item No.1, 2, 4, and 5 Rs.25.050m	-	-	-	0.000	0.000	0.000	0.000	0.250	-	0.250
8	Add 5% PRA Charges on item No.1, 2, 4, 5 and 6 Rs.28.632m	-	-	-	0.000	0.000	0.000	0.285	1.147	-	1.432
Total:					0.000	3.500	2.297	6.000	22.621	-	34.418

ANNEXURE-II**IMPROVEMENT AND DEVELOPMENT OF CHASHMA BARRAGE WETLAND
BIODIVERSITY****MACHINERY, STORES & EQUIPMENTS****(Rs.in million)**

Sr. No	Items of Work	Qty	Rate / Unit	2017 -18	2018 -19	2019 -20	2020- 21	2021- 22	2022- 23	Total
1	Purchase of Motorcycle, 125CC	7	0.111 0.169	0.000	0.111	0.000	0.000	1.011	-	1.122
2	Multipurpose boat length 20'-25' 75-100 Hp engine seating capacity 6-9 persons along with Trolley	1	3.685	0.000	0.000	0.000	0.000	3.685	-	3.685
3	Speed Boat length 11', 30-50 Hp engine seating Capacity 3-5 persons	1	3.685	0.000	0.000	0.000	0.000	3.685	-	3.685
4	Wooden Boat of deodar wood along with engine (8 -15 Hp) 20' length & 5' width along with Shaft & Propeller.	4	0.410	0.000	0.000	0.000	0.000	1.638	-	1.638
5	Purchase of Generator 10KVA (non-Chinese Brand)	1	1.189	0.000	0.000	0.000	0.000	1.189	-	1.189
6	CCTV System i/c 08 camera, DVR, networking cables and other accessories to be placed around office & inspection hut.	1 Job	0.387	0.000	0.000	0.000	0.000	0.387	-	0.387
7	Purchase of Computer Core i-7 / i-8 with full accessories i.e Printer, Mouse, Key Board and Scanner etc.	2	0.139 0.160	0.000	0.041	0.098	0.000	0.160	-	0.299
8	Purchase of Color Printer with refill cartridges	1	0.220	0.000	0.000	0.000	0.000	0.220	-	0.220
9	Fax Machine	1	0.050	0.000	0.000	0.000	0.000	0.050	-	0.050
10	Purchase of Digital Camera (Still/Video) SLR/DSLR with 500-600MM Lenses and tripod	1	0.940	0.000	0.000	0.000	0.000	0.940	-	0.940

Annexure02 - Cost of Machinery, Store & Equipments

Sr. No	Items of Work	Qty	Rate / Unit	2017 -18	2018 -19	2019 -20	2020- 21	2021- 22	2022- 23	Total
11	LED/LCD 42" with Stabilizer	1	0.170	0.000	0.000	0.000	0.000	0.170	-	0.170
12	First Aid Box (Annex-14)	4	0.050	0.000	0.000	0.000	0.000	0.200	-	0.200
13	Purchase of Mechanical Handy Grass / Bush Cutter	2	0.070	0.000	0.000	0.000	0.000	0.140	-	0.140
14	Manual Lawn Movers heavy duty	2	0.045	0.000	0.000	0.000	0.000	0.090	-	0.090
15	Professional Laser Camera Traps for nocturnal animal studies	10	0.170	0.000	0.000	0.000	0.000	1.700	-	1.700
16	Purchase of Fire Fighting Equipments (Annex-14)	LS	LS	0.000	0.000	0.000	0.000	0.180	-	0.180
17	Purchase of Furniture & Fixture (Annex-15)	LS	LS	0.000	0.000	0.000	0.000	0.998	-	0.998
18	Plastic Pipe (1" and 3/4")	LS	LS	0.000	0.000	0.000	0.000	0.050	-	0.050
19	Water Dispenser	2	0.040	0.000	0.000	0.000	0.000	0.079	-	0.079
20	Chargeable Lights	10	0.005	0.000	0.000	0.000	0.000	0.050	-	0.050
21	Purchase of Dust Bins	10	0.020	0.000	0.000	0.000	0.000	0.199	-	0.199
22	Spotting Scope 40-60 X zoom with tripod	2	0.230	0.000	0.460	0.000	0.000	0.000	-	0.460
23	Binocular (20x50)	10	0.040	0.000	0.000	0.000	0.000	0.450	-	0.450
24	Drone Camera with accessories Quad copter, Full HD (1080P) Still / Video recording camera (12MP minimum), flight range 5km + flight duration 20-minutes, memory 64-GB minimum with video transmitter & backpack etc.	2	0.400	0.000	0.800	0.000	0.000	0.000	-	0.800
25	GPS receivers preferably GARMIN	10	0.073 0.090	0.000	0.584	0.000	0.000	0.180	-	0.764
26	Laser Range Finder (minimum range = 500m)	2	0.130	0.000	0.000	0.000	0.000	0.260	-	0.260
27	Field Survey Kit (Annex-18)	10	0.087	0.000	0.000	0.000	0.000	0.870	-	0.870
28	Iron Cots for Checkposts	20	0.020	0.000	0.000	0.000	0.000	0.199	-	0.199

Annexure02 - Cost of Machinery, Store & Equipments

Sr. No .	Items of Work	Qty	Rate / Unit	2017 -18	2018 -19	2019 -20	2020- 21	2021- 22	2022- 23	Total
29	Dolphin Rescue Kit (Annex-19)	2	0.140	0.000	0.000	0.000	0.000	0.280	-	0.280
30	Cabinet A.C. 2 Ton D.C. Inverter	1	0.168	0.000	0.000	0.000	0.000	0.168	-	0.168
31	Split A.C. 1.5 Ton DC Inverter	2	0.112	0.000	0.000	0.000	0.000	0.223	-	0.223
32	Cost of Furniture & Fixture for inspection hut	(Annex -16)	1.206	0.000	0.000	0.000	0.000	1.206	-	1.206
33	Cost of Furniture & Fixture for Checkpost, 3 Nos.	(Annex -17)	0.356	0.000	0.000	0.000	0.000	0.356	-	0.356
34	Refrigerator Full Size	1	0.100	0.000	0.000	0.000	0.000	0.099	-	0.099
35	Small Refrigerator Single Door	2	0.043	0.000	0.000	0.000	0.000	0.086	-	0.086
36	Pedestal Fan	5	0.013	0.000	0.000	0.000	0.000	0.064	-	0.064
37	Electric Geyser	3	0.028	0.000	0.000	0.000	0.000	0.085	-	0.085
38	Electric Heater (Fan Type)	2	0.012	0.000	0.000	0.000	0.000	0.030	-	0.030
39	Weapon (Pistol 9mm, 30 Bore)	5	0.200	0.000	0.000	0.000	0.000	0.000	1.000	1.000
Total				0.000	1.996	0.098	0.000	21.377	1.000	24.471

Note: Item No.30 to 33 were included in cost estimates of different infrastructure, but the same have been excluded by the Buildings Department for its inclusion in revenue head while vetting the estimates of civil works. Therefore, its provision has been adjusted in revenue head.

Item No. 34 to 38 were included in detail of Furniture & Fixture of Inspection Hut but same are items of Machinery, Store & Equipment. Thus, procurement adjusted under the relevant head (object code).

