



**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**

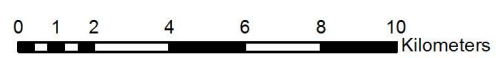
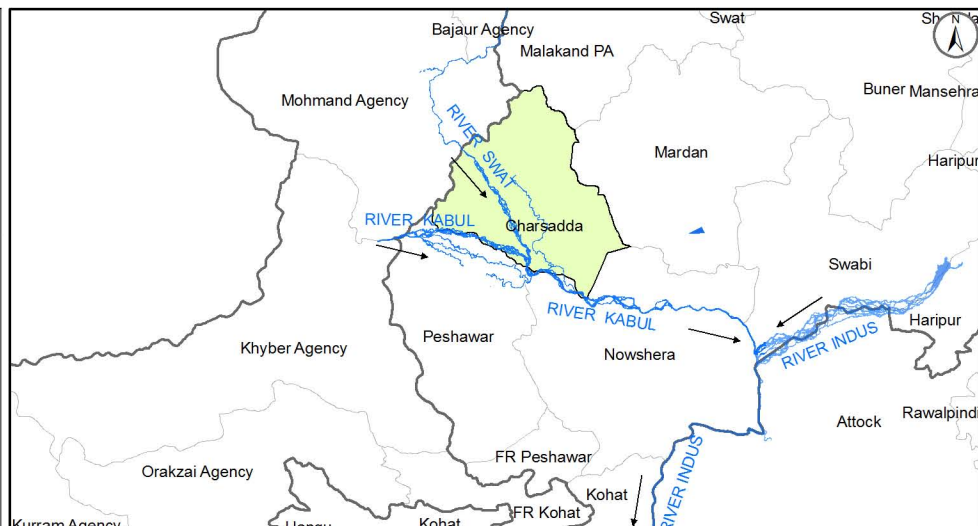
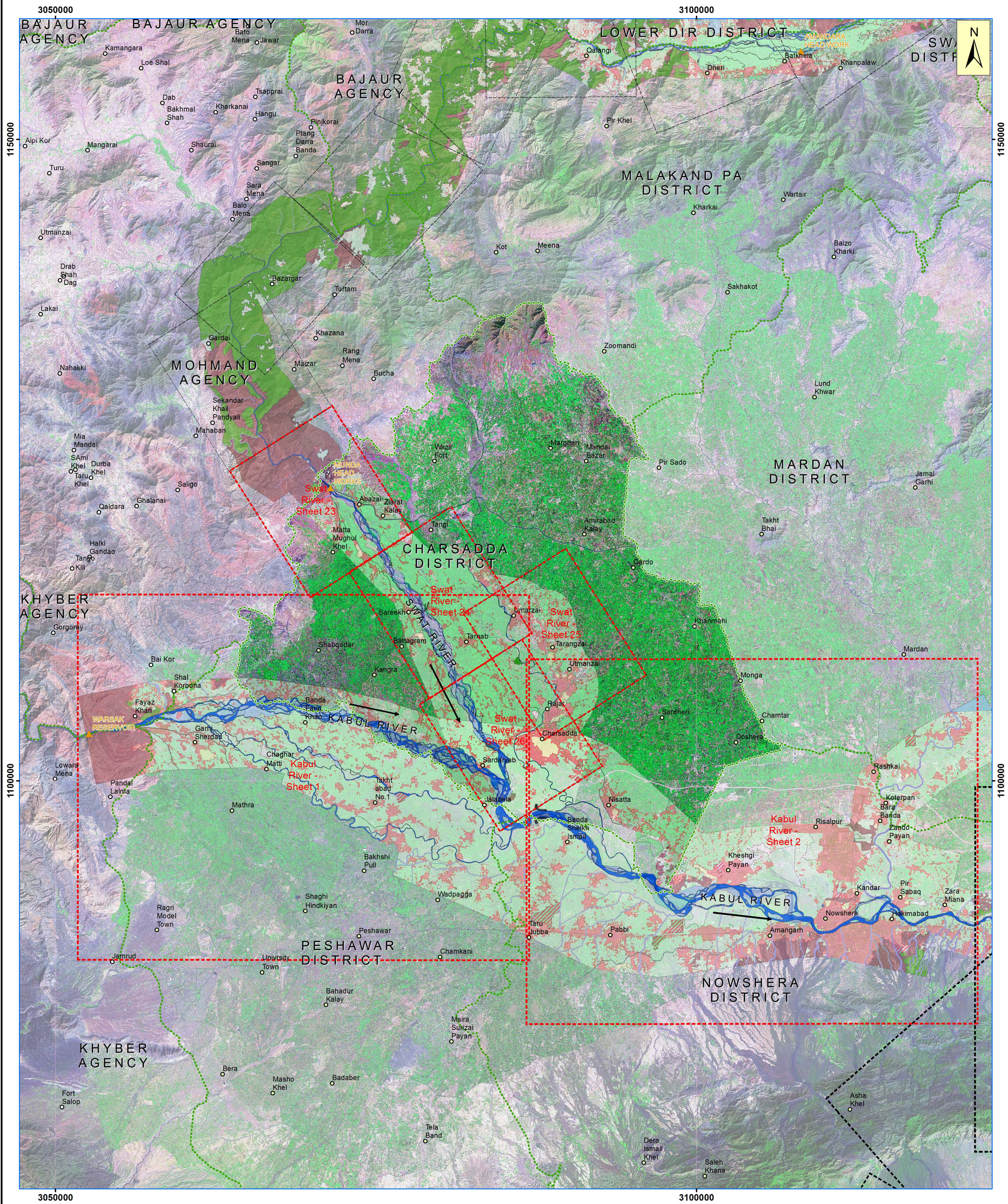
**LANDUSE AND  
DISTRICT LEVEL SUBMERGENCE PLANS**

