



**GOVERNMENT OF PAKISTAN**  
**MINISTRY OF WATER AND POWER**  
PROJECT MANAGEMENT & POLICY IMPLEMENTATION UNIT (PMPIU)

Water Sector Capacity Building and Advisory  
Services Project (WCAP)

Development of National Flood Protection Plan-IV (NFPP-IV)  
and Related Studies to Enhance the Capacity of  
Federal Flood Commission-FFC

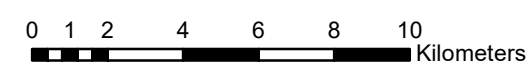
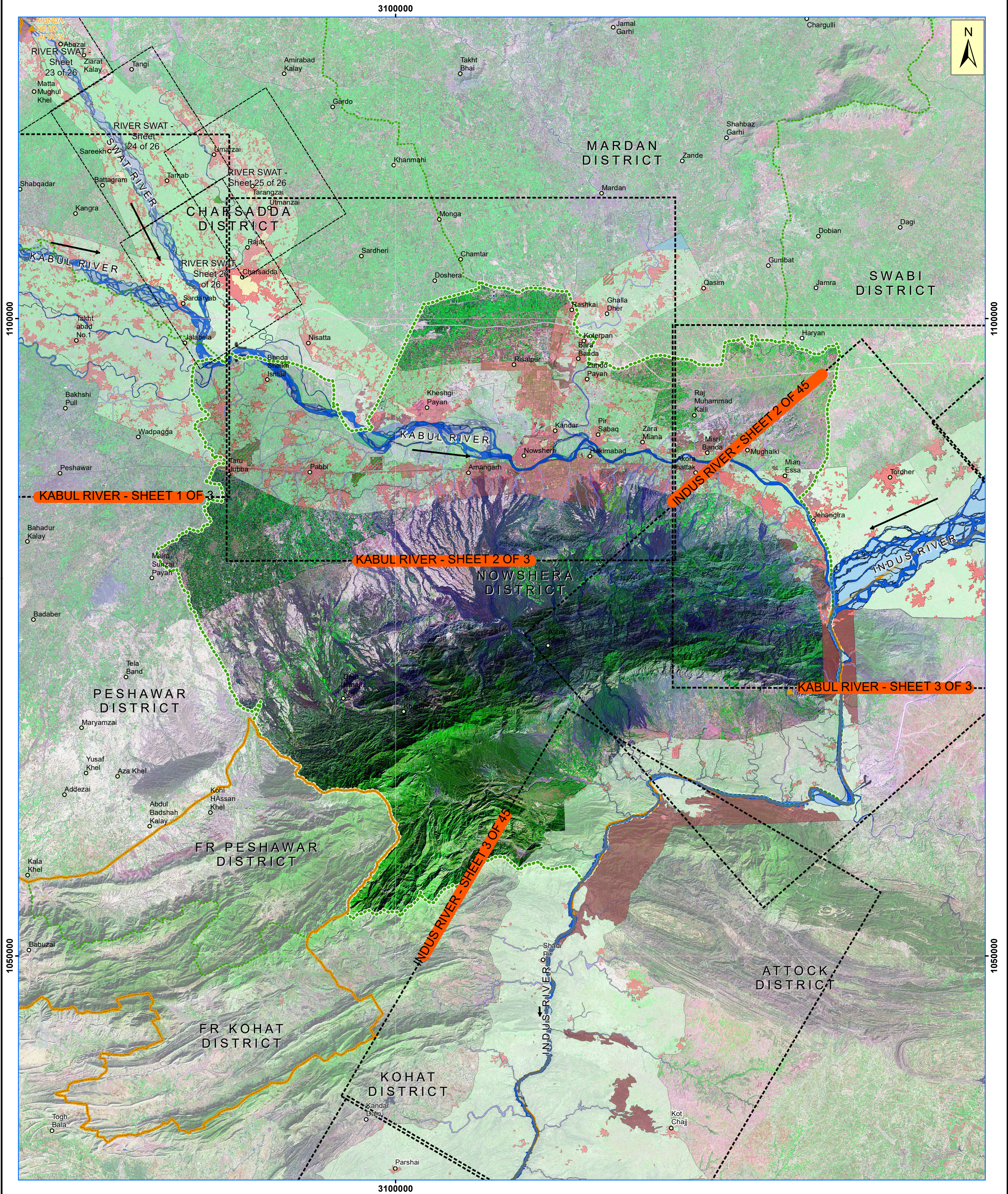
# **LANDUSE AND DISTRICT LEVEL SUBMERGENCE PLANS**

## **DISTRICT NOWSHERA**

KHYBER PAKHTUNKHWA PROVINCE

**JANUARY 2016**

# NOWSHERA DISTRICT



DEVELOPMENT OF NATIONAL FLOOD PROTECTION PLAN-IV (NFPP-IV) AND RELATED STUDIES TO ENHANCE THE CAPACITY OF FEDERAL FLOOD COMMISSION-FFC

## NOWSHERA DISTRICT

GOVERNMENT OF PAKISTAN  
 MINISTRY OF WATER AND POWER  
 PROJECT MANAGEMENT & POLICY IMPLEMENTATION UNIT (PMPIU)  
 WATER SECTOR CAPACITY BUILDING AND ADVISORY SERVICES PROJECT (WCAP)

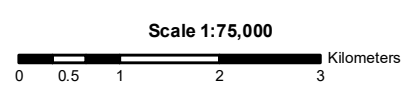
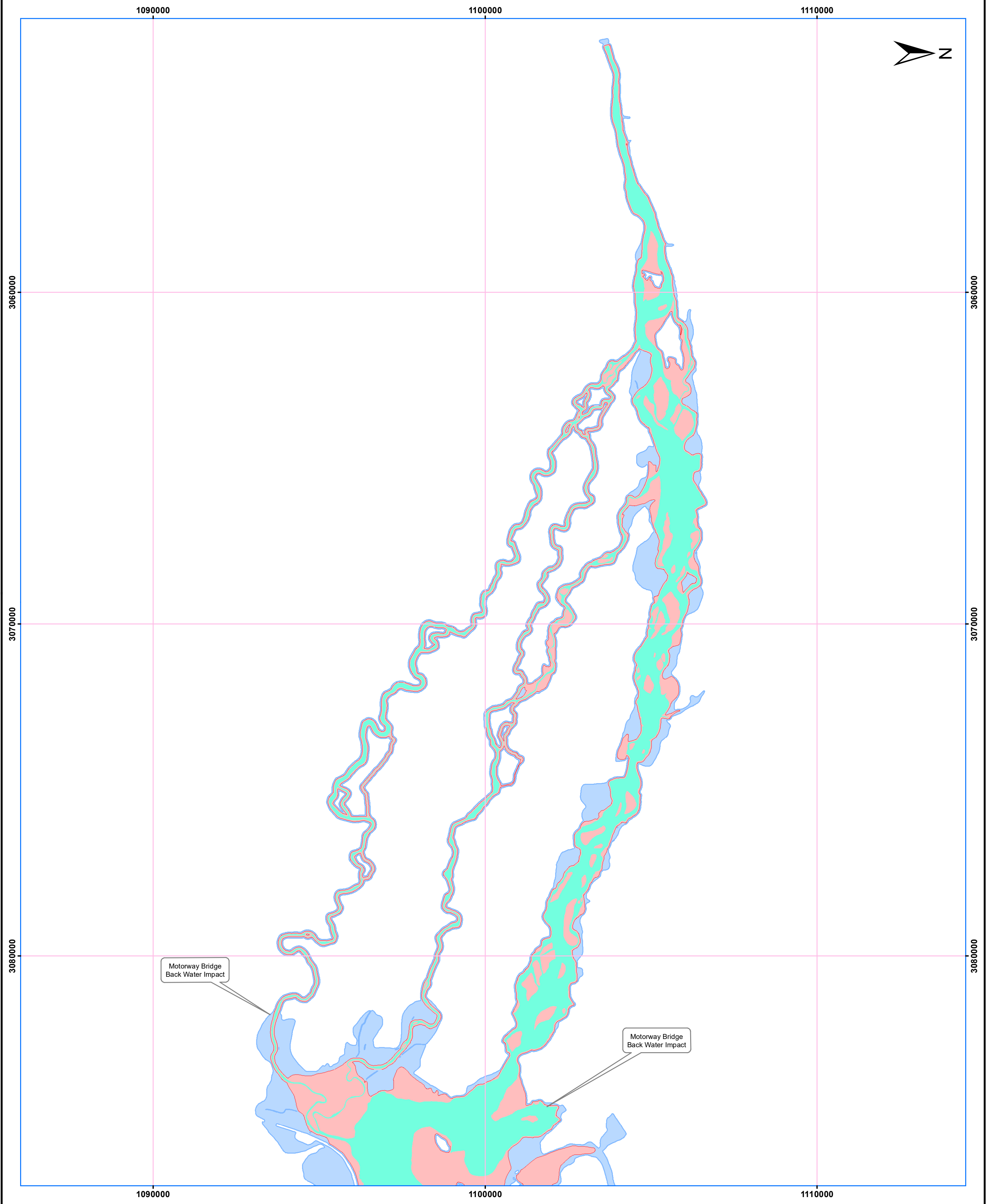
Consultants:  
**NEEPAK**  
 NATIONAL ENGINEERING SERVICES PAKISTAN (PVT) LIMITED  
 1-C, Block-N, Model Town Extension,  
 Lahore - Pakistan.

in association with  
**Deltares** DELTARES, THE NETHERLANDS  
 Enabling Delta Life

Source of Information:  
 1. Topographic sheets of Survey of Pakistan  
 2. Freely available satellite imagery