ANNEXURE-III**IMPROVEMENT AND DEVELOPMENT OF CHASHMA BARRAGE WETLAND
BIODIVERSITY****COST OF ESTABLISHMENT****(Rs. in million)**

Sr. No.	Name of Post	BPS	No. of Post	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	Total
1	Deputy Director Wildlife *	18	1	0.000	0.000	0.000	0.000	0.000	1.128	1.128
2	Biodiversity Specialist**	17	1	0.000	0.000	0.000	0.000	0.073	1.007	1.080
3	GIS/RS Analyst**	17	1	0.000	0.000	0.000	0.000	0.073	1.067	1.140
4	Wildlife Supervisor	15	2	0.000	0.000	0.000	0.000	0.182	1.250	1.432
5	Junior Clerk	11	1	0.000	0.000	0.000	0.000	0.071	0.535	0.606
6	Wildlife Inspector***	11	3	0.000	0.000	0.000	0.000	0.155	1.305	1.460
7	Wildlife Watcher***	9	9	0.000	0.000	0.000	0.000	0.493	3.800	4.293
8	Boat man	1	2	0.000	0.000	0.000	0.000	0.089	0.652	0.741
9	Naib Qasid	1	1	0.000	0.000	0.000	0.000	0.044	0.330	0.374
10	Chowkidar	1	1	0.000	0.000	0.000	0.000	0.024	0.330	0.354
11	Baildar	1	1	0.000	0.000	0.000	0.000	0.024	0.330	0.354
12	Sweeper	1	1	0.000	0.000	0.000	0.000	0.044	0.330	0.374
Total			24	0.000	0.000	0.000	0.000	1.272	12.064	13.336

* The Deputy Director Wildlife would be based at its Headquarters at Chashma Barrage.

** Only for the Project duration. Eligibility criteria and responsibilities for Biodiversity Specialist and GIS / RS Analyst is attached as Annex-12.

*** Three Wildlife Watchers & one Wildlife Inspector would be posted at each Checkpost around Chashma Barrage areas.

**IMPROVEMENT AND DEVELOPMENT OF CHASHMA BARRAGE WETLAND
BIODIVERSITY**

COMMODITIES AND SERVICES

(Rs. in million)								
Sr. No.	Items	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	Total
1	Short Consultancies regarding Biodiversity Studies i. Resident and Migratory Birds ii. Small Mammals iii. Large Mammals iv. Reptiles and Amphibians v. GIS / Remote Sensing (Broader Scope of Studies is attached as Annex-20 (Sr.No.i @ Rs.0.750m and remaining @ Rs.1.500m / each).	0.000	0.075	0.562	0.000	5.219	-	5.856
2	Survey & Telemetry Study regarding Translocation of Indus Blind Dolphin with Stretches between Jinnah to Chashma, Chashma to Taunsa and Taunsa to Guddu) (Short Consultancy)	0.000	0.298	0.000	0.000	0.000	0.000	0.298
3	Development of Management Plan for Chashma Barrage (Short Consultancy)	0.000	0.000	0.000	0.000	0.000	2.000	2.000
4	Establishment of local conservation committee for community mobilization / their participation in the project and quarterly meetings (SOPs attached as Annexure-21)	0.000	0.000	0.000	0.000	0.000	1.500	1.500
5	Office Stationery	0.000	0.000	0.000	0.000	0.099	0.130	0.229
6	Telephone and Trunk Call (Wireless, Internet Services, etc.)	0.000	0.000	0.000	0.000	0.098	0.000	0.098
7	Electricity Charges	0.000	0.000	0.000	0.000	0.499	0.200	0.699
8	Hot & Cold	0.000	0.000	0.000	0.000	0.049	0.100	0.149
9	POL Charges	0.000	0.136	0.000	0.000	1.499	2.000	3.635
10	Publicity & Advertisement Charges	0.000	0.084	0.000	0.000	0.315	0.200	0.599
11	Uniform for staff	0.000	0.000	0.000	0.000	0.199	0.200	0.399
12	Maintenance of machinery and store equipment	0.000	0.000	0.000	0.000	0.149	0.150	0.299
13	Maintenance & Improvement of existing Vehicle	0.000	0.000	0.000	0.000	0.999	0.200	1.199
14	Printing charges	0.000	0.000	0.000	0.000	0.199	0.300	0.499
15	Others	0.000	0.047	0.000	0.000	0.999	0.200	1.246
16	Rate & Taxes	0.000	0.000	0.000	0.000	0.000	0.230	0.230
17	TA	0.000	0.000	0.000	0.000	0.000	0.700	0.700
Total		0.000	0.640	0.562	0.000	10.323	8.110	19.635

Note: Short Consultancy at Sr. No. 2 has been excluded because consultancy related civil works (dolphin rescue & monitoring stations), procurement of equipment and national / international meetings and seminars have been excluded from the ADP during the 1st revision of the PC-I.

ANNEXURE-V**IMPROVEMENT AND DEVELOPMENT OF CHASHMA BARRAGE WETLAND
BIODIVERSITY****SUMMARY OF COST****(Rs. in million)**

Sr. No	Items	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	Total
1	Conservancy & Works	0.000	3.500	2.297	6.000	22.621	-	34.418
2	Machinery, tools, Stores and Equipment	0.000	1.996	0.098	0.000	21.377	1.000	24.471
3	Establishment	0.000	0.000	0.000	0.000	1.272	12.064	13.336
4	Commodities & Services	0.000	0.640	0.562	0.000	10.323	8.110	19.635
Total:-		0.000	6.136	2.957	6.000	55.593	21.174	91.860

ANNEXURE - VI**Year-wise and Object Code-wise Requirement of Funds**

Sr. No.	Object Code	Items	Amount / Years						Total
			2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	
Capital Head									
1	A 12403	Civil Works	0.000	3.500	2.297	6.000	22.621	0.000	34.418
Sub-Total			0.000	3.500	2.297	6.000	22.621	0.000	34.418
Revenue Head									
1	A01101	Pay of Officer	0.000	0.000	0.000	0.000	0.060	1.844	1.904
2	A01151	Pay of other Staff	0.000	0.000	0.000	0.000	0.538	4.481	5.019
3	A01202	House Rent Allowance	0.000	0.000	0.000	0.000	0.087	0.535	0.622
4	A1203	Conveyance Allowance	0.000	0.000	0.000	0.000	0.108	0.663	0.771
5	A0120D	Integrated Allowance	0.000	0.000	0.000	0.000	0.004	0.032	0.036
6	A01216	Qualification Allowance	0.000	0.000	0.000	0.000	0.000	0.180	0.180
7	A01217	Medical Allowance	0.000	0.000	0.000	0.000	0.071	0.446	0.517
8	A0122M	Adhoc Relief 10% 2016	0.000	0.000	0.000	0.000	0.049	0	0.049
9	A0122Y	Adhoc Relief 10% 2017	0.000	0.000	0.000	0.000	0.059	0	0.059
10	A0123G	Adhoc Relief 10% 2018	0.000	0.000	0.000	0.000	0.059	0	0.059
11	A0123P	Adhoc Relief 10% 2019	0.000	0.000	0.000	0.000	0.059	0	0.059
12	A0124F	Adhoc Relief 10% 2021	0.000	0.000	0.000	0.000	0	0	0.000
13	A0124H	Special Allowance 2021 25%	0.000	0.000	0.000	0.000	0	1.027	1.027
14	A0124-R	Adhoc Relief 15% 2022	0.000	0.000	0.000	0.000	0.000	0.616	0.616
15	A0124-T	Special Allowance 2022 15%	0.000	0.000	0.000	0.000	0.000	0.616	0.616
16	A01270	SSB/Others 30%	0.000	0.000	0.000	0.000	0.178	1.624	1.802
17	A02203	Consultant based research and surveys	0.000	0.373	0.562	0.000	5.219	2.000	8.154