**DISTRICT CHARSADDA  
KHYBER PAKHTUNKHWA PROVINCE**

**JUNE 2015**



# CHARSADDA DISTRICT



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

**CHARSADDA DISTRICT**

Client :  
FEDERAL FLOOD COMMISSION  
Ministry of Water & Power

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

*in association with*


**DELTA**RES, THE NETHERLANDS  
 Enabling Delta Life

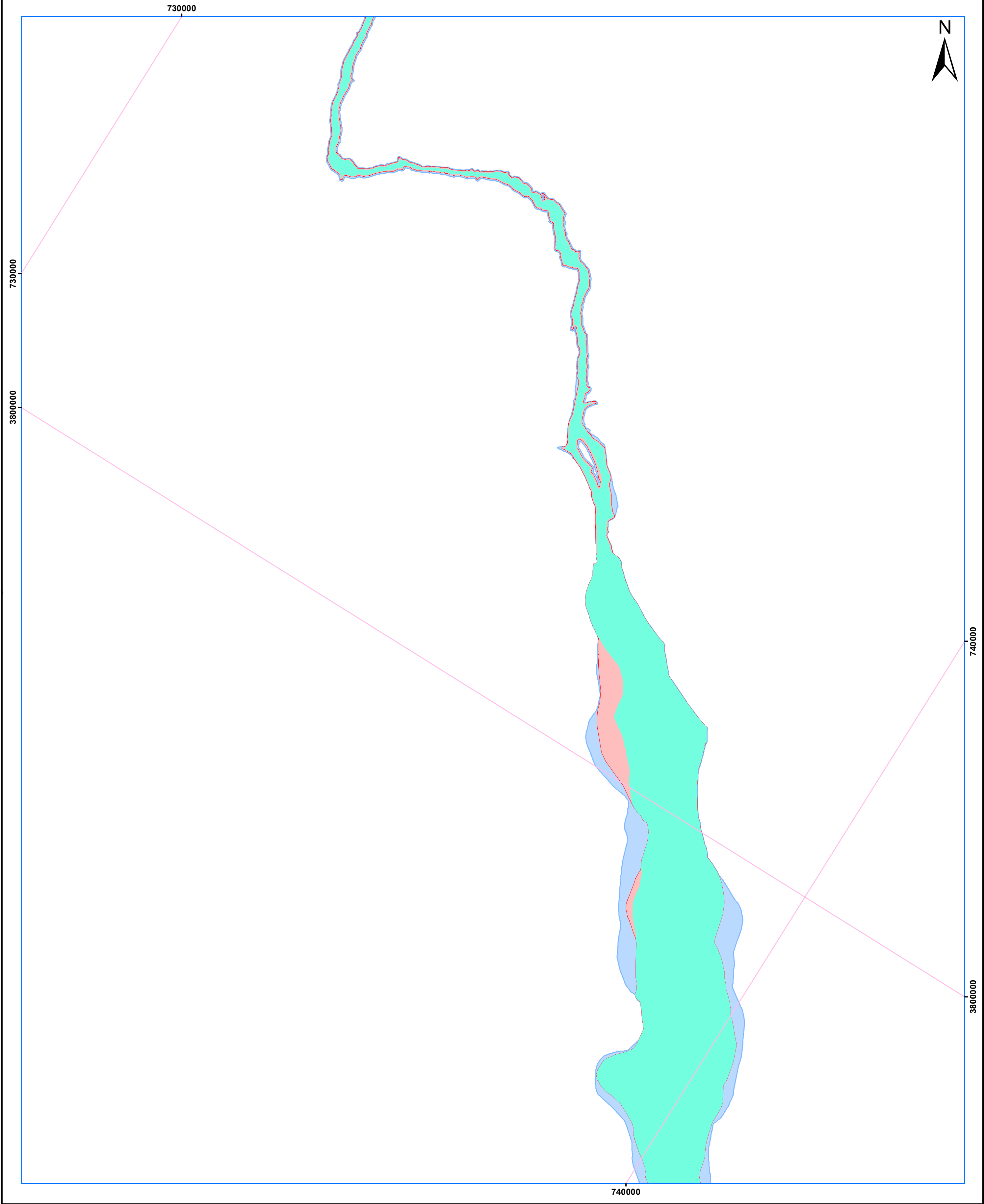
| Rev. | Date: | Description | Ckd. | Ver. |
|------|-------|-------------|------|------|
|      |       |             |      |      |
|      |       |             |      |      |
|      |       |             |      |      |
|      |       |             |      |      |