Grid Reference is in meters

Date: January 29, 2016



**LEGEND**

**(Flood Risk Zones)**

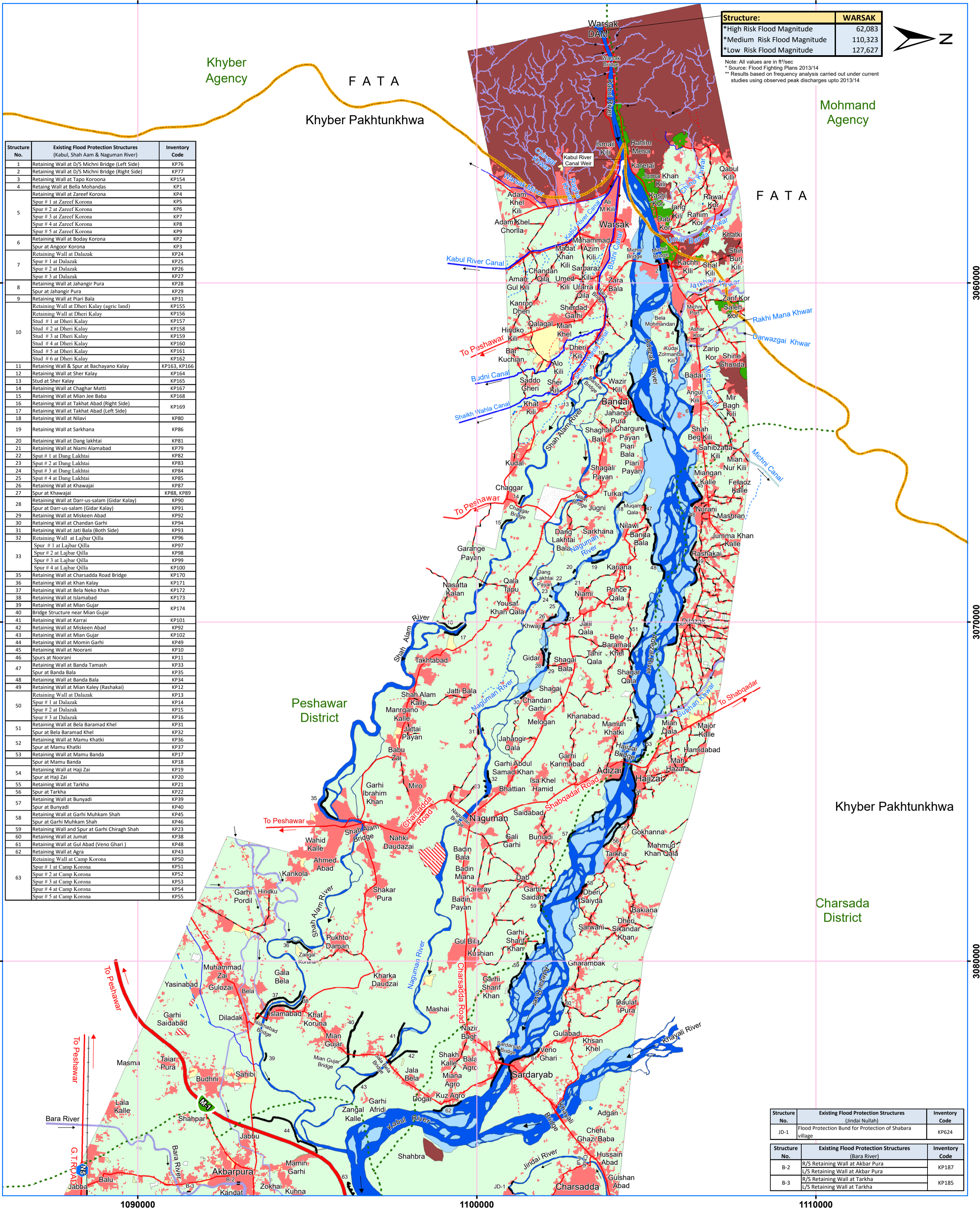
- High Risk Zone (Inundation Extent corresponding to discharge upto 62,000 cusecs in Warsak Dam - Confluence of Swat & Kabul Rivers)
- Medium Risk Zone (Inundation Extent corresponding to discharge from 62,000 to 110,000 cusecs in Warsak Dam - Confluence of Swat & Kabul Rivers)
- Low Risk Zone (Inundation Extent corresponding to discharge from 110,000 to 128,000 cusecs in Warsak Dam - Confluence of Swat & Kabul Rivers)

Note: All flood extents are based on breachless conditions

1090000

1100000

1110000



Structure:	WARSAK
*High Risk Flood Magnitude	62,083
*Medium Risk Flood Magnitude	110,323
*Low Risk Flood Magnitude	127,627

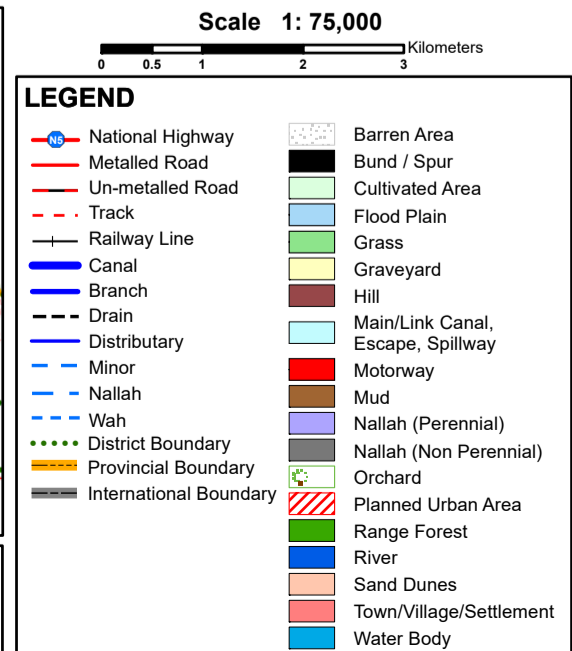
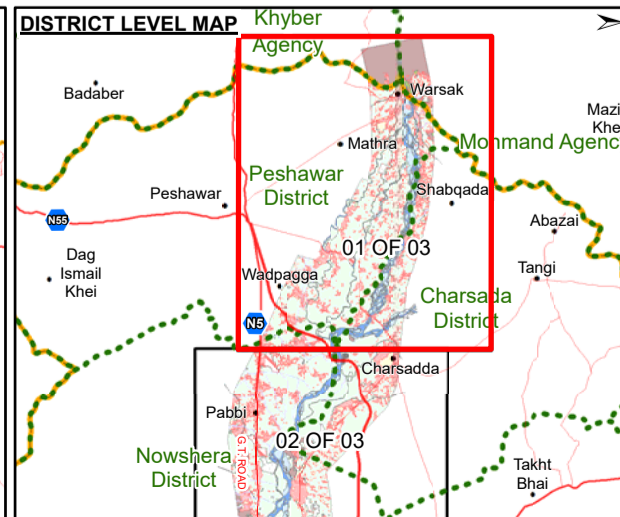
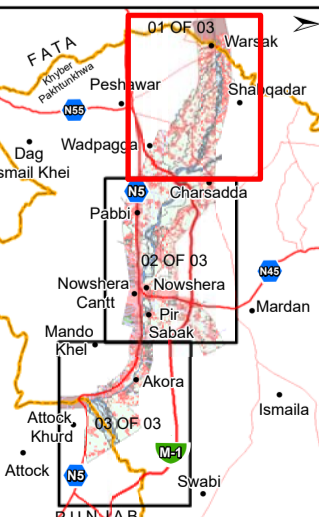
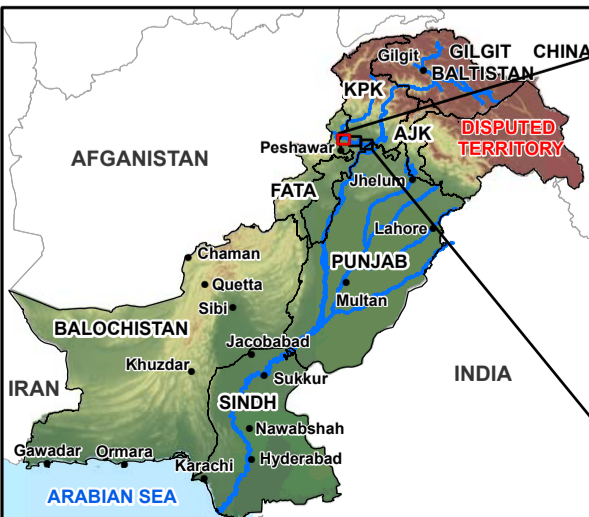
Note: All values are in ft<sup>2</sup>/sec  
 \*Source: Flood Fighting Plans 2013/14  
 \*\* Results based on frequency analysis carried out under current studies using observed peak discharges upto 2013/14

Structure No.	Existing Flood Protection Structures (Kabul, Shah Aam & Naguman River)	Inventory Code
1	Retaining Wall at D/S Michni Bridge (Left Side)	KP76
2	Retaining Wall at D/S Michni Bridge (Right Side)	KP77
3	Retaining Wall at Tapo Koroona	KP154
4	Retaining Wall at Bella Mohandas	KP1
5	Retaining Wall at Zareef Korona	KP4
5	Spur # 1 at Zareef Korona	KP5
5	Spur # 2 at Zareef Korona	KP6
5	Spur # 3 at Zareef Korona	KP7
5	Spur # 4 at Zareef Korona	KP8
5	Spur # 5 at Zareef Korona	KP9
6	Retaining Wall at Boday Korona	KP2
6	Spur at Angoor Korona	KP3
7	Retaining Wall at Dalazak	KP24
7	Spur # 1 at Dalazak	KP25
7	Spur # 2 at Dalazak	KP26
7	Spur # 3 at Dalazak	KP27
8	Retaining Wall at Jahangir Pura	KP28
8	Spur at Jahangir Pura	KP29
9	Retaining Wall at Pari Bala	KP31
9	Retaining Wall at Dheri Kalay (agric land)	KP155
9	Retaining Wall at Dheri Kalay	KP156
10	Stud # 1 at Dheri Kalay	KP157
10	Stud # 2 at Dheri Kalay	KP158
10	Stud # 3 at Dheri Kalay	KP159
10	Stud # 4 at Dheri Kalay	KP160
10	Stud # 5 at Dheri Kalay	KP161
10	Stud # 6 at Dheri Kalay	KP162
11	Retaining Wall & Spur at Bachayano Kalay	KP163, KP166
12	Retaining Wall at Sher Kalay	KP164
13	Stud at Sher Kalay	KP165
14	Retaining Wall at Chaghar Matti	KP167
15	Retaining Wall at Mian Jee Baba	KP168
16	Retaining Wall at Takhat Abad (Right Side)	KP169
17	Retaining Wall at Takhat Abad (Left Side)	KP80
18	Retaining Wall at Nilavi	KP86
19	Retaining Wall at Sarkhana	KP86
20	Retaining Wall at Dang Lakhtai	KP81
21	Retaining Wall at Niami Alamabad	KP79
22	Spur # 1 at Dang Lakhtai	KP82
23	Spur # 2 at Dang Lakhtai	KP83
24	Spur # 3 at Dang Lakhtai	KP84
25	Spur # 4 at Dang Lakhtai	KP85
26	Retaining Wall at Khawajai	KP87
27	Spur at Khawajai	KP88, KP89
28	Retaining Wall at Darr-us-salam (Gidar Kalay)	KP90
29	Spur at Darr-us-salam (Gidar Kalay)	KP91
29	Retaining Wall at Miskeen Abad	KP92
30	Retaining Wall at Chandan Garhi	KP94
31	Retaining Wall at Jati Bala (Both Side)	KP93
32	Retaining Wall at Lajbar Qilla	KP96
33	Spur # 1 at Lajbar Qilla	KP97
33	Spur # 2 at Lajbar Qilla	KP98
33	Spur # 3 at Lajbar Qilla	KP99
33	Spur # 4 at Lajbar Qilla	KP100
35	Retaining Wall at Charsadda Road Bridge	KP170
36	Retaining Wall at Khan Kalay	KP171
37	Retaining Wall at Bela Neko Khan	KP172
38	Retaining Wall at Islamabad	KP173
39	Retaining Wall at Mian Gujar	KP174
40	Bridge Structure near Mian Gujar	KP174
41	Retaining Wall at Karral	KP101
42	Retaining Wall at Miskeen Abad	KP92
43	Retaining Wall at Mian Gujar	KP102
44	Retaining Wall at Momin Garhi	KP49
45	Retaining Wall at Noorani	KP10
46	Spurs at Noorani	KP11
47	Retaining Wall at Banda Tamash	KP33
48	Spur at Banda Bala	KP35
49	Retaining Wall at Banda Bala	KP34
49	Retaining Wall at Mian Kaley (Rashakai)	KP12
50	Retaining Wall at Dalazak	KP13
50	Spur # 1 at Dalazak	KP14
50	Spur # 2 at Dalazak	KP15
50	Spur # 3 at Dalazak	KP16
51	Retaining Wall at Bela Baramad Khel	KP31
51	Spur at Bela Baramad Khel	KP32
52	Retaining Wall at Mamu Kharki	KP36
52	Spur at Mamu Kharki	KP37
53	Retaining Wall at Mamu Banda	KP17
54	Spur at Mamu Banda	KP18
54	Retaining Wall at Haji Zai	KP19
54	Spur at Haji Zai	KP20
55	Retaining Wall at Tarkha	KP21
56	Spur at Tarkha	KP22
57	Retaining Wall at Bunyadi	KP90
57	Spur at Bunyadi	KP40
58	Retaining Wall at Garhi Muhkam Shah	KP45
58	Spur at Garhi Muhkam Shah	KP46
59	Retaining Wall and Spur at Garhi Chiragh Shah	KP23
60	Retaining Wall at Jumat	KP38
61	Retaining Wall at Gul Abad (Veno Ghari)	KP48
62	Retaining Wall at Agra	KP43
63	Retaining Wall at Camp Korona	KP50
63	Spur # 1 at Camp Korona	KP51
63	Spur # 2 at Camp Korona	KP52
63	Spur # 3 at Camp Korona	KP53
63	Spur # 4 at Camp Korona	KP54
63	Spur # 5 at Camp Korona	KP55