Annexure06 - Year wise / Object Wise Requirement of Funds

Sr. No.	Object Code	Items	Amount / Years						Total
			2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	
18	A03202	Telephone and Trunk Call	0.000	0.000	0.000	0.000	0.098	0.000	0.098
19	A03303	Electricity charges	0.000	0.000	0.000	0.000	0.499	0.200	0.699
20	A03304	Hot and Cold Weather Charges	0.000	0.000	0.000	0.000	0.049	0.100	0.149
21	A03407	Rate & Taxes	0.000	0.000	0.000	0.000	0.000	0.230	0.230
22	A03805	TA	0.000	0.000	0.000	0.000	0.000	0.700	0.700
23	A03807	P.O.L	0.000	0.136	0.000	0.000	1.499	2.000	3.635
24	A03901	Office Stationery	0.000	0.000	0.000	0.000	0.099	0.130	0.229
25	A03902	Printing and Publication	0.000	0.000	0.000	0.000	0.199	0.300	0.499
26	A03903	Conference/Seminars /Workshops Symposia	0.000	0.000	0.000	0.000	0.000	1.500	1.500
27	A03906	Uniform	0.000	0.000	0.000	0.000	0.199	0.200	0.399
28	A03907	Publicity & Advertisement	0.000	0.084	0.000	0.000	0.315	0.200	0.599
29	A03970	Others	0.000	0.047	0.000	0.000	0.999	0.200	1.246
30	A13001	Repair of Transport	0.000	0.000	0.000	0.000	0.999	0.200	1.199
31	A13101	Repair of Machinery and Equipment	0.000	0.000	0.000	0.000	0.149	0.150	0.299
32	A09501	Purchase of Transport	0.000	0.111	0.000	0.000	1.011	0.000	1.122
33	A09601	Purchase of Plant and Machinery	0.000	1.885	0.098	0.000	17.806	1.000	20.787
34	A09701	Purchase of furniture and Fixture	0.000	0.000	0.000	0.000	2.560	0.000	2.560
Sub-Total			0.000	2.636	0.660	0.000	32.972	21.174	57.442
Total			0.000	6.136	2.957	6.000	55.593	21.174	91.860

ANNEXURE-VII**IMPROVEMENT AND DEVELOPMENT OF CHASHMA BARRAGE WETLAND
BIODIVERSITY****ANNUAL RECURRING COST AFTER COMPLETION OF PROJECT****(Rs. in million)**

Sr. No.	Item	2023-24	2024-25	2025-26
i.	Maintenance of Infrastructure	1.032	1.135	1.249
ii.	Maintenance of Machinery & Equipment etc.	0.200	0.250	0.300
iii.	Maintenance of Vehicles and repair	0.300	0.350	0.400
iv.	POL	1.500	1.800	2.100
v.	Stationery and stamps etc.	0.100	0.120	0.130
vi.	Establishment charges	13.874	15.955	18.348
vii.	Electricity charges	0.880	0.968	1.065
viii.	Telephone and Trunk Call	0.165	0.182	0.200
ix.	Uniform for staff	0.200	0.250	0.300
x.	Publicity & Advertisement Charges	0.200	0.250	0.300
xi.	Others	0.400	0.450	0.500
Total		18.851	21.71	24.892

ANNEXURE-VIII

Result-Based Monitoring (RBM) Indicators

Sr. No.	Input	Output	Outcome		Targeted Impact
			Baseline Indicator	Targets after Completion of Project	
1	Recruitment of HR, Establishment of Inspection Hut, Construction of Checkposts, Procurement of machinery, equipments.	Strengthening of protection regime at Chashma Wildlife Sanctuary.	Presently there is limited field presence of wildlife department at chashma. Moreover, they also lack basic resources to ensure conservation of wildlife.	Strengthening of protection. Provision of logistics and civil structures. Deterrence to curb illegal hunting.	Improved biodiversity. Improved conservation and protection of wildlife. Development of ecological baseline data regarding species. Promotion of eco-tourism.

ANNEXURE - IX**WORKPLAN / ACTIVITY PLAN**

ACTIVITY PLAN FOR COMPLETION OF CIVIL WORKS DURING 2017-18 to 2022-23								
Sr. No.	Name of Work	Cost	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
1	Construction of Site Office cum Inspection Hut 3150 Sft i/c electrification, Water supply, Architectural features, Compound Wall, gate and gate pillars, Tuff Paver passage, Sewerage system with Septic tank and exterior finishing complete in all respects i/c external development.	8.088						
2	i. Construction of Check Post 3 Nos. 1000 Sft each around Chashma Barrage areas i/c electrification, Water supply, Architectural features, Compound Wall, gate and gate Pillars, Tuff Paver Passage, Sewerage system with Septic tank and exterior works of finishing complete in all respects i/c external development.	12.023						
	ii. Additional provision for protection Kundal Checkpost i.e. stone masonry retaining wall, protection with stone pitching and raising of plinth level upto 3'.	1.172						
3	Construction of Electric supply line 2000 Rft. with HT/LT line steel poles and 50KV Transformer i/c WAPDA and Sui gas connection charges.	4.104						
4	Development of land / lawn, one acre i/c uprooting sarkanda growth, ploughing, leveling, dressing, making lawn i/c turrting, cost of turf and planting of 200 Nos. shrubs / plants of different species complete in all respects.	0.500						
5	Add 15% external development charges	3.267						
6	Anticipated price variation	3.582						
7	Add 1% Tree Plantation / Horticulture	0.250						
8	Add 5% PRA Charges	1.432						

WORKPLAN / ACTIVITY PLAN

ACTIVITY PLAN FOR COMPLETION OF MACHINERY, STORES & EQUIPMENTS 2017-18 to 2022-23								
Sr. No.	Name of Item	Cost	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
1	Purchase of Motorcycle-125CC	1.122						
2	Multipurpose boat length 20'-25', 75-100 Hp engine seating capacity 6-9 persons along with Trolley	3.685						
3	Speed Boat length 11', 30-50 Hp engine seating Capacity 3-5 persons	3.685						
4	Wooden Boat of deodar wood along with engine (8 -15 Hp) 20' length & 5' width along with Shaft & Propeller.	1.638						
5	Purchase of Generator 10KVA (non-Chinese Brand)	1.189						
6	CCTV System i/c 08 camera, DVR, networking cables and other accessories to be placed around office & inspection hut.	0.387						
7	Purchase of Computer Core i-7 / i-8 with full accessories i.e Printer, Mouse, Key Board and Scanner etc.	0.299						
8	Purchase of Color Printer with refill cartridges	0.220						
9	Fax Machine	0.050						
10	Purchase of Digital Camera (Still/Video) SLR/DSLR with 500-600MM Lenses and tripod	0.940						
11	LED/LCD 42" with Stabilizer	0.170						
12	First Aid Box (Annex-B)	0.200						
13	Purchase of Mechanical Handy Grass / Bush Cutter	0.140						
14	Manual Lawn Movers heavy duty	0.090						
15	Professional Laser Camera Traps for nocturnal animal studies	1.700						
16	Purchase of Fire Fighting Equipments (Annex-C)	0.180						
17	Purchase of Furniture & Fixture (Annex-D)	0.998						
18	Plastic Pipe (1" and 3/4")	0.050						
19	Water Dispenser	0.079						
20	Chargeable Lights	0.050						
21	Purchase of Dust Bins	0.199						
22	Spotting Scope 40-60 X zoom with tripod	0.460						
23	Binocular 20x50	0.450						
24	Drone Camera with accessories Quad copter, Full HD (1080P) Still / Video recording camera (12MP minimum), flight range 5Km + flight duration 20-minutes, memory 64-GB minimum with video transmitter & Backpack etc.	0.800						

ACTIVITY PLAN FOR COMPLETION OF MACHINERY, STORES & EQUIPMENTS 2017-18 to 2022-23								
Sr. No.	Name of Item	Cost	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
25	GPS receivers preferably GARMIN	0.764						
26	Laser Range Finder (minimum range = 500m)	0.260						
27	Field Survey Kit (Annex-E)	0.870						
28	Iron Cots for Checkposts	0.199						
29	Dolphin Rescue Kit (Annex-F)	0.280						
30	Cabinet A.C. 2 Ton D.C. Inverter	0.168						
31	Split A.C. 1.5 Ton DC Inverter	0.223						
32	Cost of Furniture & Fixture for inspection hut (Annex-D1)	1.570						
33	Cost of Furniture & Fixture for Checkpost, 3 Nos. (Annex-D2)	0.356						
34	Weapon (Pistol 9mm, 30 bore)	1.000						