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

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

Date: June 30, 2015



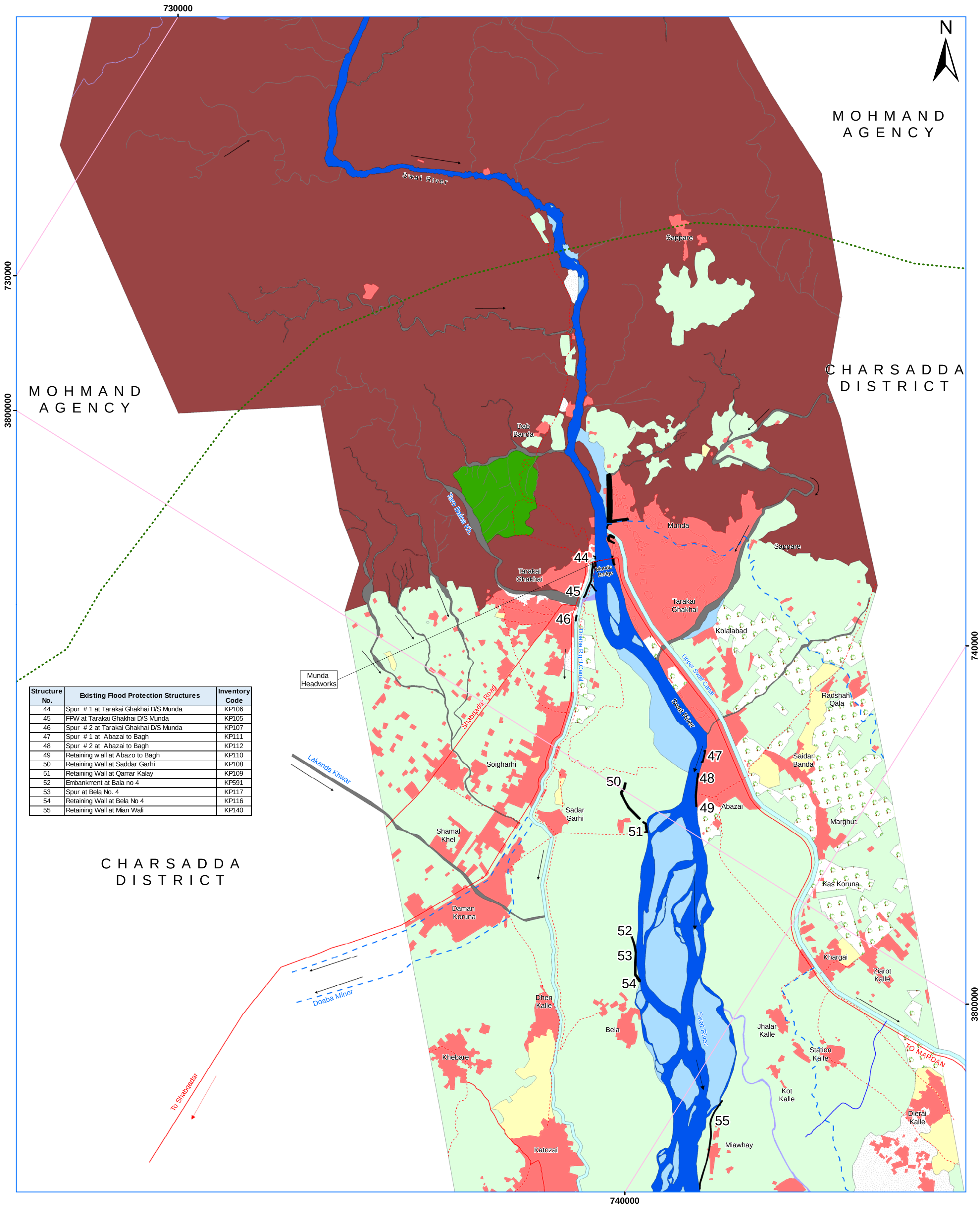


Scale 1: 25,000  
0 0.25 0.5 0.75 1 Kilometers

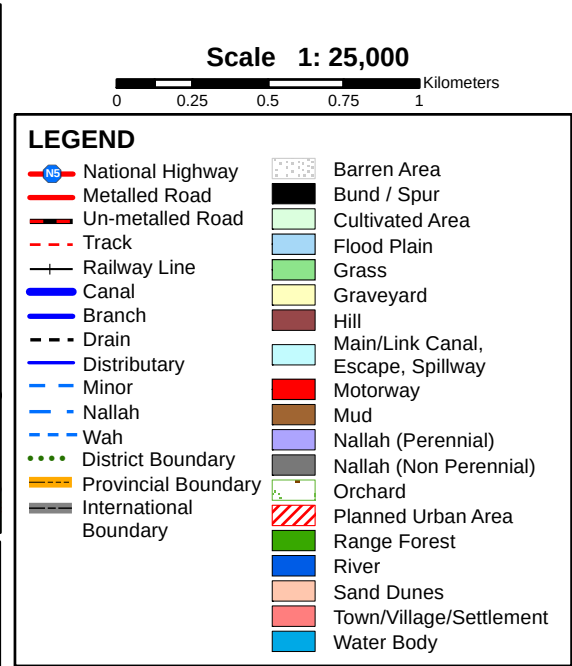
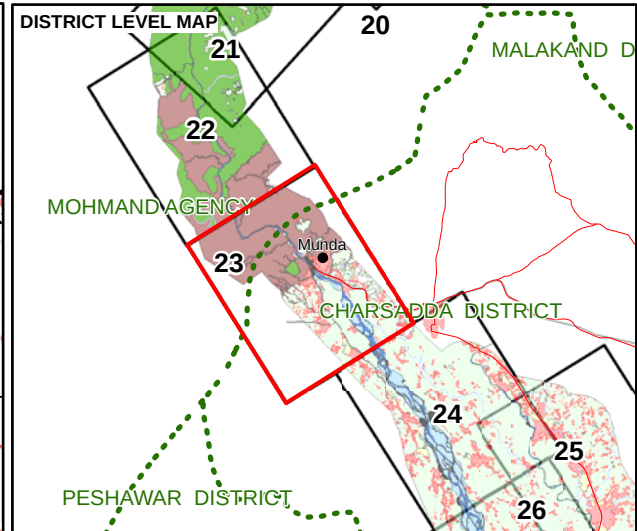
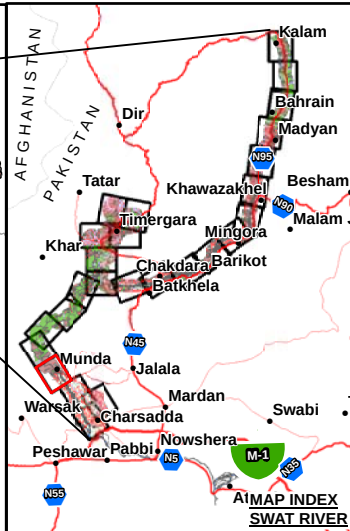
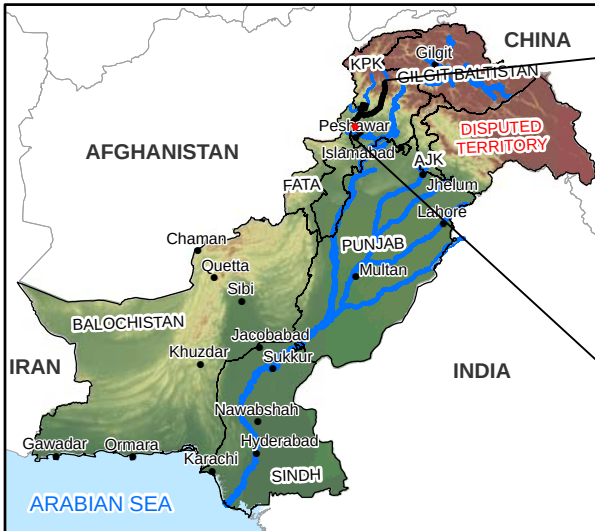
LEGEND

- High Risk Zone (Inundation Extent Corresponding to discharge of 30,194 cusecs below Chakdara)
- Medium Risk Zone (Inundation Extent Corresponding to discharge of 38,846 cusecs below Chakdara)
- Low Risk Zone (Inundation Extent Corresponding to discharge of 42,378 cusecs below Chakdara)

Note: All flood extents are based on breachless conditions



| Structure No. | Existing Flood Protection Structures  | Inventory Code |
|---------------|---------------------------------------|----------------|
| 44            | Spur # 1 at Tarakai Ghakhai D/S Munda | KP106          |
| 45            | FPW at Tarakai Ghakhai D/S Munda      | KP105          |
| 46            | Spur # 2 at Tarakai Ghakhai D/S Munda | KP107          |
| 47            | Spur # 1 at Abazai to Bagh            | KP111          |
| 48            | Spur # 2 at Abazai to Bagh            | KP112          |
| 49            | Retaining wall at Abazo to Bagh       | KP110          |
| 50            | Retaining Wall at Saddar Garhi        | KP108          |
| 51            | Retaining Wall at Qamar Kalay         | KP109          |
| 52            | Embankment at Bala no 4               | KP591          |
| 53            | Spur at Bela No. 4                    | KP117          |
| 54            | Retaining Wall at Bela No 4           | KP116          |
| 55            | Retaining Wall at Mian Wali           | KP140          |



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

**LANDUSE MAP SWAT RIVER**

Client : **FEDERAL FLOOD COMMISSION**  
Ministry of Water & Power

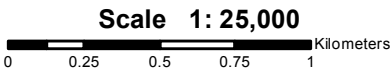
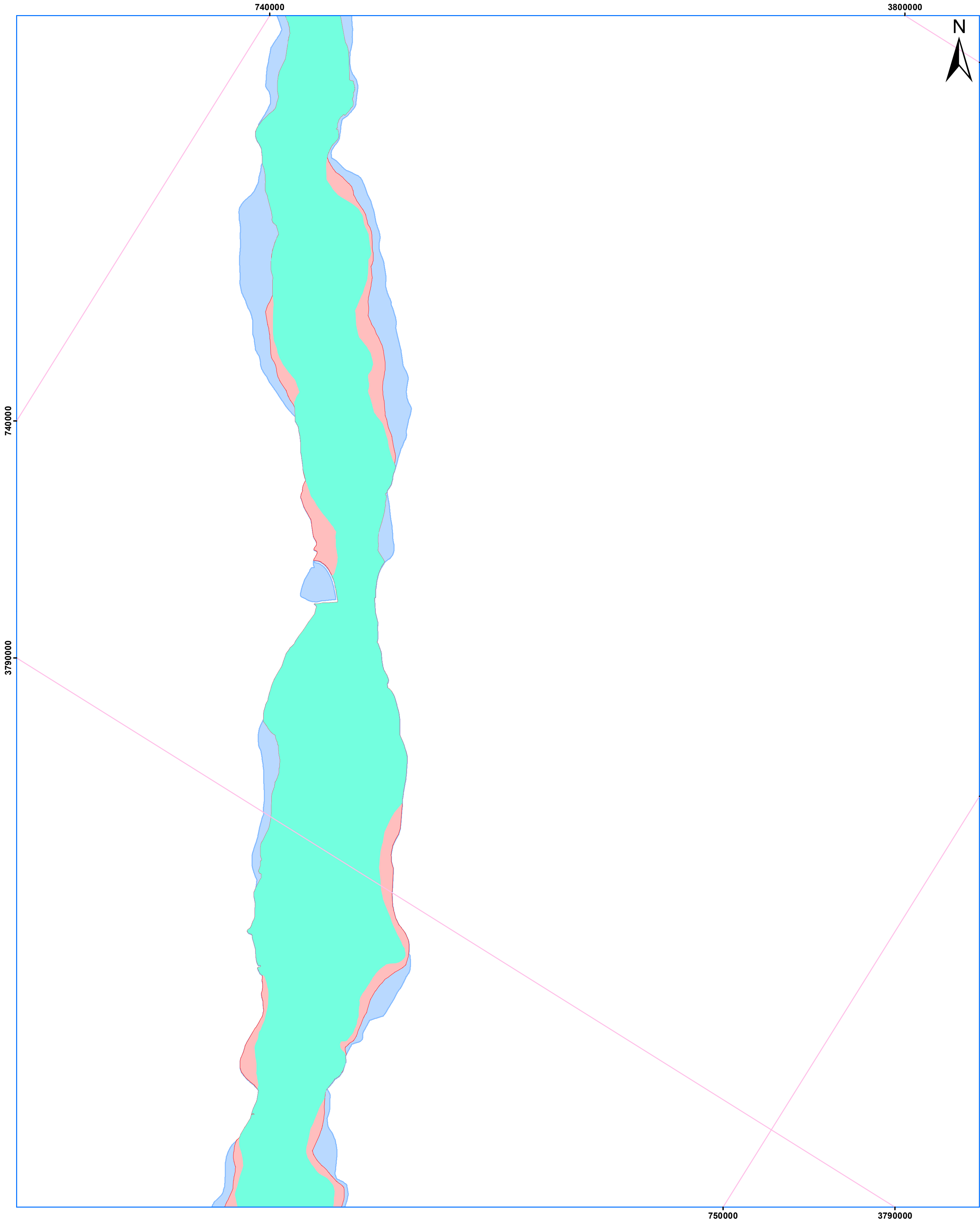
Consultants: **NATIONAL ENGINEERING SERVICES PAKISTAN (PVT) LIMITED**  
1-C , Block-N, Model Town Extension,  
Lahore - Pakistan.