Structure No.	Existing Flood Protection Structures (Jindai Nullah)	Inventory Code
JD-1	Flood Protection Bund for Protection of Shabara village	KP624

Structure No.	Existing Flood Protection Structures (Bara River)	Inventory Code
B-2	R/S Retaining Wall at Akbar Pura	KP187
B-3	R/S Retaining Wall at Tarkha	KP185



DEVELOPMENT OF NATIONAL FLOOD PROTECTION PLAN-IV (NFPP-IV) AND RELATED STUDIES TO ENHANCE THE CAPACITY OF FEDERAL FLOOD COMMISSION-FFC

**LANDUSE MAP**

GOVERNMENT OF PAKISTAN  
 MINISTRY OF WATER AND POWER  
 PROJECT MANAGEMENT & POLICY IMPLEMENTATION UNIT (PMPIU)  
 WATER SECTOR CAPACITY BUILDING AND ADVISORY SERVICES PROJECT (WCAP)

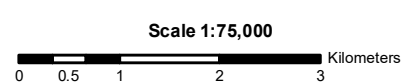
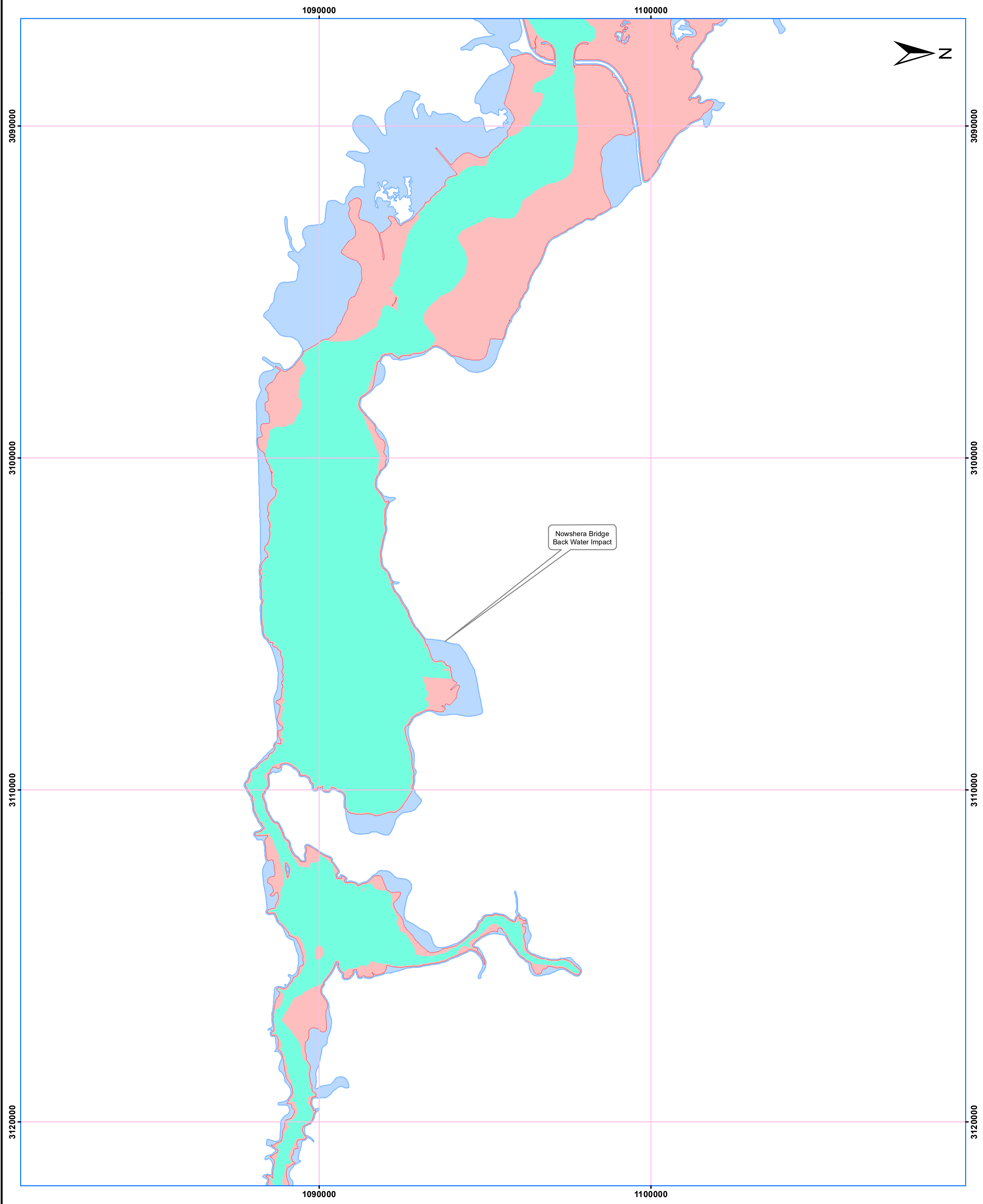
Consultants:  
**NATIONAL ENGINEERING SERVICES PAKISTAN (PVT) LIMITED**  
 1-C, Block-N, Model Town Extension, Lahore - Pakistan.

in association with  
**Deltares DELTARES, THE NETHERLANDS**

Source of Information:  
 1. Topographic sheets of Survey of Pakistan  
 2. Freely available satellite imagery  
 3. GEEYE Stereo Pair Imagery (0.5 m spatial Resolution)  
 4. Survey data of Flood protection embankments and structures

Coordinate System  
 PROJECTION: Lambert Conformal Conic (LMPAK-I),  
 DATUM: WGS84  
 Grid Reference is in meters

Date: 29 Jan, 2016 By M.Waseem Saeed

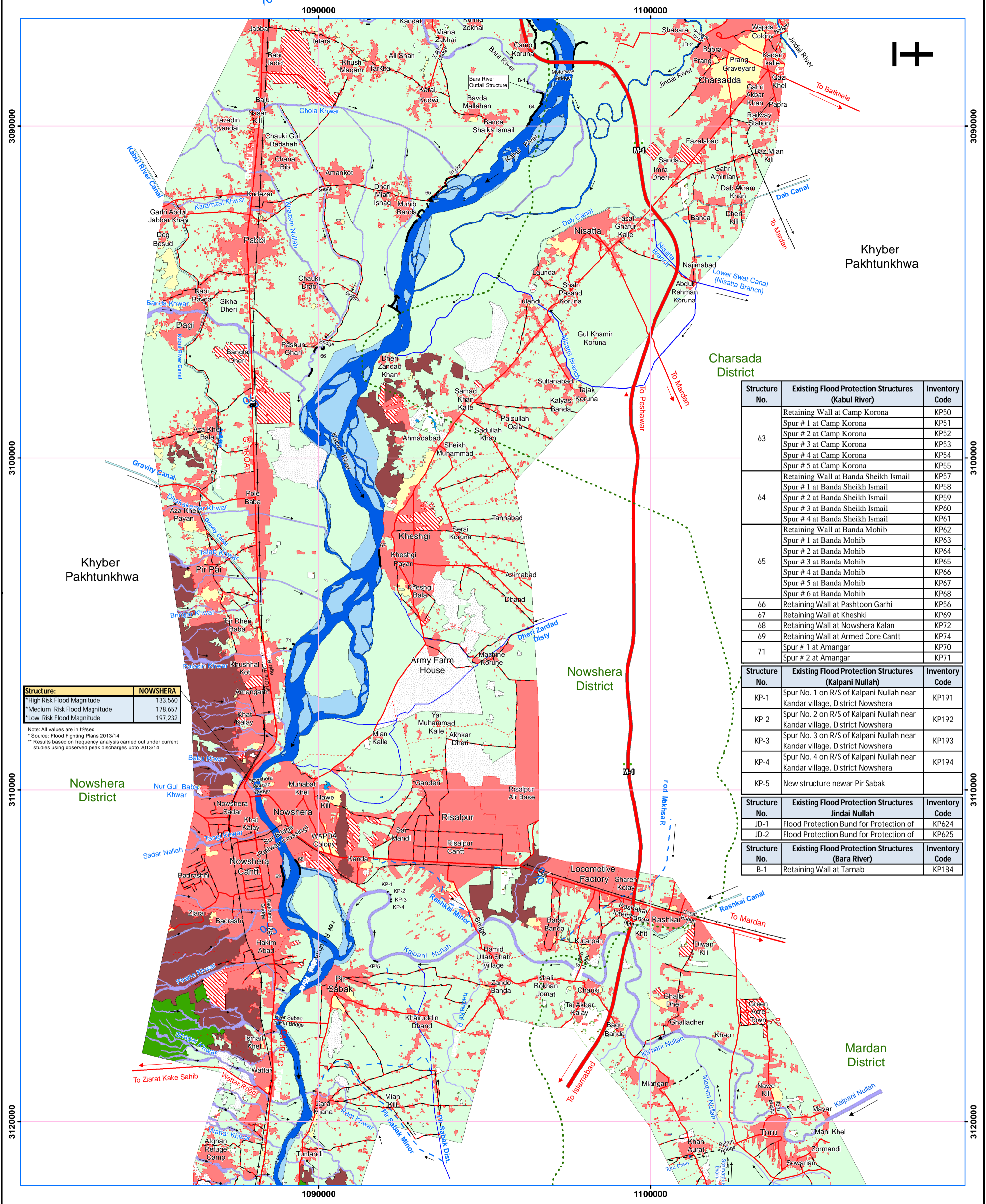


**LEGEND**

**(Flood Risk Zones)**

- High Risk Zone (Inundation Extent corresponding to discharge upto 134,000 cusecs in Confluence of Swat & Kabul Rivers - Confluence of Indus & Kabul Rivers)
- Medium Risk Zone (Inundation Extent corresponding to discharge from 134,000 to 179,000 cusecs in Confluence of Swat & Kabul Rivers - Confluence of Indus & Kabul Rivers)
- Low Risk Zone (Inundation Extent corresponding to discharge from 179,000 to 197,000 cusecs in Confluence of Swat & Kabul Rivers - Confluence of Indus & Kabul Rivers)