WORKPLAN / ACTIVITY PLAN

ACTIVITY PLAN FOR COMPLETION OF COMMODITIES & SERVICES 2017-18 to 2022-23								
Sr. No.	Name of Item	Cost	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
1	Short Consultancies regarding Biodiversity Studies Resident and Migratory Birds Small Mammals Large Mammals Reptiles and Amphibians GIS / Remote Sensing (Broader Scope of Studies is attached as Annex-H (Sr. No. i @ 0.750m and remaining @ 1.500m each)	5.856						
2	Survey & Telemetry Study regarding Translocation of Indus Blind Dolphin with Stretches between Jinnah to Chashma, Chashma to Taunsa and Taunsa to Guddu) (Short Consultancy)	0.298						
3	Development of Management Plan for Chashma Barrage (Short Consultancy)	2.000						
4	Establishment of local conservation committee for community mobilization / their participation in the project and quarterly meetings / seminars (SOPs attached as Annexure-)	1.500						
5	Office Stationery	0.229						
6	Telephone and Trunk Call (Wireless, Internet Services, etc.)	0.098						
7	Electricity Charges	0.699						
8	Hot & Cold	0.149						
9	POL Charges	3.635						
10	Publicity & Advertisement Charges	0.599						
11	Uniform for staff	0.399						
12	Maintenance of machinery and store equipment	0.299						
13	Maintenance & Improvement of existing Vehicle	1.199						
15	Printing charges	0.499						
15	Others	1.246						
16	Rate & Taxes	0.230						

17	TA	0.700						
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ANNEXURE-X**Risk Mitigation Plan**

Sr. No.	Risks	Causes / Factors	Effects	Risk Mitigation Plan	Institution/s Responsible to take corrective measures to mitigate risks	Nature of Risk
1	Lack of funds for timely execution of the project.	No funds released by provincial Government.	Delay results in increase in project cost.	Government may prioritize funding for the project considering its impact / importance.	P&D Department, Finance Department	High
2	Insufficient funding for the execution of the project.	Short funding of project.	Delay results in increase in project cost.	Government may prioritize funding for the project considering its impact / importance.	P&D Department, Finance Department	
3	Non-timely release of funds for the execution of the project.	Delay in release of funds due to approval / procedural matters.	Delay results in increase in project cost.	Timely initiation of approval procedure to ensure early processing of case for release of funds.	Wildlife & Parks Department	

ANNEXURE-XI**ANNUAL PROCUREMENT PLAN IN LINE WITH PPRA****ANNUAL PROCURMENT PLAN FOR 2017 – 2023
(Under Rule 8 and 9 of the Public Procurement Rule 2004)**

Sr. No	Name of Procurement (Description)	Estimated Cost	Procurement Method	Tentative date of procurement Notice Publication	Tentative date of Award of Contract	Tentative date of Completion	Remarks (if any)
2017-18							
Nil							
2018-19							
1	Purchase of Motorcycle-125CC	0.111	Direct contracting	Sep. 2018	Sep. 2018	Feb. 2019	
2	Purchase of Computer Core i-7 accessories i.e Printer, Mouse, Key Board and Scanner etc.	0.041	Quotation	June. 2019	June. 2019	June. 2019	
3	Spotting Scope 40-60 X zoom with tripod	0.460	Tender	Sep. 2018	Oct. 2018	Dec. 2018	
4	Drone Camera with accessories Quad copter, Full HD (1080P) Still / Video recording camera (12MP minimum), flight range 5Km + flight duration 20-minutes, memory 64-GB minimum with video transmitter & Backpack etc.	0.800	Tender	Apr. 2019	May. 2019	June. 2019	
5.	GPS receivers preferably GARMIN	0.584	Tender	Sep. 2018	Oct. 2018	Dec. 2018	
2019-20							
1	Purchase of Computer Core i-7 accessories i.e Printer, Mouse, Key Board and Scanner etc.	0.098	Quotation	Jan.2020	Jan. 2020	Feb. 2020	
2020-21							

NIL							
2021-22							
1	Purchase of Motorcycle-125CC	0.169	Direct contracting	Aug., Dec. 2021	Sep. 2021	Oct. 2021	
2	Multipurpose boat length 20'-25', 75-100 Hp engine seating capacity 6-9 persons along with Trolley	3.685	Tender	Aug. 2021	Sept. 2021	Nov. 2021	
3	Speed Boat length 11', 30-50 Hp engine seating Capacity 3-5 persons	3.685	Tender	Aug. 2021	Sept. 2021	Nov. 2021	
4	Wooden Boat of deodar wood alongwith engine (8 -15 Hp) 20' length & 5' width alongwith Shaft & Propeller.	0.410	Tender	Aug. 2021	Sept. 2021	Nov. 2021	
5	Purchase of Generator 10KVA (non-Chinese Brand)	1.189	Tender	Jan. 2022	Feb. 2022	Mar. 2022	
6	CCTV System i/c 08 camera, DVR, networking cables and other accessories to be placed around office & inspection hut.	0.387	Tender	Jan. 2022	Feb. 2022	Mar. 2022	
7	Purchase of Computer Core i-7 / i-8 with full accessories i.e Printer, Mouse, Key Board and Scanner etc.	0.160	Tender	Sep. 2021	Sep. 2021	Oct.2021	
8	Purchase of Color Printer with refill cartridges	0.220	Tender	Sep. 2021	Sep. 2021	Oct.2021	
9	Fax Machine cum printer	0.050	Quotation	Sep. 2021	Sep. 2021	Oct.2021	
10	Purchase of Digital Camera (Still/Video) SLR/DSLR with 500-600MM Lenses and tripod	0.940	Tender	Aug. 2021	Sept. 2021	Nov. 2021	
11	LED/LCD 42" with Stabilizer	0.170	Tender	Aug. 2021	Sept. 2021	Nov. 2021	
12	First Aid Box (Annex-B)	0.050	Tender	Sep. 2021	Sep. 2021	Oct.2021	
13	Purchase of Mechanical Handy Grass / Bush Cutter	0.070	Tender	Sep. 2021	Sep. 2021	Oct.2021	
14	Manual Lawn Movers heavy duty	0.045	Quotation	Sep. 2021	Sep. 2021	Oct.2021	
15	Professional Laser Camera Traps for nocturnal animal studies	0.170	Tender	Oct. 2021	Nov. 2021	Dec. 2021	
16	Purchase of Fire Fighting Equipments (Annex-C)	LS	Tender	Apr. 2022	May. 2022	May. 2022	
17	Purchase of Furniture & Fixture (Annex-D)	LS	Direct contracting	Aug. 2021	Sep. 2021	Oct. 2021	

Annexure11 - Procurement Plan

18	Plastic Pipe (1" and 3/4")	LS	Quotation	Aug. 2021	Sep. 2021	Sep. 2021	
19	Water Dispenser	0.040	Quotation	Aug. 2021	Sep. 2021	Sep. 2021	
20	Chargeable Lights	0.005	Quotation	Aug. 2021	Sep. 2021	Sep. 2021	
21	Purchase of Dust Bins	0.020	Tender	Oct. 2021	Nov. 2021	Dec. 2021	
22	Binocular (20x50)	0.040	Tender	Oct. 2021	Nov. 2021	Dec. 2021	
23	GPS receivers preferably GARMIN	0.090	Tender	Oct. 2021	Nov. 2021	Dec. 2021	
24	Laser Range Finder (minimum range = 500m)	0.130	Tender	Oct. 2021	Nov. 2021	Dec. 2021	
25	Field Survey Kit (Annex-E)	0.090	Tender	Oct. 2021	Nov. 2021	Dec. 2021	
26	Iron Cots for Checkposts	0.020	Tender	Oct. 2021	Nov. 2021	Dec. 2021	
27	Dolphin Rescue Kit (Annex-F)	0.140	Tender	Aug. 2021	Sep. 2021	Sep. 2021	
28	Cabinet A.C. 2 Ton D.C. Inverter	0.168	Tender	Oct. 2021	Nov. 2021	Dec. 2021	
29	Split A.C. 1.5 Ton DC Inverter	0.112	Tender	Oct. 2021	Nov. 2021	Dec. 2021	
30	Cost of Furniture & Fixture for inspection hut	1.206	Direct contracting	Jan. 2022	Jan. 2022	Apr. 2022	
31	Cost of Furniture & Fixture for Checkpost, 3 Nos.	0.356	Direct contracting	Aug. 2021	Sep. 2021	Oct. 2021	
2022-23							
1	Weapon (Pistol 9mm, 30 bore)	0.200	Tender	Dec 2022	Jan 2023	Feb 2023	