in association with **DELTAES, THE NETHERLANDS**

Rev. Date: Description Ckd. Ver.

|  |  |  |  |  |
|--|--|--|--|--|
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |



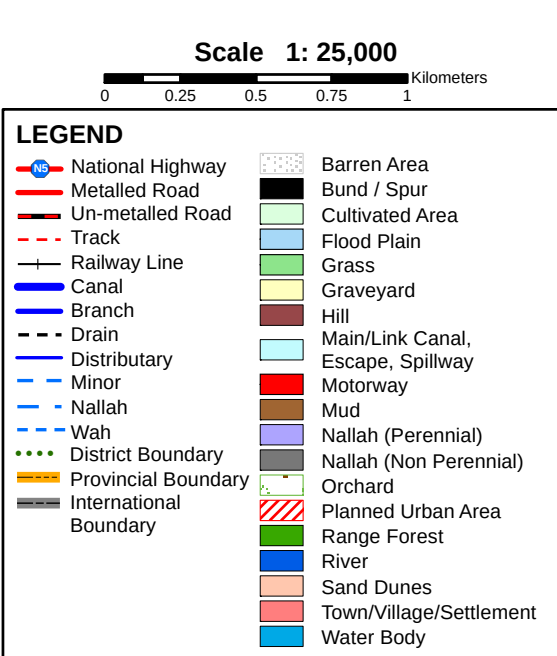
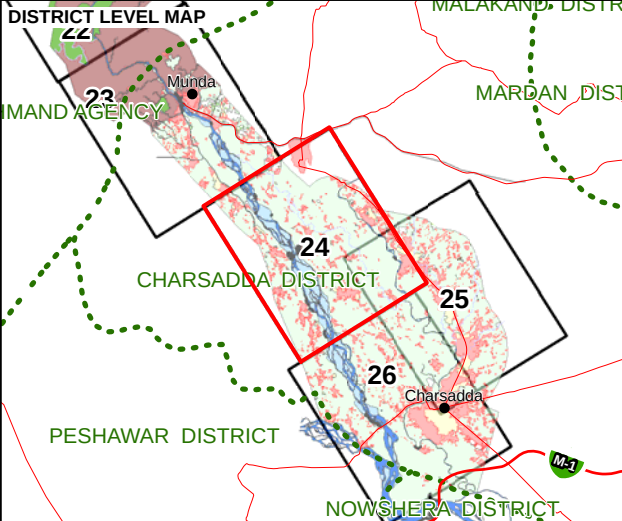
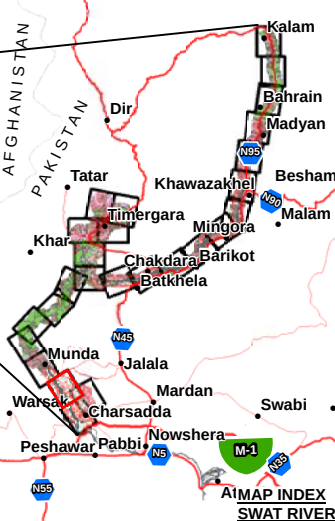
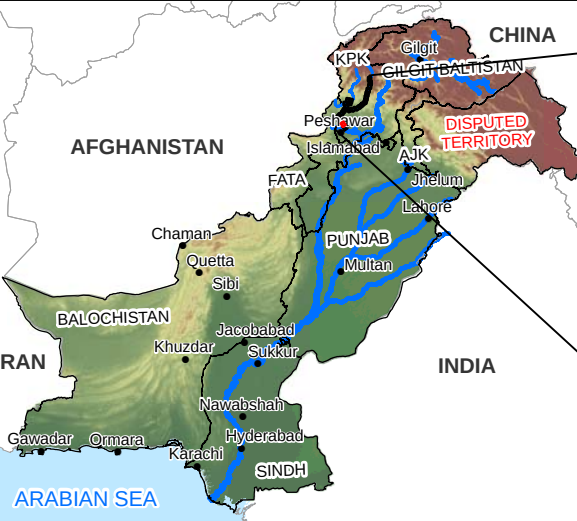
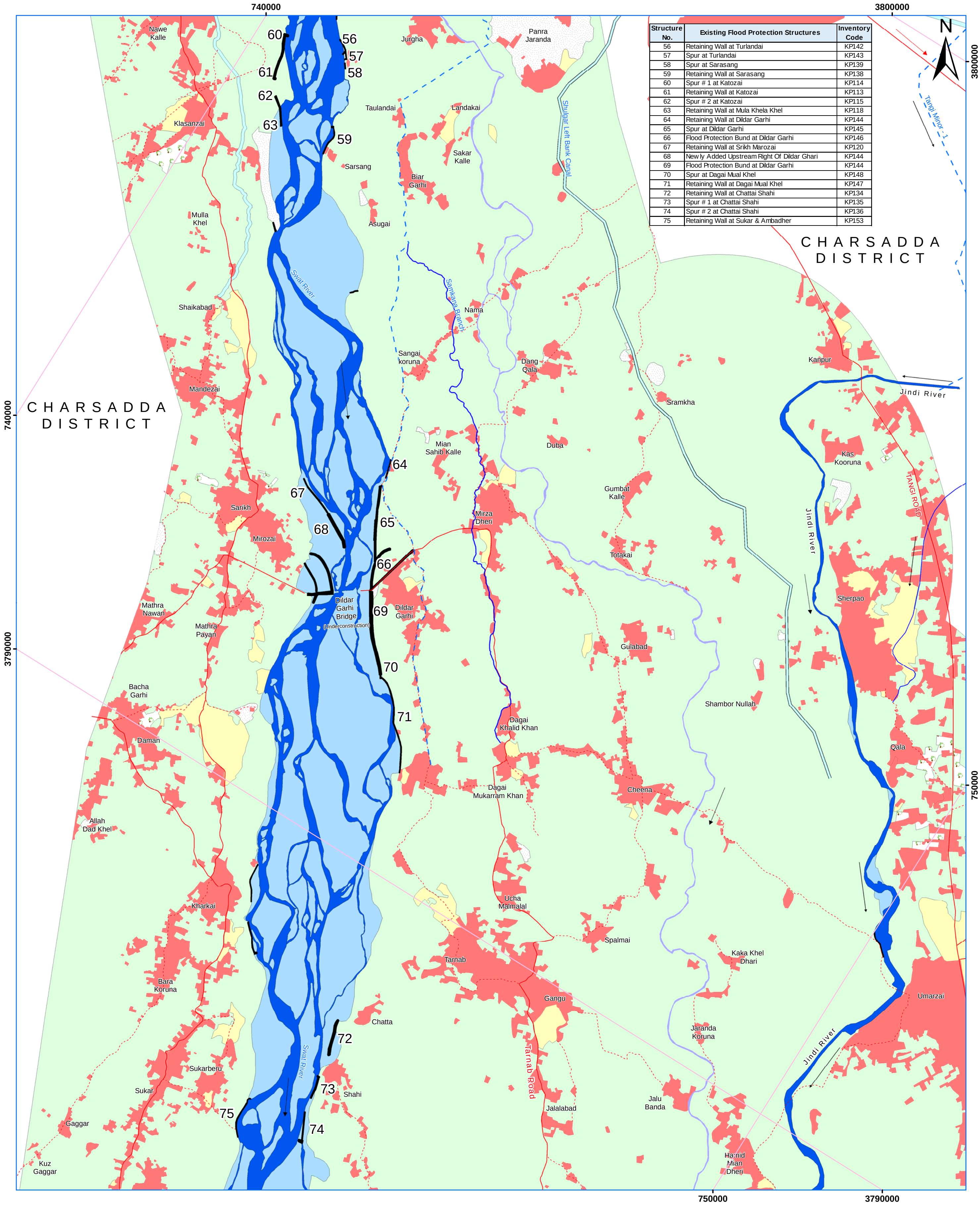