Note: All flood extents are based on breachless conditions



Structure No.	Existing Flood Protection Structures (Kabul River)	Inventory Code
63	Retaining Wall at Camp Korona	KP50
	Spur # 1 at Camp Korona	KP51
	Spur # 2 at Camp Korona	KP52
	Spur # 3 at Camp Korona	KP53
	Spur # 4 at Camp Korona	KP54
64	Retaining Wall at Banda Sheikh Ismail	KP57
	Spur # 1 at Banda Sheikh Ismail	KP58
	Spur # 2 at Banda Sheikh Ismail	KP59
	Spur # 3 at Banda Sheikh Ismail	KP60
65	Retaining Wall at Banda Mohib	KP62
	Spur # 1 at Banda Mohib	KP63
	Spur # 2 at Banda Mohib	KP64
	Spur # 3 at Banda Mohib	KP65
	Spur # 4 at Banda Mohib	KP66
	Spur # 5 at Banda Mohib	KP67
66	Retaining Wall at Pashtoon Garhi	KP56
67	Retaining Wall at Kheskhi	KP69
68	Retaining Wall at Nowshera Kalan	KP72
69	Retaining Wall at Armed Core Cantt	KP74
71	Spur # 1 at Amangar	KP70
	Spur # 2 at Amangar	KP71

Structure No.	Existing Flood Protection Structures (Kalpani Nullah)	Inventory Code
KP-1	Spur No. 1 on R/S of Kalpani Nullah near Kandar village, District Nowshera	KP191
KP-2	Spur No. 2 on R/S of Kalpani Nullah near Kandar village, District Nowshera	KP192
KP-3	Spur No. 3 on R/S of Kalpani Nullah near Kandar village, District Nowshera	KP193
KP-4	Spur No. 4 on R/S of Kalpani Nullah near Kandar village, District Nowshera	KP194
KP-5	New structure near Pir Sabak	

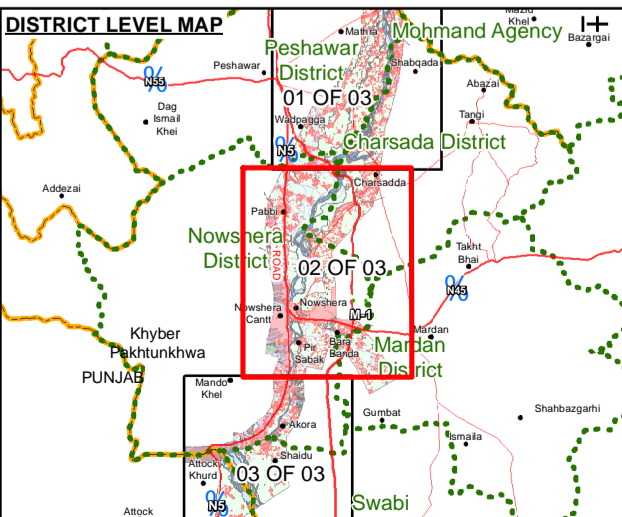
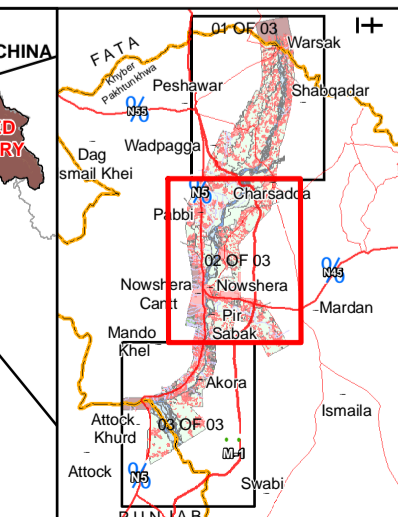
Structure No.	Existing Flood Protection Structures (Jindai Nullah)	Inventory Code
JD-1	Flood Protection Bund for Protection of	KP624
JD-2	Flood Protection Bund for Protection of	KP625

Structure No.	Existing Flood Protection Structures (Bara River)	Inventory Code
B-1	Retaining Wall at Tarnab	KP184

Structure:	NOWSHERA
*High Risk Flood Magnitude	133,560
*Medium Risk Flood Magnitude	178,657
*Low Risk Flood Magnitude	197,232

Note: All values are in ft<sup>2</sup>/sec  
 \* Sources: Flood Fighting Plans 2013/14  
 \*\* Results based on frequency analysis carried out under current studies using observed peak discharges upto 2013/14



Scale 1: 75,000

0 0.5 1 2 3 Kilometers

LEGEND	
	National Highway
	Metalled Road
	Un-metalled Road
	Track
	Railway Line
	Canal
	Branch
	Distributary
	Minor
	Nallah
	Wah
	District Boundary
	Provincial Boundary
	International Boundary
	Barren Area
	Bund / Spur
	Cultivated Area
	Flood Plain
	Grass
	Graveyard
	Hill
	Main/Link Canal, Escape, Spillway
	Motorway
	Mud
	Nallah (Perennial)
	Nallah (Non Perennial)
	Orchard
	Planned Urban Area
	Range Forest
	River
	Sand Dunes
	Town/Village/Settlement
	Water Body

DEVELOPMENT OF NATIONAL FLOOD PROTECTION PLAN-IV (NFPP-IV) AND RELATED STUDIES TO ENHANCE THE CAPACITY OF FEDERAL FLOOD COMMISSION-FFC

**LANDUSE MAP**

**KABUL RIVER**

GOVERNMENT OF PAKISTAN  
 MINISTRY OF WATER AND POWER  
 PROJECT MANAGEMENT & POLICY IMPLEMENTATION UNIT (PMPIU)  
 WATER SECTOR CAPACITY BUILDING AND ADVISORY SERVICES PROJECT (WCAP)

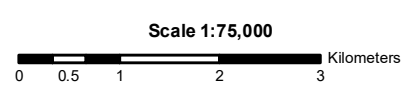
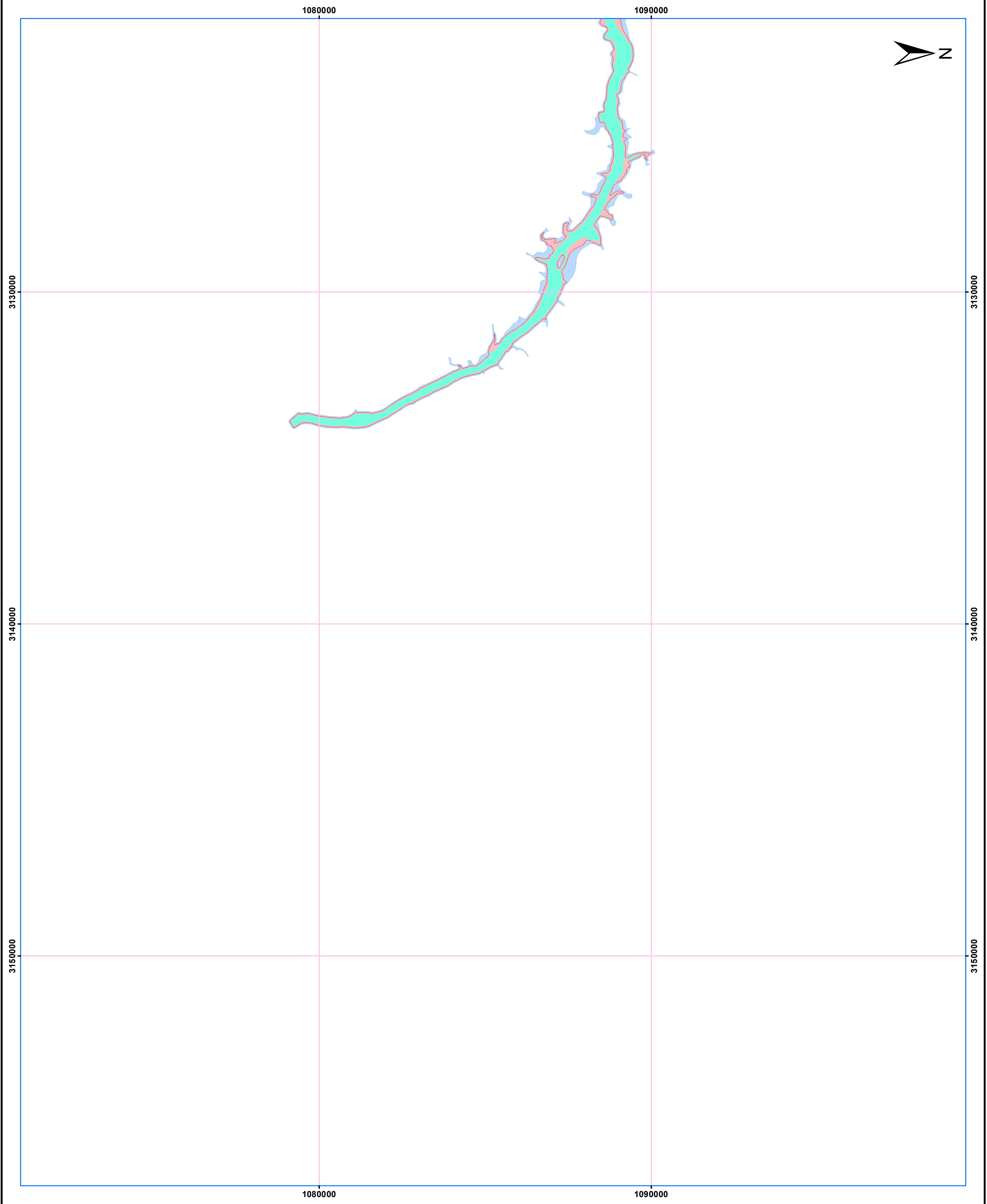
Consultants:  
 NATIONAL ENGINEERING SERVICES PAKISTAN (PVT) LIMITED  
 1-C, Block-N, Model Town Extension,  
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 Enabling Delta Life