ANNEXURE-XII

PROPOSED ELIBILITY CRITERIA FOR THE PROJECT POSTS SANCTIONED UNDER THE DEVELOPMENT SCHEME “IMPROVEMENT AND DEVELOPMENT OF CHASHMA BARRAGE WETLAND BIODIVERSITY”

Name of Department	Functional Unit	Name of the Post	Appointing Authority	Minimum Qualification for appointment by initial recruitment / transfer	Method of Recruitment	Age of Initial Recruitment		Examination, Training and other conditions required for confirmation
						Min	Max	
Forestry, Wildlife & Fisheries Department	Wildlife Executive	Biodiversity Specialist (BS-17)	Administrative Secretary	i. Post-graduate qualification in one of the following disciplines and a working knowledge of a majority of the others: • Conservation Biology; • Wildlife Ecology/Biology • Wetlands Conservation; • Zoology ii. Minimum five years of appropriate experience in aforesaid areas / natural resource conservation in Pakistan with a government or non-government national or international organization of high standard and repute; iii. Maximum Age limit is 40 - years; iv. Adequate working knowledge of Government system at all levels, especially the Biodiversity/Wildlife sector at the federal level and provincial forest, wildlife and fisheries departments. v. Necessary skills and capabilities: – Programme and personnel management skills and experience; – Problem-solving skills and results orientation; – Good English language reading, writing, speaking and presentation skills; – Good Punjabi and Saraiki language skills; – Computer skills preferably MS Office with data analytical skills; – Demonstrated interpersonal communication, advocacy and leadership skills; – Ability to write scientific research papers for publication in international peer reviewed journals; – Ability to travel frequently in the project areas.	By initial recruitment	25	40	-

Annexure12 - Service Rules - Duties - Responsibilities

Name of Department	Functional Unit	Name of the Post	Appointing Authority	Minimum Qualification for appointment by initial recruitment / transfer	Method of Recruitment	Age of Initial Recruitment		Examination, Training and other conditions required for confirmation
						Min	Max	
Forestry, Wildlife & Fisheries Department	Wildlife Executive	GIS / RS Analyst (BS-17)	Administrative Secretary	i. ii. iii. iv. v. vi. vii. M.Sc. or sixteen years BS in Space Science, GIS, Geography or related subject; Minimum three years experience in GIS/RS operations (GIS data integration, GIS analysis, remote sensing, mapping, etc.) and its related works; Maximum Age limit is 40 - years; Fluency in written and spoken English; knowledge of local languages would be an asset. Must have good writing skills and be able to express desired view point concisely and clearly in reports; Competency in the advanced use of software packages such as ESRI's ArcInfo and ArcGIS, ERDAS Imagine, Ecognition, WebGIS and open source softwares; Capable of working effectively within a team; Competence in presentations and report writing; Ability to conduct independent field work under harsh conditions would be added advantages; Both male and female are encouraged to apply.	By initial recruitment	25	40	-

RESPONSIBILITIES OF BIODIVERSITY SPECIALIST AND GIS/RS ANALYST

Major responsibilities of the Biodiversity Specialist will be as follows:

- i. Implementation and monitoring of the activities at project areas;
- ii. Facilitate the Department and Consultants in conducting surveys for biodiversity assessment and monitoring in the project sites;
- iii. Coordination and liaison with government and non-government stakeholders and line departments for support in project implementation;
- iv. Organize and conduct meetings, workshops, seminars as planned in the PC-I document by the Department;
- v. Develop weekly and monthly work plans and assist Project Manager to achieve milestones;
- vi. Write technical progress reports on periodical basis, as per the needs of the project and government requirement;
- vii. Write comprehensive activity reports for major project interventions;
- viii. Develop and share concept papers / proposals for replication of the project activities in other similar sites of Central Indus Wetlands Complex;
- ix. Ensure optimum utilization of the project funds and timely delivery of technical and financial deliverables concerning the project interventions;
- x. Develop TORs of the resource persons and selection or recruitment of other short-term contractual staff or consultant for various studies or assignments required by the project Department;
- xi. Carry out any other assignment associated with the aims and objectives of the Project and assigned by the competent authority.

Major responsibilities of the GIS / RS Analyst will be as follows:

- i. Facilitate the Department to build and implement GIS and Remote Sensing data of target areas;
- ii. Create, maintain, and QA/QC Geospatial data sets using ArcGIS;
- iii. Assist in identifying RS data and preparing related documents for its acquisition;
- iv. Derivation of information like land cover and indices from the RS data using basic and advance classification tools and techniques;
- v. Deliver data sets, metadata, and cartographic productions to the Department;
- vi. Develop GPS/GIS/RS training courses for the project implementation team and the staff of Punjab Wildlife and Parks Department;
- vii. Participate and assists consultants / field staff in carrying out field visits/surveys for data collection on various biophysical and geographic parameters, and ground truthing etc.;
- viii. Conduct and compile research reports using both primary and secondary data sources;
- ix. Formulate / Develop presentable technical reports of the assigned activities.

SCHEDULE									
Name of the Department	Functional Unit	Name of the Post	Appointing Authority	Minimum Qualification for Appointment by		Method of Recruitment	Age for initial Recruitment		Examination, training and other conditions required for confirmation
				Initial recruitment/ transfer	Promotion		Min.	Max.	
1	2	3	4	5	6	7	8	9	10
Forestry and Wildlife Department	Wildlife Executive	1. Director General, Wildlife & Parks, Punjab (BS-20)	Chief Minister			By promotion on the basis of selection on merit amongst the Directors, Wildlife & Parks, Punjab (BS-19) possessing qualifications of M.Sc. Zoology with 17 years service in BS-17 and above in Wildlife Department OR By posting of an officer of BS-20 from S&GAD.			
Forestry and Wildlife Department	Wildlife Executive	2. Director, Wildlife & Parks, Punjab (BS-19)	Chief Minister	Ph.D. in Wildlife or Zoology and 8 years administrative experience in Wildlife Development, Research and conservation. OR M.Sc. Wildlife or (Zoology) (1 st Division) and 10 years administrative experience.		By selection on merit from amongst the Deputy Director, Wildlife with 12 years service in the Department in Grade 17 or 7 years service in Grade-18 having M.Sc. Zoology or equivalent qualification. OR If none is available for promotion then by transfer of an officer of BS-19 from S&GAD. A period of three years will be provided to all those Deputy Directors to acquire Post Graduate qualification.			
Forestry and Wildlife Department	Wildlife Executive	3. Deputy Director Wildlife (BS-18)	Administrative Secretary	i) Ph.D. in Wildlife management OR M.Sc. Zoology (1st Div.) with 5 years experience in Wildlife Management.		i) 75% by promotion on seniority-cum-fitness - amongst Assistant Director, in the functional unit with 5 years service as such. ii. 25% by initial recruitment. OR iii. If none is available for initial recruitment then above quota of initial recruitment shall be filled in by transfer from S&GAD amongst (BS-18) Officer.	21	40	
Section Officer (Regulation) Govt. of the Punjab Law and P.A. Department									