LEGEND

- High Risk Zone (Inundation Extent Corresponding to discharge of 30,194 cusecs below Chakdara)
- Medium Risk Zone (Inundation Extent Corresponding to discharge of 38,846 cusecs below Chakdara)
- Low Risk Zone (Inundation Extent Corresponding to discharge of 42,378 cusecs below Chakdara)

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 SWAT RIVER**

Client : **FEDERAL FLOOD COMMISSION**  
Ministry of Water & Power

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

in association with **DELTAES, THE NETHERLANDS**

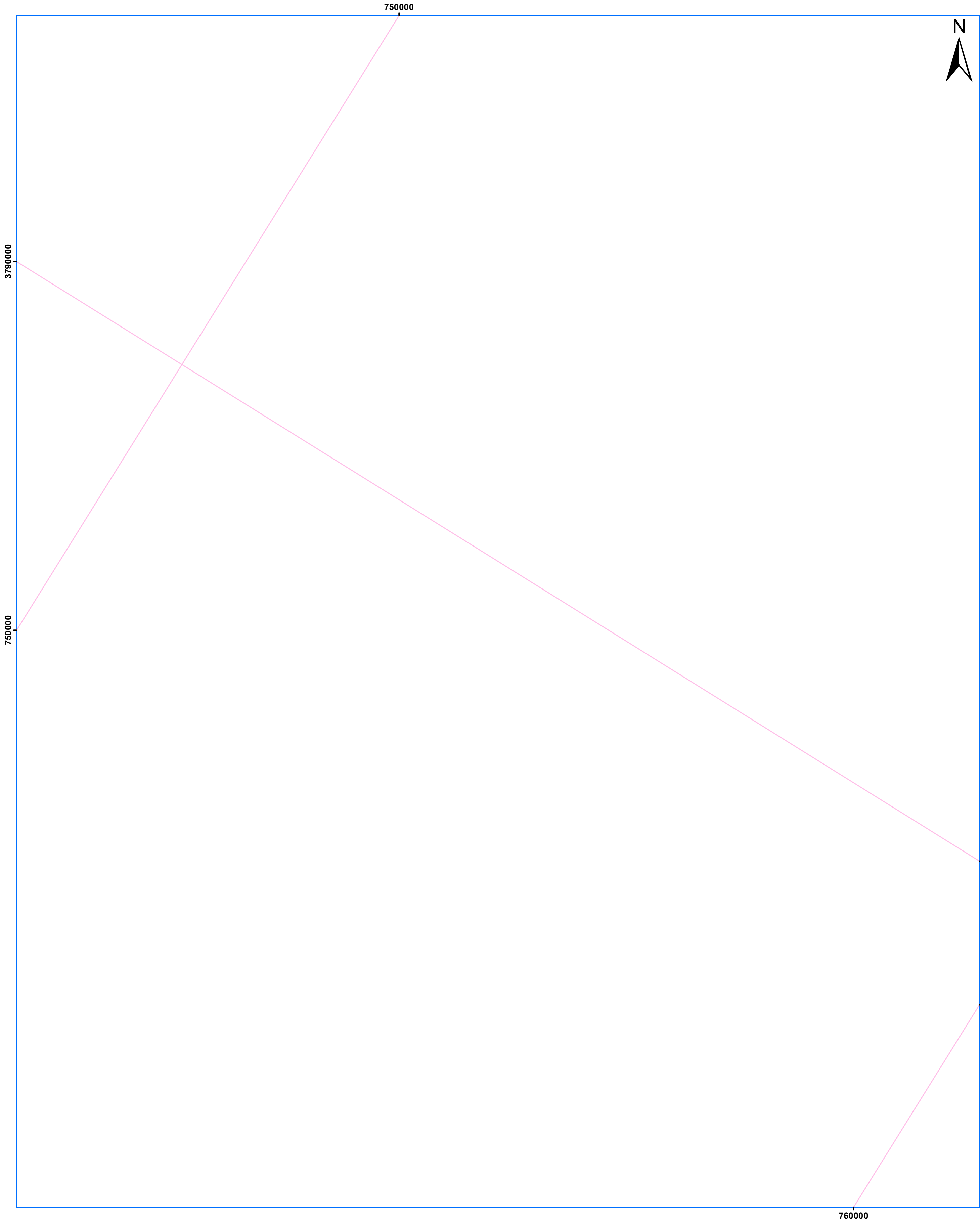
| Rev. | Date: | Description | Ckd. | Ver. |
|------|-------|-------------|------|------|
|      |       |             |      |      |
|      |       |             |      |      |
|      |       |             |      |      |
|      |       |             |      |      |