Source of Information:  
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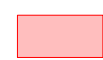

Coordinate System  
 PROJECTION: Lambert Conformal Conic (LMPAK-I)  
 DATUM: WGS84  
 Grid Reference is in meters

Date: 29 Jan, 2016 By M.Waseem Saed

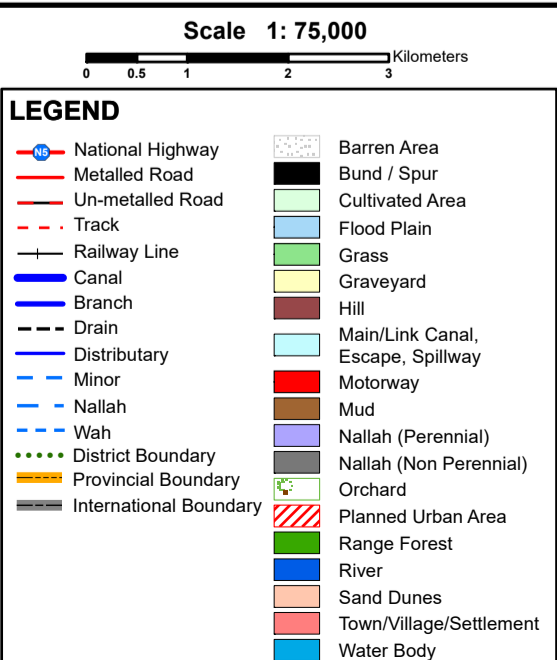
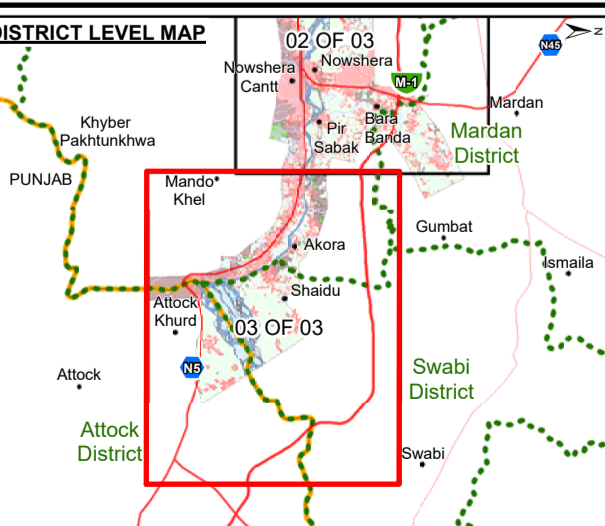
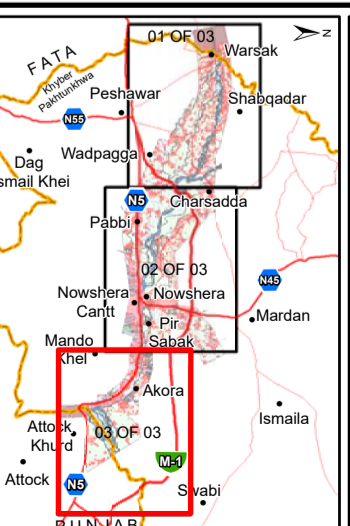
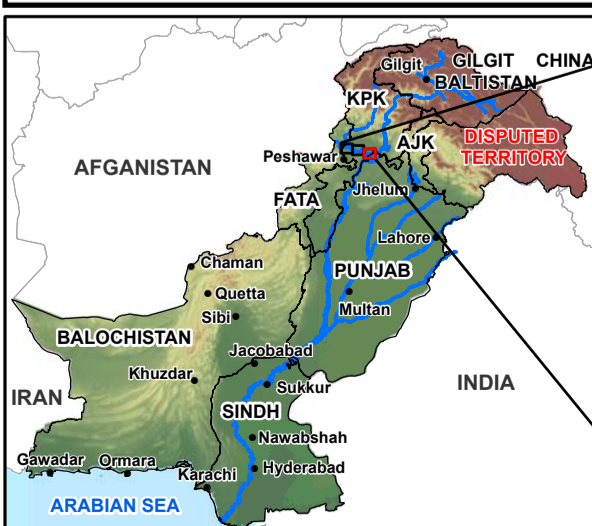
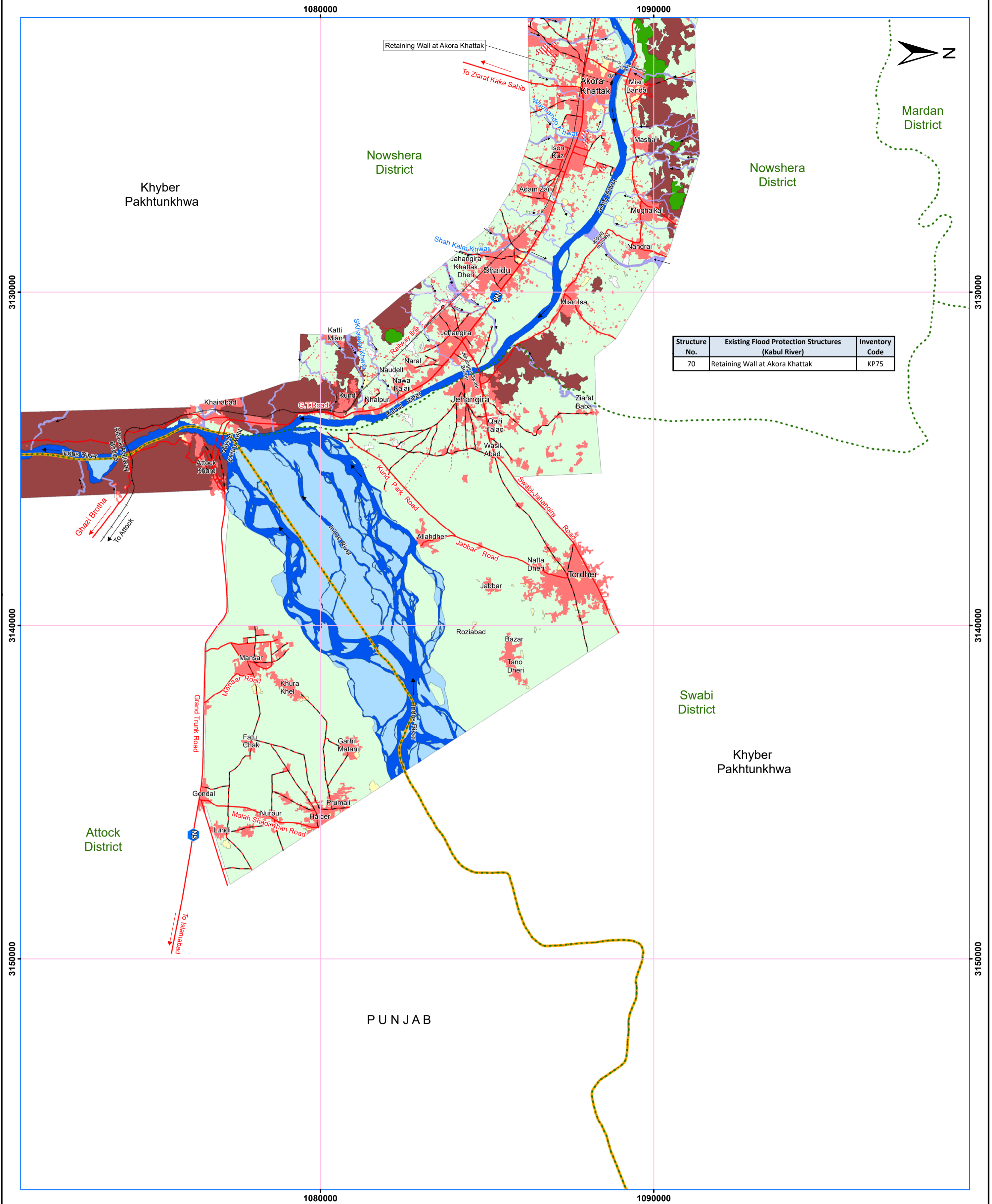


**LEGEND**

**(Flood Risk Zones)**

-  High Risk Zone (Inundation Extent corresponding to discharge upto 134,000 cusecs in Confluence of Swat & Kabul Rivers - Confluence of Indus & Kabul Rivers)
-  Medium Risk Zone (Inundation Extent corresponding to discharge from 134,000 to 179,000 cusecs in Confluence of Swat & Kabul Rivers - Confluence of Indus & Kabul Rivers)
-  Low Risk Zone (Inundation Extent corresponding to discharge from 179,000 to 197,000 cusecs in Confluence of Swat & Kabul Rivers - Confluence of Indus & Kabul Rivers)

Note: All flood extents are based on breachless conditions



DEVELOPMENT OF NATIONAL FLOOD PROTECTION PLAN-IV (NFPP-IV) AND RELATED STUDIES TO ENHANCE THE CAPACITY OF FEDERAL FLOOD COMMISSION-FFC