Forestry and Wildlife Department	Wildlife Executive	4. Deputy Director Wildlife (Publicity) (BS-18)	Administrative Secretary		i. By promotion on seniority-cum-fitness basis amongst Assistant Director (Publicity), having five years experience. ii. If none is available for promotion, then by posting from the general cadre of Deputy Director. OR By posting on deputation from (Grade-18) officer of S&GAD/Information Department having five years experience.			
Forestry and Wildlife Department	Wildlife Executive	5. Assistant Director Wildlife (BS-17)	Administrative Secretary	M.Sc. Zoology (1st Div.)	i) 50% by initial recruitment ii) 50% by promotion on seniority-cum-fitness basis amongst District Wildlife Officers who are B.Sc.	20	30	
Forestry and Wildlife Department	Wildlife Executive	6. Assistant Director Wildlife (Publicity) (BS-17)	Administrative Secretary	Bachelor's Degree from a recognized University with 3 years experience in News papers or a News Agency or Information Department as a Journalist or in Publicity in a Government Department or an Autonomous Body.	i. By promotion on seniority-cum-fitness basis amongst Publicity Assistant, having 10 years experience in Journalism and Wildlife Publicity matters. ii. If none is available for promotion then by transfer from S&GAD / Information Department or by initial recruitment.	21	35	
Forestry and Wildlife Department	Wildlife Executive	7. Veterinary Officer (BS-17)	Administrative Secretary	D.V.M. or B.Sc. (A.H.) or equivalent qualification from a recognized University.	i) By initial recruitment. ii) If none is available then by transfer.	21	30	
Forestry and Wildlife Department	Wildlife Executive	8. Botanist (BS-17)	Administrative Secretary	M.Sc. Botany (1st Div.) from a recognized University.	i) By initial recruitment. ii) If none is available then by transfer.	21	26	
Forestry and Wildlife Department	Wildlife Executive	9. Statistical Officer (BS-17)	Administrative Secretary	i) Master's degree (2nd Div.) in Statistics /Math/Economics/ Commerce with special papers on Statistical methods from a recognized University. ii) One year's experience in the collection and tabulation of data or application of Statistical methods and graphics representation of data or publications. OR Master's degree from a foreign University other than an Indian University in Statistics/ Mathematics/ Economics.	i. By promotion on seniority-cum-fitness basis amongst Planning Officers having two years service possessing qualification for initial recruitment. ii. If none is available for promotion then by initial recruitment.	21	26	

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Department	Wildlife Executive	10. Monitoring & Evaluation Officer (BS-17)	Administrative Secretary		By promotion on seniority-cum-fitness basis amongst Planning Officers.		
Forestry and Wildlife Department	Wildlife Executive	11. Curator (BS-17)	Administrative Secretary	D.V.M. or B.Sc. (Z.H.) or equivalent qualification from a recognized university	i) By transfer ii) If none is available by transfer then by promotion from District Wildlife officers possessing qualification of M.Sc. Zoology	21	35
Forestry and Wildlife Department	Wildlife Executive	12. Chief Draftsman (BS-17)	Administrative Secretary	Matric with 3 years Diploma Course of Associate Engineer in Civil Technology	i) By promotion on seniority-cum-fitness basis amongst Head Draftsmen with 3 years service as such. ii) If none is available for promotion then by initial recruitment.	18	30
Forestry and Wildlife Department	Wildlife Executive	13. District Wildlife Officer (BS-16)	Director General, Wildlife & Parks, Punjab	M.Sc (Zoology)	i) 50% by initial recruitment. ii) 50% by promotion on seniority-cum-fitness basis amongst Wildlife Supervisors having 5 years experience as such.	23	30
Forestry and Wildlife Department	Wildlife Executive	14. Planning Officer (BS-16)	Director General, Wildlife & Parks Punjab	M.A. Economics (2nd Div.), or M.Sc. Zoology from a recognized University	i) By initial recruitment ii) If none is available by initial recruitment then by transfer.	21	30
Forestry and Wildlife Department	Wildlife Executive	15. Cameraman (BS-13)	Director General, Wildlife & Parks, Punjab	Intermediate with at least 3 years experience in indoor and outdoor cinematography and knowledge of Technical process used for documentary films.	By initial recruitment	20	25
Forestry and Wildlife Department	Wildlife Executive	16. Head Draftsman (BS-12)	Director General, Wildlife & Parks, Punjab	Matric with 3 years diploma course of Associate Engineer in Civil Technology.	i) By promotion on seniority-cum-fitness basis amongst Draftsmen with 3 years service as such. ii) If none is available for promotion then by initial recruitment.	18	30
Forestry and Wildlife Department	Wildlife Executive	17. Draftsman (BS-11)	Director General, Wildlife & Parks, Punjab	Diploma in Draftsman-ship from a recognized Institute.	By initial recruitment	18	25
Forestry and Wildlife Department	Wildlife Executive	18. Wildlife Supervisor (BS-11)	Director General, Wildlife & Parks, Punjab	B.Sc. Zoology	i) 50% by initial recruitment ii) 50% by promotion on seniority-cum-fitness basis amongst Wildlife Inspectors.	20	25
Forestry and Wildlife Department	Wildlife Executive	19. Hatchery Supervisor (BS-11)	Director General, Wildlife & Parks, Punjab		By promotion on seniority cum fitness basis amongst matriculate Hatchery Men with 5 years experience in the maintenance of Hatchery.		

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Department	Wildlife Executive	20. Publicity Assistant (BS-11)	Director General, Wildlife & Parks, Punjab	Degree from a recognized University with 2 years experience in Newspapers or News Agency or Information Department.	i) By transfer from any Government Department engaged in publicity. ii) By initial recruitment.	20	30	
Forestry and Wildlife Department	Wildlife Executive	21. Photographer (BS-11)	Director General, Wildlife & Parks, Punjab	i) Matric or equivalent qualifications from a recognized Board. ii) Practical knowledge of various agencies of photography, and not less than 3 years practical experience in photography.	i) By promotion on seniority cum fitness basis amongst Assistant Cooperamen with 2 years service as such; and ii) If none is available for promotion then by initial recruitment.	18	25	
Forestry and Wildlife Department	Wildlife Executive	22. Artist (BS-11)	Director General, Wildlife & Parks, Punjab	i) Matric with subject of Drawing ii) 3 years experience in Fine Arts.	i) By initial recruitment. ii) If none is available then by promotion amongst Painters with 10 years experience.	18	25	
Forestry and Wildlife Department	Wildlife Executive	23. Stock Assistant (BS-9)	Director General, Wildlife & Parks, Punjab	i) Matriculation ii) Certificate from Agri. University, Faisalabad, College of Animal Husbandry, Lahore and Livestock and Dairy Development Department for the prescribed course of training.	By initial recruitment.	18	25	
Forestry and Wildlife Department	Wildlife Executive	24. Projector Operator (BS-8)	Director General, Wildlife & Parks, Punjab	Matric from a recognized Board with 5 years experience in operating Projectors of all kinds.	By initial recruitment.	18	30	
Forestry and Wildlife Department	Wildlife Executive	25. Wildlife Inspector (BS-7)	Deputy Director Wildlife concerned	F.Sc. Pre-Medical from a recognized University/Board with height 5'-7" and chest 34"-36"	i) 50% by initial recruitment; ii) 50% by promotion on seniority-cum-fitness basis amongst Head Wildlife Watchers who have 5 years experience as such.	18	25	
Forestry and Wildlife Department	Wildlife Executive	26. Laboratory Assistant (BS-7)	Deputy Director Wildlife concerned	Matric or equivalent qualifications with Physics & Chemistry from a recognized Board.	By initial recruitment.	18	25	
Forestry and Wildlife Department	Wildlife Executive	27. Hatchery-man (BS-6)	Deputy Director Wildlife concerned	Matriculation with Science with 2 years experience in maintenance of hatchery.	i) By promotion on seniority-cum-fitness basis amongst Matric Farm Attendants having 2 years experience in hatchery work. ii) If none is available for promotion then by initial recruitment.	18	25	
Forestry and Wildlife Department	Wildlife Executive	28. Electrician (BS-6)	Deputy Director Wildlife concerned	Matric with Science along with a certificate of Electrician from a recognized Institution having 2 years experience.	By initial recruitment, or by transfer.	18	25	