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

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

Date: May 29, 2015





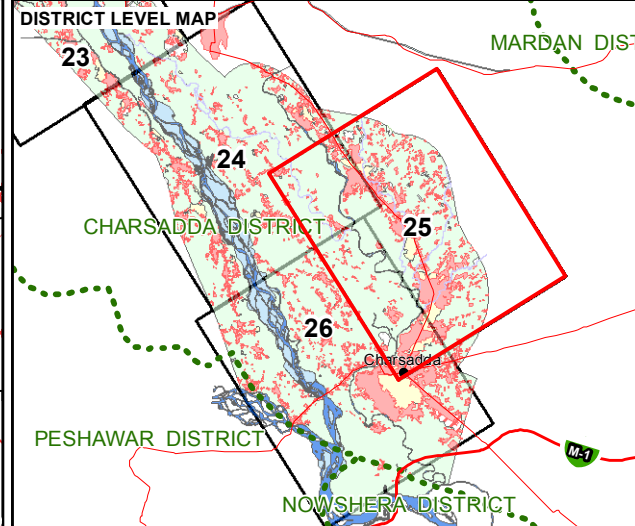
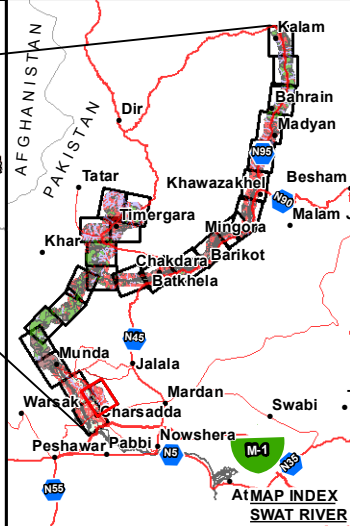
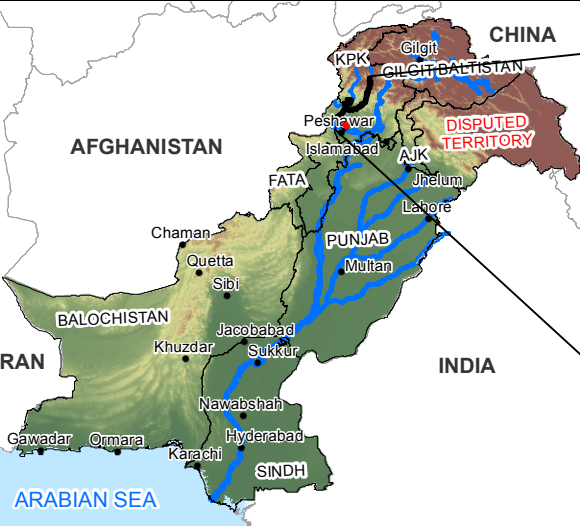
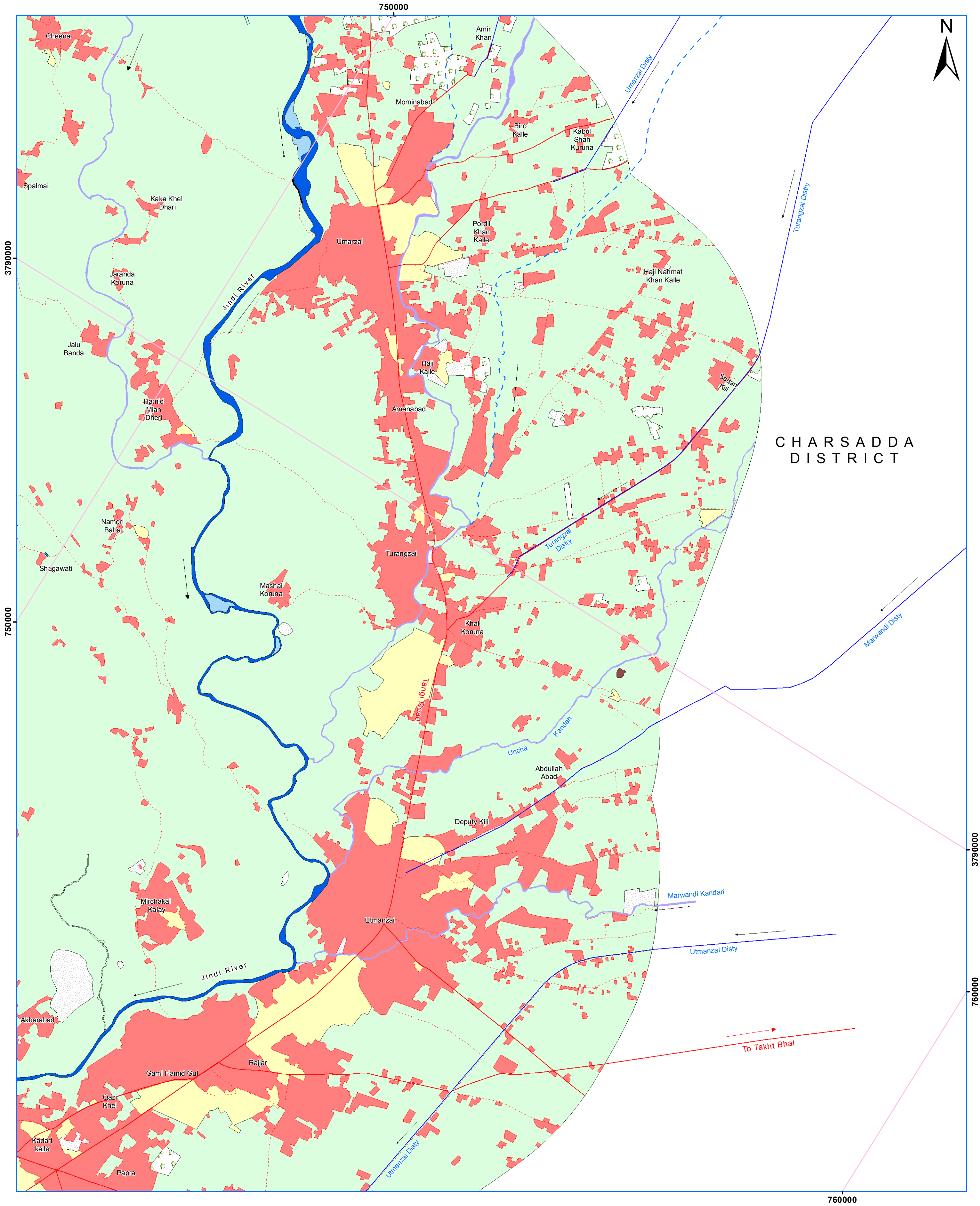
Scale 1: 25,000  
0 0.25 0.5 0.75 1 Kilometers

LEGEND

- High Risk Zone (Inundation Extent Corresponding to discharge of 30,194 cusecs below Chakdara)
- Medium Risk Zone (Inundation Extent Corresponding to discharge of 38,846 cusecs below Chakdara)
- Low Risk Zone (Inundation Extent Corresponding to discharge of 42,378 cusecs below Chakdara)