**LANDUSE MAP KABUL RIVER**

GOVERNMENT OF PAKISTAN  
MINISTRY OF WATER AND POWER  
PROJECT MANAGEMENT & POLICY IMPLEMENTATION UNIT (PMPIU)  
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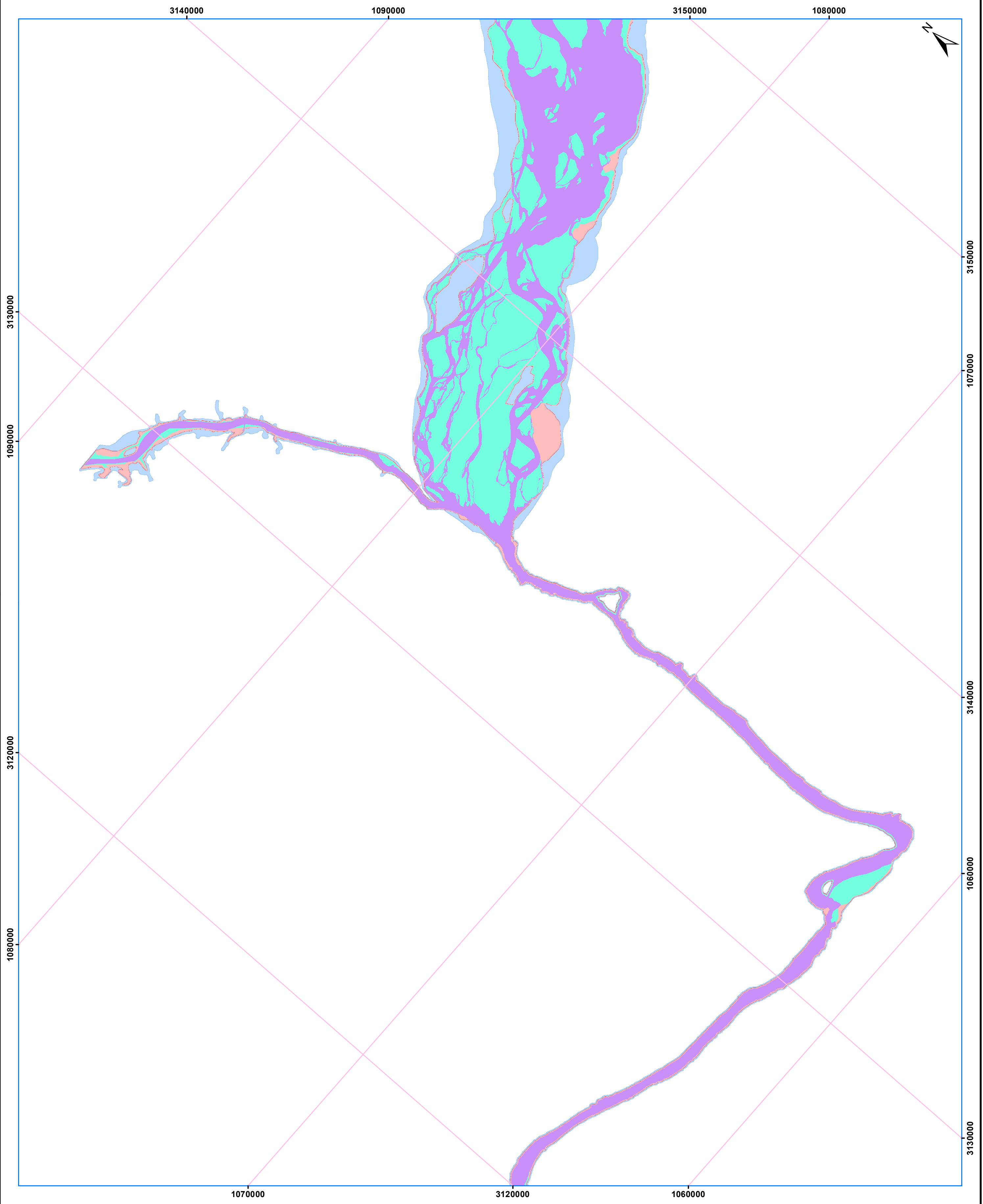
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Coordinate System  
PROJECTION: Lambert Conformal Conic (LMPAK-I),  
DATUM: WGS84  
Grid Reference is in meters

Date: 29 Jan, 2016 By M.Waseem Saed



Scale 1:75,000  
 0 0.5 1 2 3 Kilometers

**LEGEND**

**(Flood Risk Zones)**

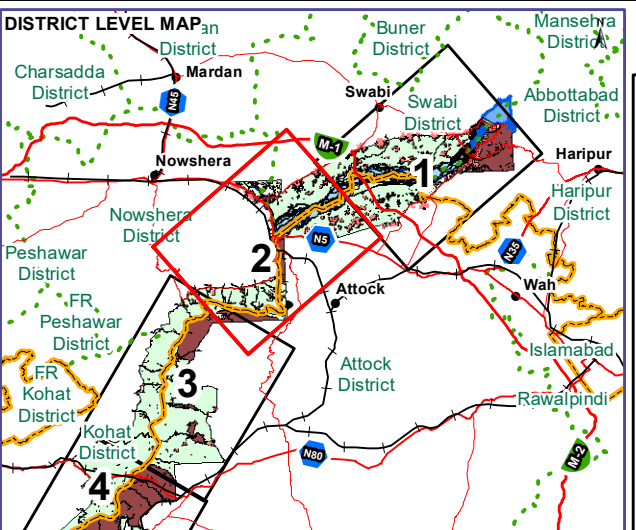
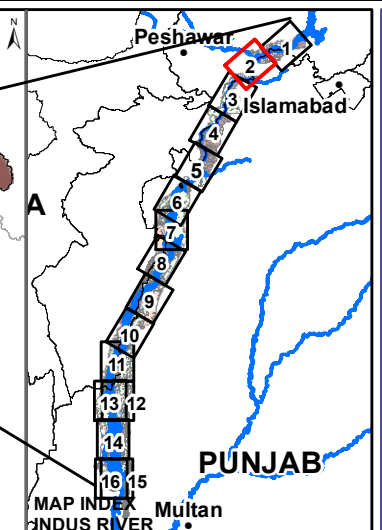
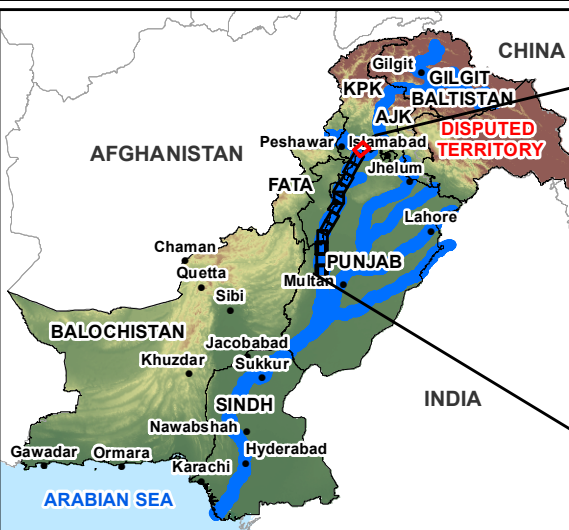
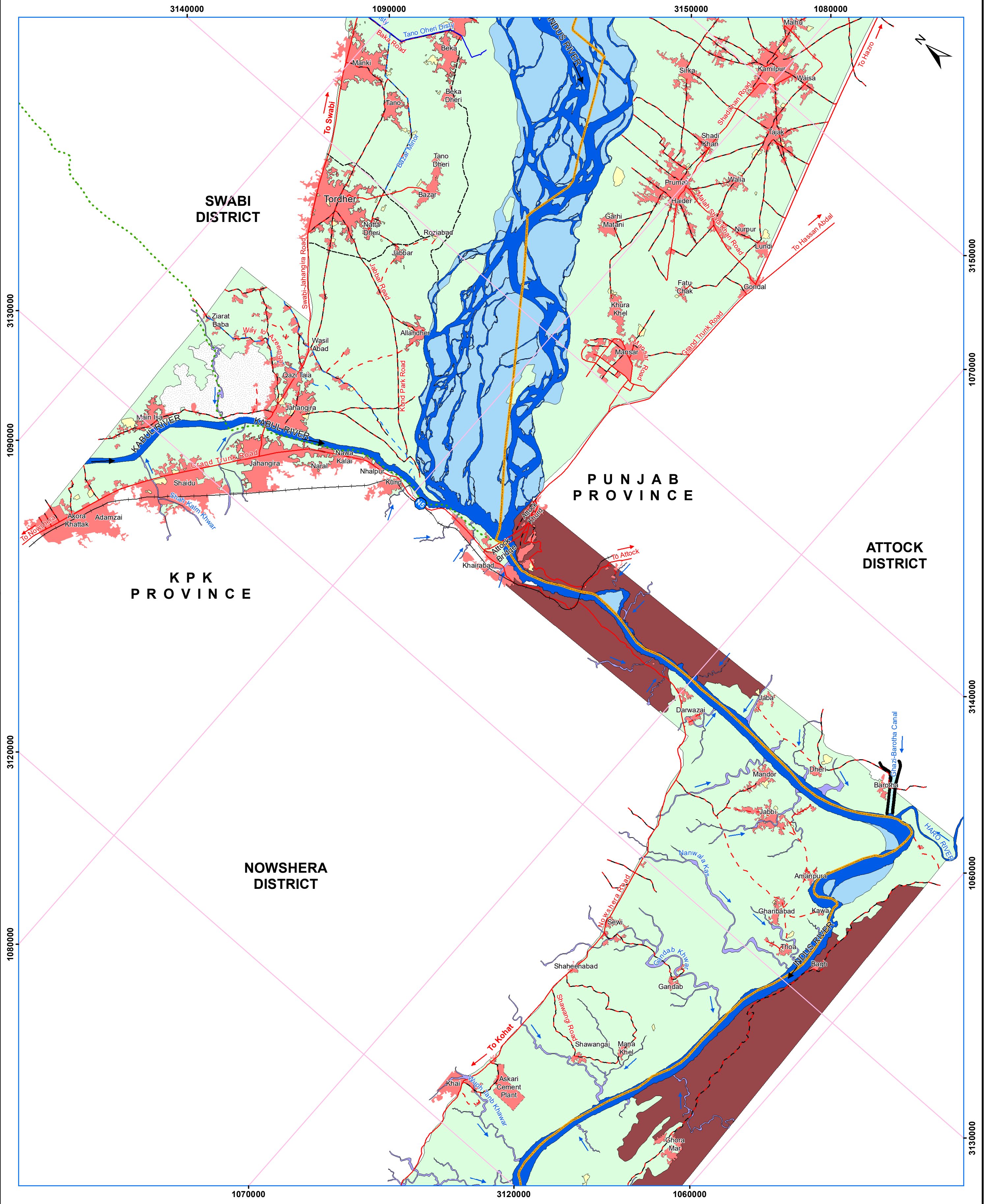
- High Risk Zone (Inundation Extent corresponding to discharge from 375,000 to 480,000 cusecs in Tarbela-Kalabagh reach)
- Medium Risk Zone (Inundation Extent corresponding to discharge from 480,000 to 600,000 cusecs in Tarbela-Kalabagh reach)
- Low Risk Zone (Inundation Extent corresponding to discharge from 600,000 to 770,000 cusecs in Tarbela-Kalabagh reach)

**LEGEND**

**(Inundation extent corresponding to Provincial Irrigation Department's Flood Limit)**

- Medium Flood Extent corresponding to discharge upto 375,000 cusecs in Tarbela-Kalabagh reach

Note: All flood extents are based on breachless conditions



Scale 1: 75,000

**LEGEND**

	National Highway		Barren Area
	Canal		Bund / Spur
	Un-metalled Road		Cultivated Area
	Track		Flood Plain
	Railway Line		Grass
	Branch		Graveyard
	Drain		Hill
	Distributary		Main/Link Canal, Escape, Spillway
	Minor		Motorway
	Nallah		Mud
	Wah		Nallah (Perennial)
	District Boundary		Nallah (Non Perennial)
	Provincial Boundary		Orchard
	International Boundary		Planned Urban Area
			Range Forest
			River
			Sand Dunes
			Town/Village/Settlement
			Water Body

DEVELOPMENT OF NATIONAL FLOOD PROTECTION PLAN-IV (NFPP-IV) AND RELATED STUDIES TO ENHANCE THE CAPACITY OF FEDERAL FLOOD COMMISSION-FFC

**LANDUSE MAP**

INDUS RIVER

GOVERNMENT OF PAKISTAN  
MINISTRY OF WATER AND POWER  
PROJECT MANAGEMENT & POLICY IMPLEMENTATION UNIT (PMPIU)  
WATER SECTOR CAPACITY BUILDING AND ADVISORY SERVICES PROJECT (WCAP)