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Forestry and Wildlife Department	Wildlife Executive	29. Field Assistant (BS-6)	Deputy Director wildlife concerned	Matric with Science from a recognized Board.	-	By initial recruitment.	18	25
Forestry and Wildlife Department	Wildlife Executive	30. Field Compounder (BS-6)	Deputy Director wildlife concerned	Qualified Veterinary Compounder.	-	i. By initial recruitment ii. By transfer.	18	25
Forestry and Wildlife Department	Wildlife Executive	31. Instructor (BS-5)	Deputy Director wildlife concerned	F.Sc. Pre-Medical from a recognized Board.	-	i). By promotion on seniority-cum-fitness basis amongst Head Wildlife Watchers with 5 years experience as such. ii). If none is available then by initial recruitment.	18	25
Forestry and Wildlife Department	Wildlife Executive	32. Booking Clerk (BS-5)	Deputy Director Wildlife Concerned	Matric or equivalent qualifications from a recognized Board.	-	By initial recruitment.	18	25
Forestry and Wildlife Department	Wildlife Executive	33. Painter (BS-5)	Deputy Director Wildlife, concerned	Matric with 5 years experience.	-	By initial recruitment	18	25
Forestry and Wildlife Department	Wildlife Executive	34. Assistant Cameraman (BS-5)	Deputy Director Wildlife concerned	Matric from a recognized Board or equivalent qualifications with 2 years experience in in-door and out-door cinematography as such and knowledge of technical process used for documentary films.	-	By initial recruitment.	18	25
Forestry and Wildlife Department	Wildlife Executive	35. Head Watcher (BS-5)	Deputy Director Wildlife concerned	Literate Ex-Serviceman.	-	i) By promotion on seniority-cum-fitness basis amongst Watchers having 3 years service as such. ii) If none is available for promotion, then by initial recruitment.	21	45
Forestry and Wildlife Department	Wildlife Executive	36. P.T. Instructor (BS-5)	Deputy Director Wildlife concerned	Matriculation or an equivalent qualification from a recognized Board.	-	By initial recruitment.	18	25
Forestry and Wildlife Department	Wildlife Executive	37. Farm Attendant (BS-3)	Deputy Director Wildlife concerned	Matriculation or equivalent qualification from a recognized Board.	-	By initial recruitment	18	25
Forestry and Wildlife Department	Wildlife Executive	38. Mohawat (BS-2)	Deputy Director Wildlife concerned	Particular experience regarding rearing of elephants.	-	By initial recruitment	18	25
Forestry and Wildlife Department	Wildlife Executive	39. Head Wildlife Watcher (BS-3)	Deputy Director Wildlife concerned		-	By promotion on seniority-cum-fitness basis amongst Wildlife Watchers.		
Forestry and Wildlife Department	Wildlife Executive	40. Watcher (BS-2)	Deputy Director Wildlife concerned	Literate preferably Ex-Serviceman.	-	By initial recruitment.	21	45

Department	Wildlife Executive	41. Tubewell Operator (BS-2)	Deputy Director Wildlife concerned	Proficiency in the trade.		By initial recruitment.	18	25	
Forestry and Wildlife Department	Wildlife Executive	42. Wildlife Watcher (BS-1)	Deputy Director Wildlife concerned	Male, with height 5'7" and chest 34"-35"		By initial recruitment.	18	25	
Forestry and Wildlife Department	Wildlife Executive	43. Boat Man/ Guide/Fisherman (BS-1)	Deputy Director Wildlife concerned	Skill in rowing/ experience of working as Guide in Cholistan/ skill in fishing.		By initial recruitment.	18	25	
Forestry and Wildlife Department	Wildlife Executive	44. Baidar (BS-1)	Deputy Director Wildlife concerned			By initial recruitment.	18	25	

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ANNEXURE - XIII**DETAIL OF FIRST AID BOX**

Sr. No.	Item	Quantity
1	Digital BP Apparatus	01 No.
2	Plasters in a variety of different sizes and shapes (Small Packets)	02 Nos.
3	Small, medium and large sterile gauze dressings	03 Nos.
4	Sterile eye dressings	20 Nos.
5	Triangular bandages	20 Nos.
6	Crêpe rolled bandages	01 Roll
7	Safety pins	12 Nos.
8	Disposable sterile gloves	24 Nos.
9	Tweezers	05 Nos.
10	Scissors (Small & Medium)	02 No.
11	Alcohol-free cleansing wipes (Packet)	01 No.
12	Sticky tape	01 No.
13	Thermometer (digital)	01 No.
14	Skin rash cream, such as hydrocortisone or calendula	01 No.
15	Cream or spray to relieve insect bites and stings	01 No.
16	Antiseptic cream	01 No.
17	Painkillers - Disprine	100 Nos.
18	Cough medicine (Syrup)	02 No.
19	Antihistamine tablets	20 Nos.
20	Distilled water for cleaning wounds	02 Nos.
21	Eye wash and eye bath	02 Nos.
22	Surgical Mask	50 Nos.
23	Anti-Pyretic (Paracetamol)	50 Nos.
24	Sanitizer	01 No.
25	Torch	10 No.
26	Cotton swabs	10 No.
27	Tinture of benzoin	01 No. Bottle
28	Sunnyplast	01 Packet
29	Pyodine	¼ Ltr

Note: The above detail is for one First Aid Box.

ANNEXURE –XIV

DETAIL OF FIRE FIGHTING EQUIPMENTS

Sr. No.	Item	Quantity
1	Fire Buckets, 2-gallon (9 liters) size, 26-gauge G.I. sheet	06 Nos.
2	Stand for buckets	02 Nos.
3	Dry Powder Fire Extinguisher DC-SP-06	02 Nos.
4	Dry Powder Fire Extinguisher DC-SP-12	02 Nos.
5	Water Type Fire Extinguisher Trolley NFPA-10	02 Nos.

ANNEXURE - XV

DETAIL OF FURNITURE & FIXTURE FOR OFFICE

Sr. No.	Name of Item	Qty
1.	Officer Table Set with Side Rack	02 Nos.
2.	Revolving Chair	02 Nos.
3.	Officer Chair	10 Nos.
4.	White Board (4' x 4')	02 Nos.
5.	Soft Display Board (8' x 4')	02 Nos.
6.	File Cabinet Steel	02 Nos.
7.	Steel Almirah	02 Nos.
8.	Office Tables with Side Rack	02 Nos.
9.	Office Chairs	10 Nos.
10.	Computer Table with Chair	02 Nos.
11.	Bench Wooden / Steel	02 Nos.

ANNEXURE – XVI**DETAIL OF FURNITURE & FIXTURE FOR INSPECTION HUT**

Sr. No.	Name of Item	Qty
1.	Double Bed	02 No.
2.	Dressing Table	02 Nos.
3.	Sofa Set 4-piecs single seat with terpai	02 Nos.
4.	Study Table with chair	02 Nos.
5.	Small Refrigerator single door	02 Nos.
6.	Electric Heater (Fan Type)	02 Nos.
7.	Ward Robe Wooden	02 Nos.
8.	Curtains for Bed Rooms, Drawing Dining etc.	03 Nos.
9.	Electric Geyser for Bed Rooms & Kitchen	03 Nos.
10.	Dining Table with 8 chairs	01 No.
11.	Refrigerator full size for Kitchen	01 No.
12.	Sofa Set with table (3+2) seater for Drawing Room	02 Nos.
13.	Single piece sofa	04 Nos.

ANNEXURE – XVII

DETAIL OF FURNITURE & FIXTURE FOR 3-CHECKPOSTS

Sr. No.	Name of Item	Qty
1.	Office Table	03 Nos.
2.	Office Chairs	15 Nos.
3.	Side Rack	03 Nos.
4.	White Display & Soft Boards	03+03 Nos.
5.	Steel Almirah	03 Nos.

ANNEXURE - XVIII**DETAIL OF FIELD SURVEY KIT**

Sr. No.	Items	Quantity
1	Sleeping bag with mattress	01 No.
2	First aid field pouch	01 No.
3	Small foldable tent	01 No.
4	Field Jacket	01 No.
5	Field dress (Jeans)	01 No.
6	Foldable chair	01 No.
7	Kit Bag (preferably backpack)	01 No.
8	Field shoes (Joggers)	01 No.
9	Hand Torch	01 No.
10	Sewing Kit (Needle, Thread, Nalki etc.)	L.S.
11	Mug insulated	01 No.
12	Mug melamine	01 No.
13	Measuring tape (100 Ft.)	01 No.
14	Rope 10m	50 Feet
15	Note book, pencil	01 No.
16	Reference scale (Steel scale card.)	01 No.
17	Water Bottle with holder	01 No.
18	Walking Stick	01 No.
19	Gloves	10 No.
20	Inflatable Pillow	01 No.
21	Magnifying Glass	01 No.
22	Swiss type Knife	01 No.
23	Multipurpose tool kit (Screw driver, Plass, Small wrench, Cutter, Small hammer etc.)	