Note: All flood extents are based on breachless conditions





Scale 1: 25,000

0 0.25 0.5 0.75 1 Kilometers

**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  
SWAT RIVER**

Client :  
**FEDERAL FLOOD COMMISSION**  
Ministry of Water & Power

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

in association with  
**DELTAES, THE NETHERLANDS**

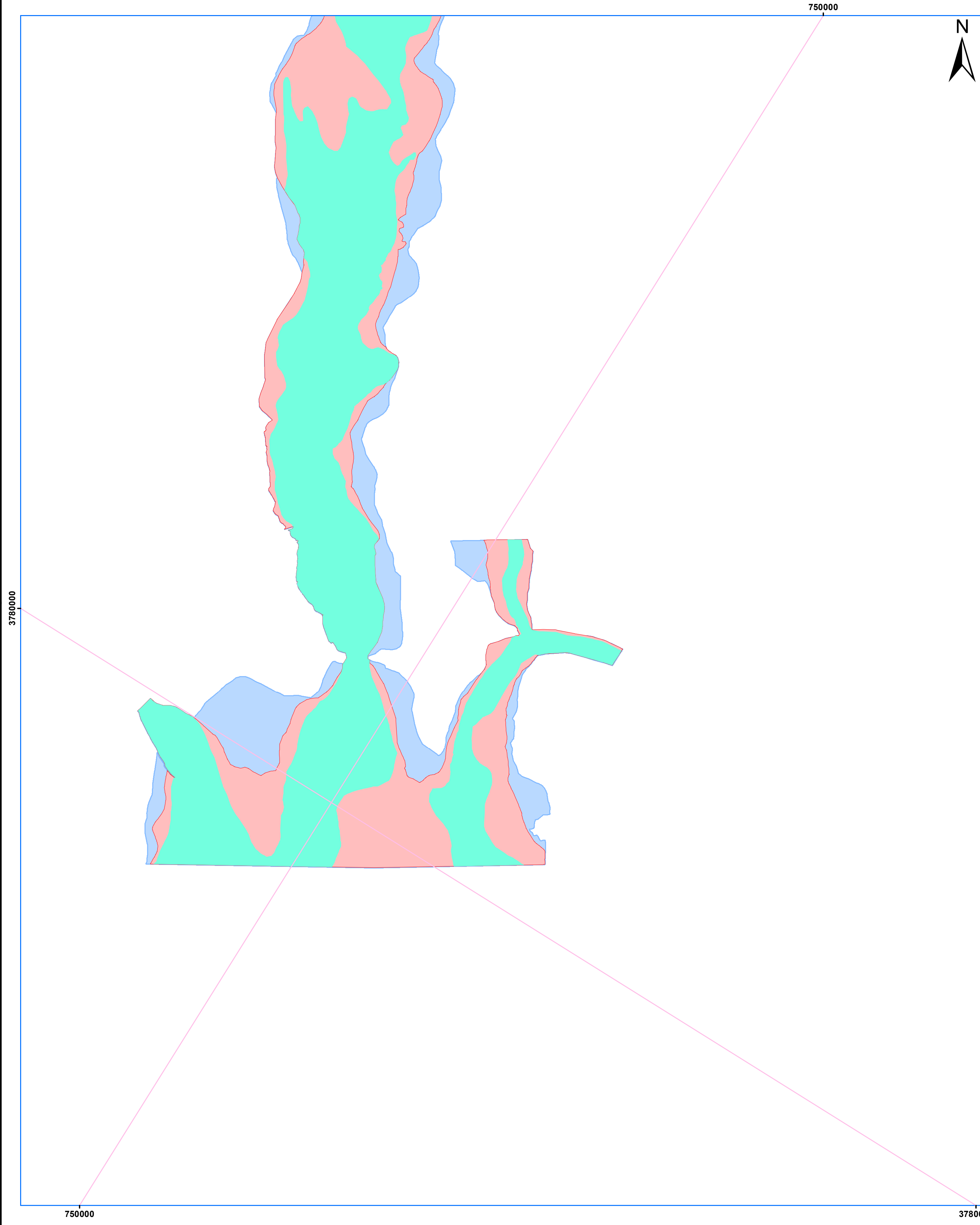
| Rev. | Date: | Description | Ckd. | Ver. |
|------|-------|-------------|------|------|
|      |       |             |      |      |
|      |       |             |      |      |
|      |       |             |      |      |
|      |       |             |      |      |
|      |       |             |      |      |

Source of Information:  
1. Topographic sheets of Survey of Pakistan  
2. Freely available satellite imagery  
3. Shuttle Radar Topographic Mission Data (Resolution:90 m)  
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: May 29, 2015



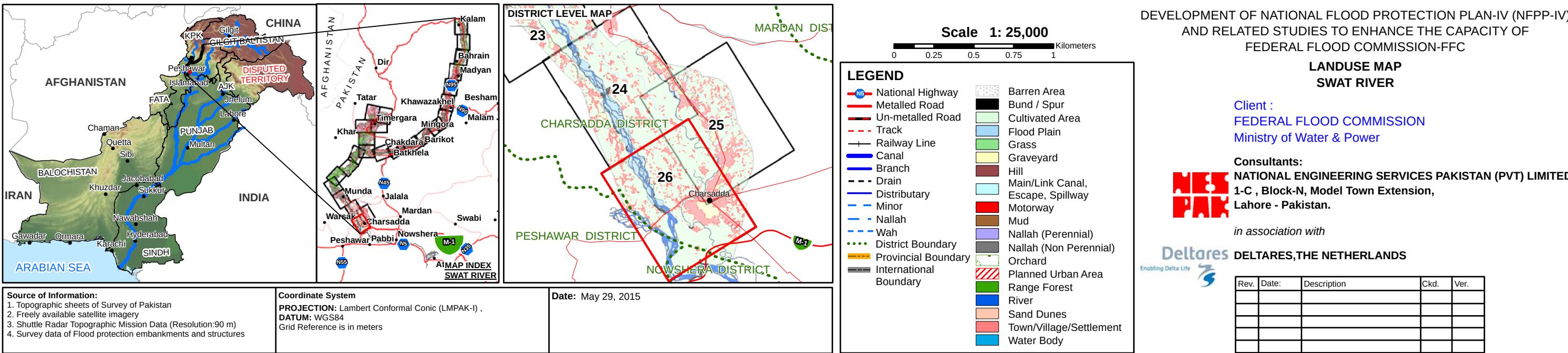
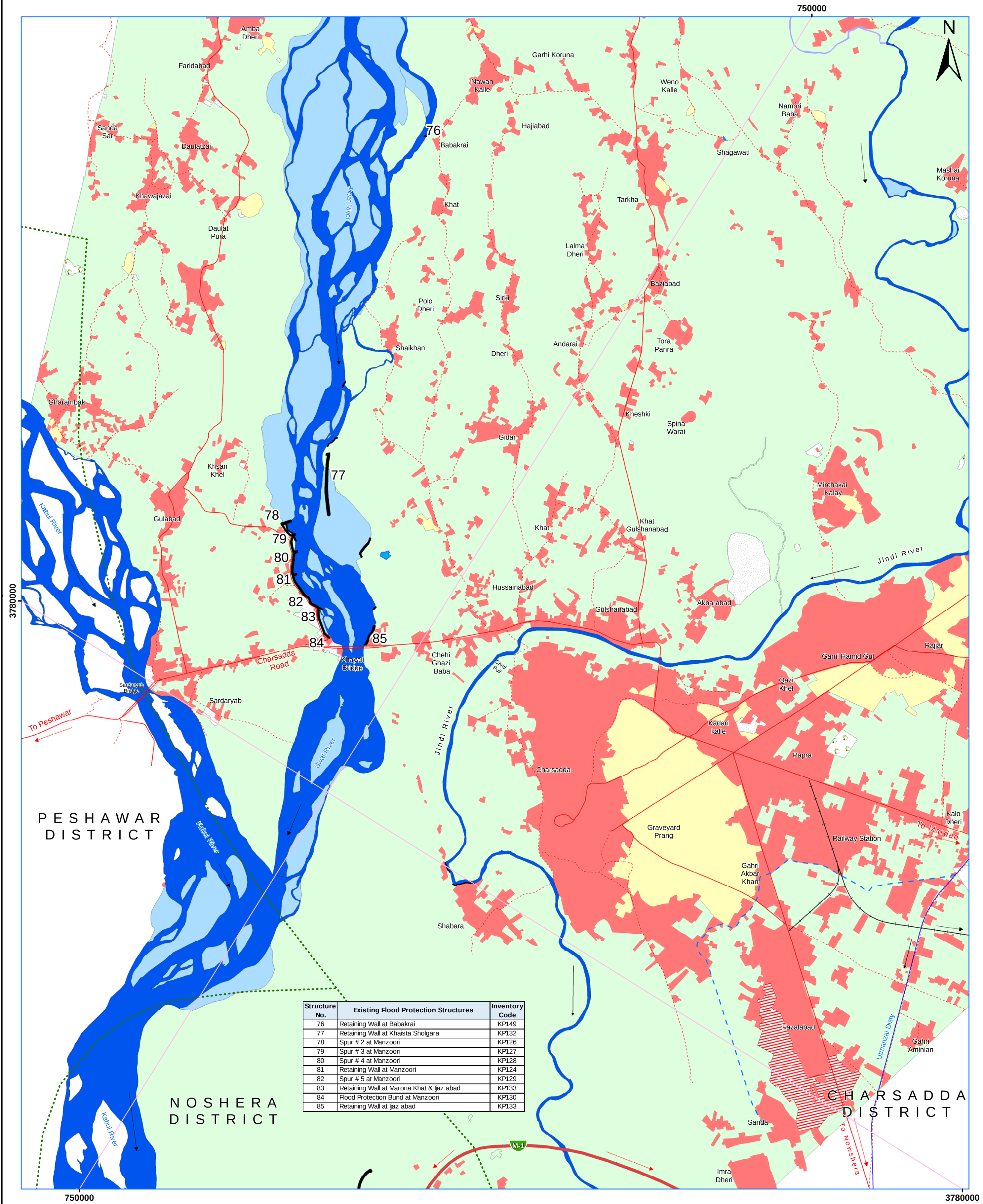