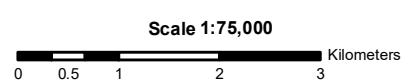
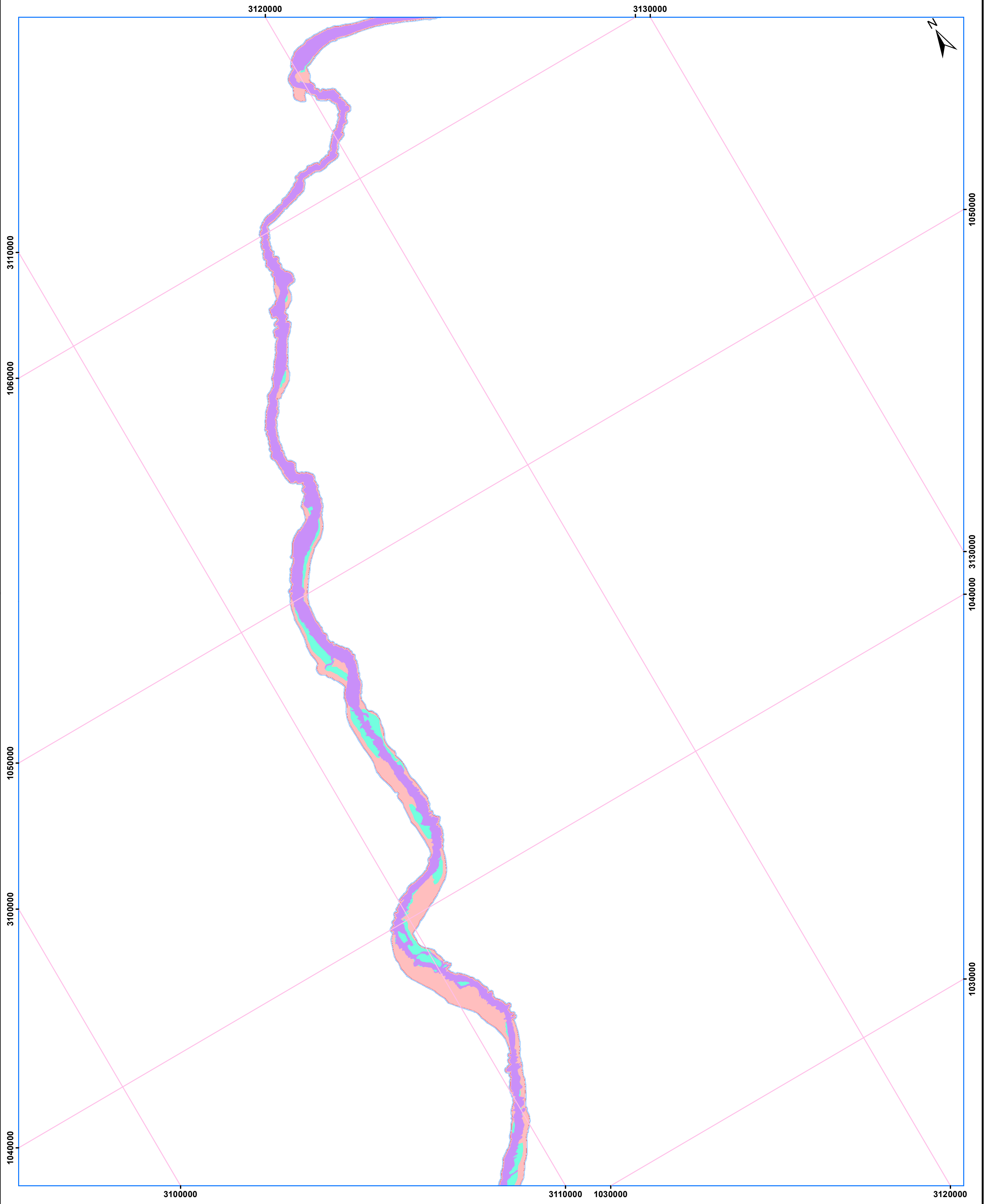
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**NATIONAL ENGINEERING SERVICES PAKISTAN (PVT) LIMITED**  
1-C, Block-N, Model Town Extension,  
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**Deltares DELTARES, THE NETHERLANDS**

Source of Information:  
1. Topographic sheets of Survey of Pakistan  
2. Freely available satellite imagery  
3. FPSP-II GIS data  
4. Shuttle Radar Topographic Mission Data (Resolution:90 m)  
5. Survey data of Flood protection embankments and structures

Coordinate System  
PROJECTION: Lambert Conformal Conic (LMPAK-I),  
DATUM: WGS84  
Grid Reference is in meters

Date: 29 Jan, 2016 By Safder Hussain  
Note: The Inventory of structures is shown at the end of this folder.



**LEGEND**

**(Flood Risk Zones)**

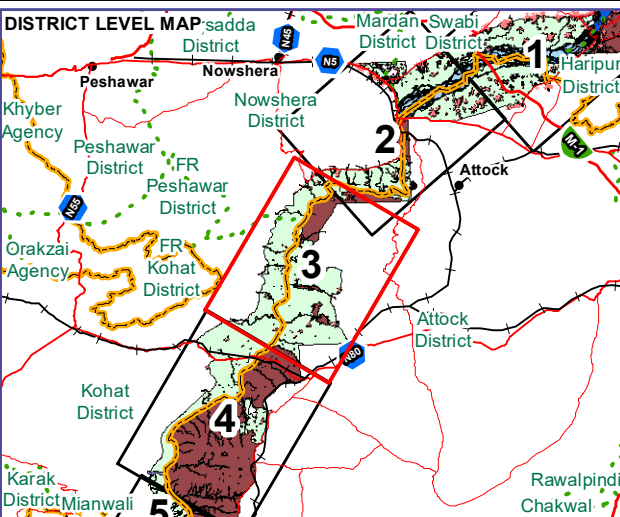
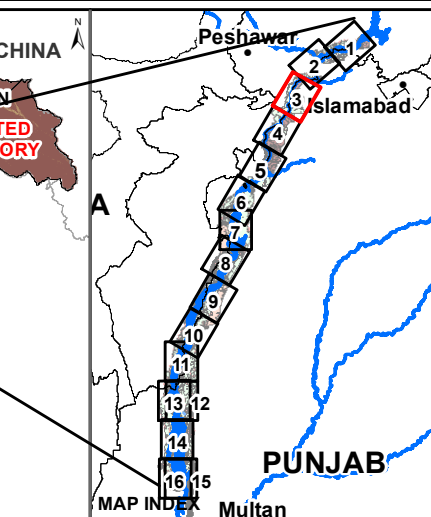
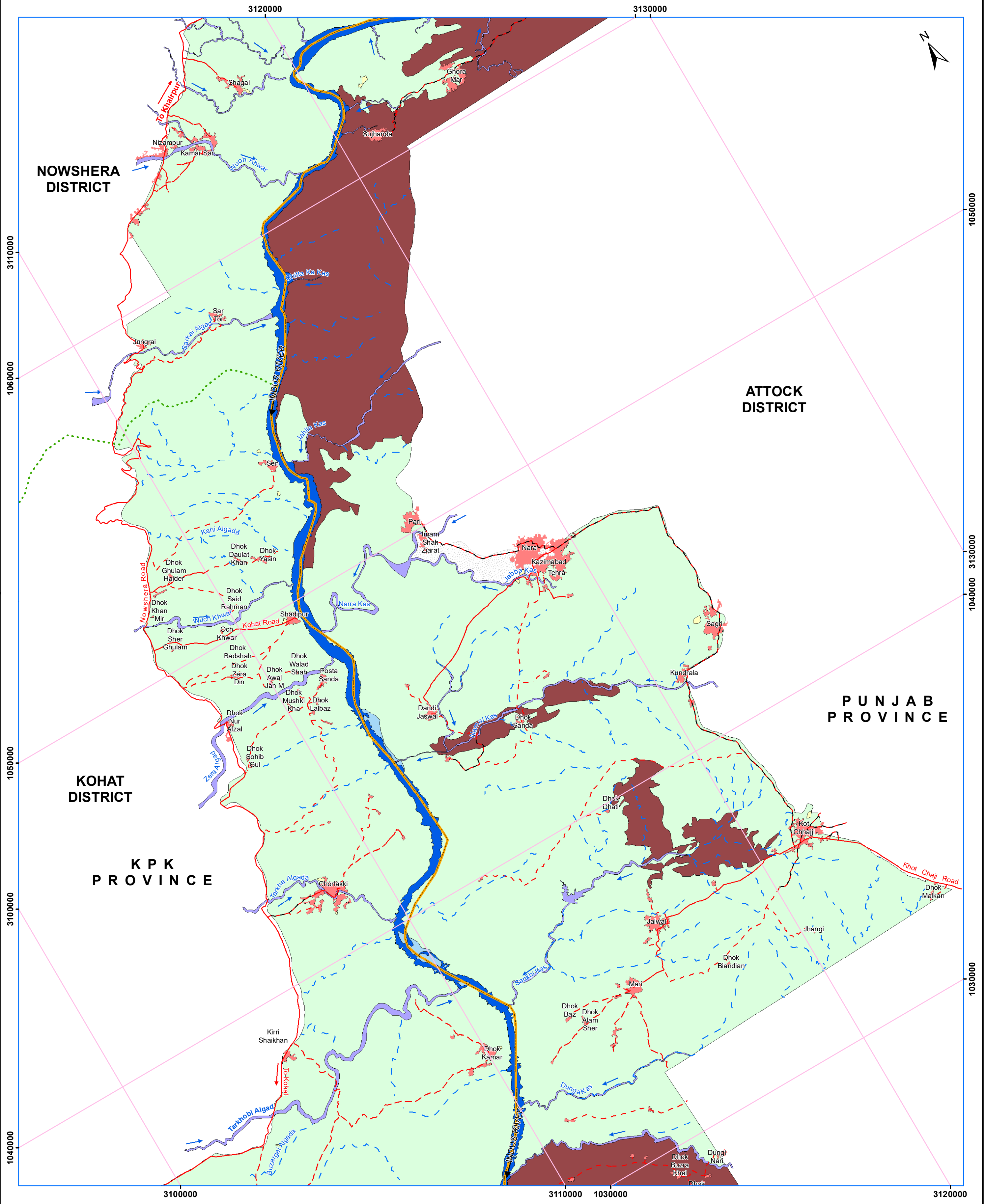
- High Risk Zone (Inundation Extent corresponding to discharge from 480,000 to 557,000 cusecs in Tarbela-Kalabagh reach)
- Medium Risk Zone (Inundation Extent corresponding to discharge from 557,000 to 673,000 cusecs in Tarbela-Kalabagh reach)
- Low Risk Zone (Inundation Extent corresponding to discharge from 673,000 to 755,000 cusecs in Tarbela-Kalabagh reach)

**LEGEND**

**(Inundation extent corresponding to Provincial Irrigation Department's Flood Limit)**

- Medium Flood Extent corresponding to discharge upto 375,000 cusecs in Tarbela-Kalabagh reach