ANNEXURE - XIX

DOLPHIN RESCUE KIT

Sr. No.	Description
1	Nets (with 3" to 4" mesh, 10' x 30')
2	Stretcher
3	Mattress
4	Sponges
5	Towels (Large Size)
6	Stop Watch
7	Weight Machine
8	Water Container / Tubs (Fiber glass 5mm thick, 5' x 10 'x 2', 2000 Ltr.)
9	Bamboo
10	Rope
11	Empty Bottles
12	Dissection Surgical Box
13	Ethanol
14	Masks
15	Hand Gloves
16	Soap

ANNEXURE - XX

BROADER SCOPE OF STUDIES

i. Resident and Migratory Birds:

The study of birds is especially relevant to environmental concerns. Birds are the most important component of any living system and play a key role in the interlocking web of nature. They are the biological indicators and the ecological pyramid of an ecosystem. They are also indicators of health of our planet, a sort of “ecological litmus paper”. Some of the bird’s species are ecological indicators and reflect changes in the environment. This means taking them out of the system would impair the nature balance. Wild birds serve as an excellent indicators of the quality of our environment. The presence, variety and number of birds in any habitat tell us a lot about the quality of that environment.

At one end, some species prey upon insects and other invertebrates thus regulating the population and this helps in controlling those insects also that can be harmful to our agriculture. There are also species that are major source of food for other carnivore and omnivore species. The sustainability of the ecosystems depends to a large extent on the buffering capacity provided by having a rich and healthy diversity of genes, species and habitats.

The avifauna study will include the temporal surveys to establish species abundance and diversity of resident and migratory birds of the Chashma Barrage Wildlife Sanctuary and adjoining areas (buffer zone). The study will establish the species of “Special Concern” in the area based on their abundance, threats due to hunting and poaching and their international Red List Status to include them in management plan. GIS based information regarding occurrence, distribution and habitat types used by the species will be developed which will also help in identifying and prioritizing critical species habitats.

ii. Small Mammals:

Small mammals are well represented in Pakistan having 118-species making nearly 65% of the total mammalian fauna of the country. The Chiropteran fauna with 50-species makes the bulk of the small mammals fauna followed by the Rodents with 44-species. Other significant groups comprising the small mammals are the Insectivores, few carnivores and the Lagomorphs.

There are several scattered reports on the study of small mammals of Pakistan (Ahmad and Ghalib, 1979; Akhtar, 1958-60; Anthony, 1950; Baig et al, 1986; Banerji, 1955; Beg, et al., 1975, 1986; Frantz, 1973; Fulk et al., 1981; Mehmood et al., 1986; Mian, 1986; Mirza, 1969; Parrack, 1966; Roberts, 1972, 1973; Siddiqui, 1970; Thomas, 1920a,b,1923; Wagle, 1927; Walton, 1973 and Wroughton, 1911,1920) but the most comprehensive and consolidated work is that of Roberts (1997). Roberts (1997) compiled all the information available on the mammalian fauna of Pakistan. After that Woods et al. (1997 a,b) gave a very detailed account on the small mammals of Pakistan, but their work was restricted to the northern mountain region of Pakistan.

None of these studies has specifically addressed the mammals of Chashma Barrage or its surrounding areas. Therefore the current study is planned to explore the abundance and diversity of small mammals of the Chashma Barrage. Taxonomical checklist of all the species with their English and local names and their status in the core and buffer zones will be prepared. Threatened Small mammal's species in and around the study area will be identified, behavior of various species of Small mammals in relation to habitat and seasonal change in and around the study area will be studied.

iii. Large Mammals

There is not much published literature available about the large mammals of the Chashma Barrage Wildlife Sanctuary. The study is planned to collect and review primary / secondary data on the large mammals species of study area and its buffer zone, using the available literature, local collectors, government and NGOs, collect data from the field on species occurrence, abundance and diversity in the core and buffer zones, prepare a taxonomical checklist of all the species with their English and local names and their status in the core and buffer zones, identify threatened large mammals species in and around the study area and recommend measures to improve the situation, study the behavior of various species of large mammals in relation to habitat and seasonal change in and around the study area, suggest suitable methods of monitoring large mammals in the core and buffer zones of the study area, develop simple indicators for assessing the population trends of the large mammals that can be applied by the local staff in future.

iv. Reptiles and Amphibians

Amphibians and reptiles are very important animals among the vertebrates. Amphibians show the transition of aquatic and terrestrial life. The animals who invaded land, reptiles were the first fully terrestrial forms of life. Apart from their impressive evolutionary history, they beautifully demonstrate different concepts of physiological and behavioral adaptation to different climates, from tropical forests to hot desert and marine to fresh -water. They have not the ability to travel long distances like birds and mammals. In response to any local environmental changes they respond quickly and therefore may act as an excellent biological indicators.

They are the most important component of any living system and play a key role in interlocking web of nature. At one hand they prey upon insects, invertebrates, even birds and small mammals and therefore regulate the population of these animals. On the other hand, they are also a major source of food for other carnivore species (birds, mammals and even the members of their own group i.e. reptiles). Their position in the ecological niche is so vulnerable that the survival and collapse of the whole energy cycle depends upon the presence and absence of the amphibians and reptiles.

Despite that they are important biological resource unfortunately very little attention has been given to conserve and study them, in Pakistan. The major hurdle presumably is lack of sufficient expertise in this field. The present proposed study will enable us to know about the natural wealth of Chashma Barrage study area and its role in maintaining ecological balance. The proposed study will be carried out to collect and review primary / secondary data on the reptile and amphibian species of study area and its buffer zone, using the available literature, local collectors, government and NGOs, collect data from the field on species occurrence, relative abundance and diversity in the core and buffer zones, help in developing GIS based information regarding occurrence and distribution of amphibians / reptile fauna, prepare a taxonomical checklist of all the species with their English and local names and their status in the core and buffer zones, identify threatened amphibian and reptile species in and around the wildlife sanctuary and recommend measures to mitigate negative impacts of construction and post construction phases of the project, collect data to assess the breeding areas of amphibians and reptiles, study the behavior of various species of amphibians and reptiles in relation to habitat and seasonal changes in and around the study area.

v. GIS and Remote Sensing

The study will include the establishment of a spatial database for maintaining the baseline information on the biodiversity studies conducted as part of this project and provide a Decision Support System that would help in the periodic and future monitoring of the study area. The study will also include; boundary demarcation of the Chashma Barrage Wildlife Sanctuary for better protection of the area and resolve conflict with the communities, processing of satellite data for identification of micro level informations leading to the development of Land cover/ Land use maps. The land cover / land use maps and database would facilitate decision making and periodic/future monitoring of different activities, development of GIS data base for species distribution and habitat mapping for accessing, maintaining, linking and populating databases. Such a database and relevant overlays and habitat maps will be produced by incorporating field survey data. The combined database should define indices for ecological sensitivity, health and any change in the environmental indicators would result in a higher or lower sensitivity or health of the area.

ANNEXURE-XXI

SOP(s) OF THE PROPOSED LOCAL CONSERVATION COMMITTEE (LCC)

ESTABLISHMENT OF LOCAL CONSERVATION COMMITTEE (LCC) AT CHASHMA BARRAGE

Local rural communities and landowners, when endowed with the appropriate resources and incentives, can serve as a powerful force and cost-effective source for conservation of the targeted area / landscape. Conservation, in turn, is an important tool and strategy to achieve local economic resilience.

Keeping in view of the importance of Biodiversity of Chashma Barrage and dependence of local community on its resources for their livelihood, a local conservation committee will be established after identifying the stakeholders.

- i. Identify the livelihood dependency on the wetland resources of the Project Area;
- ii. Suggest alternate ways & means to reduce dependency of the local community on natural resources of the Chashma Wetland Complex;
- iii. Community mobilization for wetland conservation;
- iv. Provide assistance in conducting research under different thematic areas.

FUNDING

An amount of Rs.1.000m has been allocated in the project to conduct quarterly meetings, seminars / workshops and / or other activities related to the project.