Note: All flood extents are based on breachless conditions



Scale 1:75,000

LEGEND	
	National Highway
	Metalled Road
	Un-metalled Road
	Track
	Railway Line
	Canal
	Branch
	Drain
	Distributary
	Minor
	Nallah
	Wah
	District Boundary
	Provincial Boundary
	International Boundary
	Barren Area
	Bund / Spur
	Cultivated Area
	Flood Plain
	Grass
	Graveyard
	Hill
	Main/Link Canal, Escape, Spillway
	Motorway
	Mud
	Nallah (Perennial)
	Nallah (Non Perennial)
	Orchard
	Planned Urban Area
	Range Forest
	River
	Sand Dunes
	Town/Village/Settlement
	Water Body

DEVELOPMENT OF NATIONAL FLOOD PROTECTION PLAN-IV (NFPP-IV) AND RELATED STUDIES TO ENHANCE THE CAPACITY OF FEDERAL FLOOD COMMISSION-FFC

**LANDUSE MAP**

GOVERNMENT OF PAKISTAN  
 MINISTRY OF WATER AND POWER  
 PROJECT MANAGEMENT & POLICY IMPLEMENTATION UNIT (PMPIU)  
 WATER SECTOR CAPACITY BUILDING AND ADVISORY SERVICES PROJECT (WCAP)

Consultants:  
 NATIONAL ENGINEERING SERVICES PAKISTAN (PVT) LIMITED  
 1-C, Block-N, Model Town Extension,  
 Lahore - Pakistan.

in association with  
**Deltares** DELTARES, THE NETHERLANDS

Source of Information:  
 1. Topographic sheets of Survey of Pakistan  
 2. Freely available satellite imagery  
 3. FPSP-II GIS data  
 4. Shuttle Radar Topographic Mission Data (Resolution:90 m)  
 5. Survey data of Flood protection embankments and structures

Coordinate System  
 PROJECTION: Lambert Conformal Conic (LMPAC-I),  
 DATUM: WGS84  
 Grid Reference is in meters

Date: 29 Jan, 2016 By Safder Hussain  
 Note: The Inventory of structures is shown at the end of this folder.

# Inundation Depth of Settlements in District Nowshera

## Upper Indus River - Sheet No. 2

Sr. No.	Settlement Name	Zone*	District	Inundation Depth at Discharge of 375,000 Cusec below Tarbela		Inundation Depth at Discharge of 480,000 Cusec below Tarbela		Inundation Depth at Discharge of 600,000 Cusec below Tarbela		Inundation Depth at Discharge of 770,000 Cusec below Tarbela	
				Min (m)	Max (m)	Min (m)	Max (m)	Min (m)	Max (m)	Min (m)	Max (m)
1	Amanpura	L	Nowshera	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.10

## Kabul River - Sheet No. 1

Sr. No.	Settlement Name	Zone*	District	Inundation Depth at Discharge of 62,083 Cusec below Warsak Dam		Inundation Depth at Discharge of 110,323 Cusec below Warsak Dam		Inundation Depth at Discharge of 127,627 Cusec below Warsak Dam	
				Min (m)	Max (m)	Min (m)	Max (m)	Min (m)	Max (m)
1	2 Settlements nesarby Mamin Garhi	L	Nowshera	0.00	0.00	0.00	0.00	0.78	1.30
2	3 Settlements nesarby Jabbu	L	Nowshera	0.00	0.00	0.00	0.00	1.17	1.45

## Kabul River - Sheet No. 2

Sr. No.	Settlement Name	Zone*	District	Inundation Depth at Discharge of 62,083 Cusec below Warsak Dam		Inundation Depth at Discharge of 110,323 Cusec below Warsak Dam		Inundation Depth at Discharge of 127,627 Cusec below Warsak Dam	
				Min (m)	Max (m)	Min (m)	Max (m)	Min (m)	Max (m)
1	19 Settlements nesarby Kandare	H,M,L	Nowshera	0.71	2.35	0.88	3.55	1.25	4.01
2	2 Settlements nesarby Nowshera Sadar	H,M,L	Nowshera	0.52	3.25	0.60	3.26	1.73	3.70
3	3 Settlements nesarby Dheri Katti Khel	H,M,L	Nowshera	0.92	2.84	1.06	3.09	1.91	3.56
4	3 Settlements nesarby Khat Kalay	H,M,L	Nowshera	0.08	2.58	0.46	3.56	1.80	4.00
5	3 Settlements nesarby Mian Kalle	H,M,L	Nowshera	0.70	2.92	1.66	3.87	2.43	4.31
6	5 Settlements nesarby Asgharabad	H,M,L	Nowshera	0.07	2.89	0.49	3.85	1.75	4.29
7	6 Settlements nesarby Khushhal Kot	H,M,L	Nowshera	0.03	1.99	1.97	2.94	2.41	3.38
8	7 Settlements nesarby Gandain	H,M,L	Nowshera	0.06	2.41	0.49	3.43	2.00	3.87
9	7 Settlements nesarby Pir Sabak	H,M,L	Nowshera	0.29	3.21	0.98	3.42	1.75	3.88
10	8 Settlements nesarby Ismail Khel	H,M,L	Nowshera	1.58	2.68	2.88	2.97	3.36	3.44
11	9 Settlements nesarby Hamid Ullah Shah Village	H,M,L	Nowshera	0.07	3.28	0.17	3.48	1.15	3.93
12	Aman Garh	H,M,L	Nowshera	0.09	2.08	0.69	3.01	0.71	3.44
13	Hakim Abad	H,M,L	Nowshera	0.08	3.33	0.88	3.53	1.86	3.99
14	Kheshgi Payan	H,M,L	Nowshera	0.04	2.26	0.60	3.10	1.38	3.53
15	Nowshera and nearby 4 Settlements	H,M,L	Nowshera	0.08	2.83	0.81	3.04	1.25	3.82
16	Nowshera Cantt.	H,M,L	Nowshera	0.09	3.34	0.53	3.55	0.68	4.01
17	Pashun Ghari and nearby 14 Settlements	H,M,L	Nowshera	2.01	2.04	2.62	2.64	3.00	3.02
18	Pirpai and nearby 8 Settlements	H,M,L	Nowshera	0.09	2.49	0.17	3.25	0.55	3.66
19	Pole Baba and nearby 8 Settlements	H,M,L	Nowshera	0.75	1.75	1.43	2.43	1.83	2.83
20	Sai Mandi	H,M,L	Nowshera	0.20	2.02	0.46	3.10	0.87	3.55
21	Zara Miana and nearby 4 Settlements	H,M,L	Nowshera	0.01	3.11	0.49	3.44	0.70	3.92
22	10 Settlements nesarby Muhib Banda	M,L	Nowshera	0.00	0.00	0.37	1.73	1.40	2.00
23	8 Settlements nesarby Banda Shaikh Ismail	M,L	Nowshera	0.00	0.00	0.05	1.75	1.91	1.97
24	9 Settlements nesarby Tunlandi	M,L	Nowshera	0.00	0.00	0.90	1.74	1.80	2.26
25	Army Farm House	M,L	Nowshera	0.00	0.00	0.68	1.96	1.40	2.40
26	Bara Banda	M,L	Nowshera	0.00	0.00	0.50	1.50	1.25	1.95
27	Camp Koruna and nearby 14 Settlements	M,L	Nowshera	0.00	0.00	1.20	2.67	1.46	2.90
28	Chauki Drab and nearby 32 Settlements	M,L	Nowshera	0.00	0.00	0.31	1.93	0.86	2.29
29	Dheri Mian Ishaq and nearby 18 Settlements	M,L	Nowshera	0.00	0.00	1.25	1.76	1.56	2.03
30	Wattar and nearby 4 Settlements	M,L	Nowshera	0.00	0.00	0.33	1.18	0.76	1.68
31	2 Settlements nesarby Banda Malla Khan	L	Nowshera	0.00	0.00	0.00	0.00	0.52	0.94
32	2 Settlements nesarby Suria Khel	L	Nowshera	0.00	0.00	0.00	0.00	0.22	1.03
33	3 Settlements nesarby Kuhna Zokhai	L	Nowshera	0.00	0.00	0.00	0.00	0.62	1.15
34	4 Settlements nesarby Sis Mandi	L	Nowshera	0.00	0.00	0.00	0.00	0.25	1.16
35	Amankot and nearby 7 Settlements	L	Nowshera	0.00	0.00	0.00	0.00	0.08	0.85
36	Karai	L	Nowshera	0.00	0.00	0.00	0.00	0.05	0.39
37	Khali Rokhan Jomat	L	Nowshera	0.00	0.00	0.00	0.00	0.06	0.55
38	Kheshgi	L	Nowshera	0.00	0.00	0.00	0.00	0.29	0.79
39	Kudwi and nearby 16 Settlements	L	Nowshera	0.00	0.00	0.00	0.00	0.10	1.33
40	Machine Korune	L	Nowshera	0.00	0.00	0.00	0.00	0.80	0.81
41	Risalpur Cantonment	L	Nowshera	0.00	0.00	0.00	0.00	0.09	0.26

## Kabul River - Sheet No. 3

Sr. No.	Settlement Name	Zone*	District	Inundation Depth at Discharge of 133,560 Cusec below Nowshera		Inundation Depth at Discharge of 178,657 Cusec below Nowshera		Inundation Depth at Discharge of 197,232 Cusec below Nowshera	
				Min (m)	Max (m)	Min (m)	Max (m)	Min (m)	Max (m)
1	2 Settlements nesarby Akora Khattak	H,M,L	Nowshera	0.07	2.35	0.14	2.83	0.68	3.34
2	2 Settlements nesarby Jehangira	H,M,L	Nowshera	0.06	3.14	0.34	3.48	0.50	3.98
3	4 Settlements nesarby Kund	H,M,L	Nowshera	0.07	3.29	0.89	3.90	1.28	4.11
4	Mishak and nearby 8 Settlements	H,M,L	Nowshera	0.08	2.71	0.36	3.16	0.83	3.65
5	Misri Banda and nearby 12 Settlements	H,M,L	Nowshera	0.37	2.48	0.85	2.97	1.35	3.48
6	2 Settlements nesarby Adam Zai	M,L	Nowshera	0.00	0.00	0.06	0.16	0.76	1.75
7	3 Settlements nesarby Isori Kuz	M,L	Nowshera	0.00	0.00	0.34	1.01	0.60	1.52
8	Mian Isa and nearby 8 Settlements	M,L	Nowshera	0.00	0.00	0.78	1.15	1.38	1.74
9	3 Settlements nesarby Mughalkai	L	Nowshera	0.00	0.00	0.00	0.00	0.00	0.16
10	Shaidu	L	Nowshera	0.00	0.00	0.00	0.00	0.00	0.46

### Zone\*

VH= Inundation Extent Corresponding to PID Medium flood limit

H= High Risk Inundation Zone corresponds to 5 yr return period flood

M= Medium Risk Inundation Zone corresponds to 15 yr return period flood

L= Low Risk Inundation Zone corresponds to 50 yr return period flood