**LEGEND**

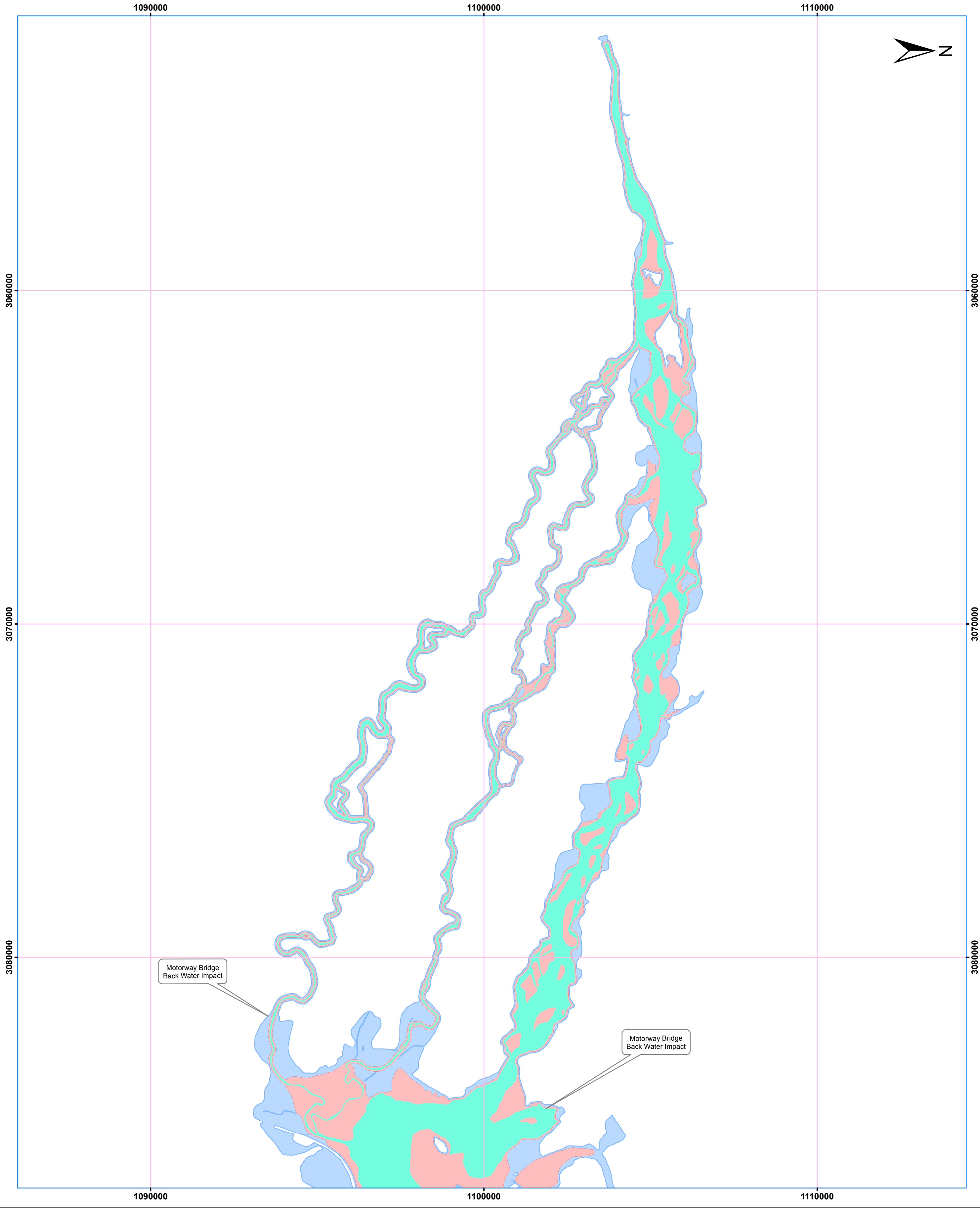
- High Risk Zone (Inundation Extent Corresponding to discharge of 30,194 cusecs below Chakdara)
- Medium Risk Zone (Inundation Extent Corresponding to discharge of 38,846 cusecs below Chakdara)
- Low Risk Zone (Inundation Extent Corresponding to discharge of 42,378 cusecs below Chakdara)

Note: All flood extents are based on breachless conditions







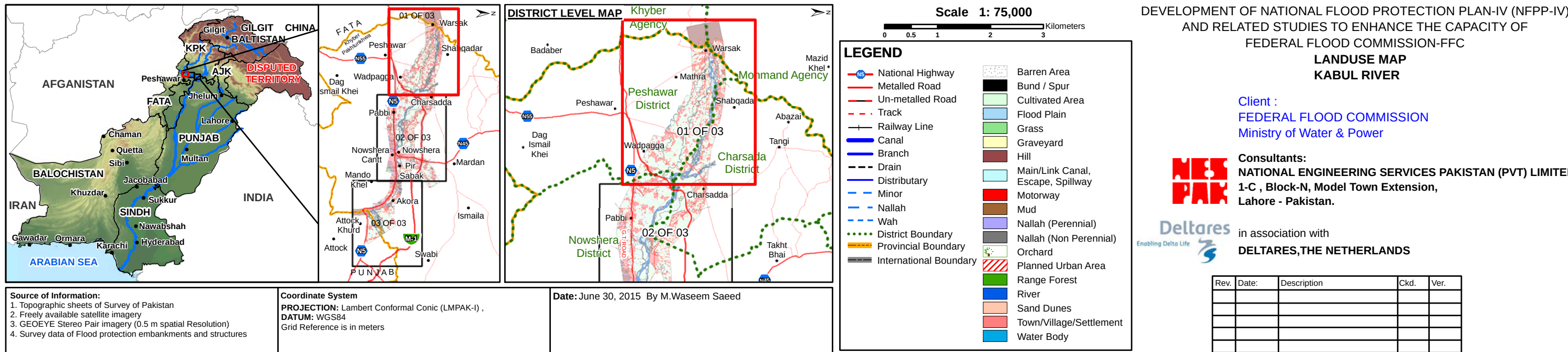


**LEGEND**

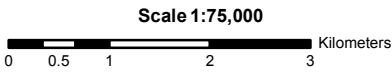
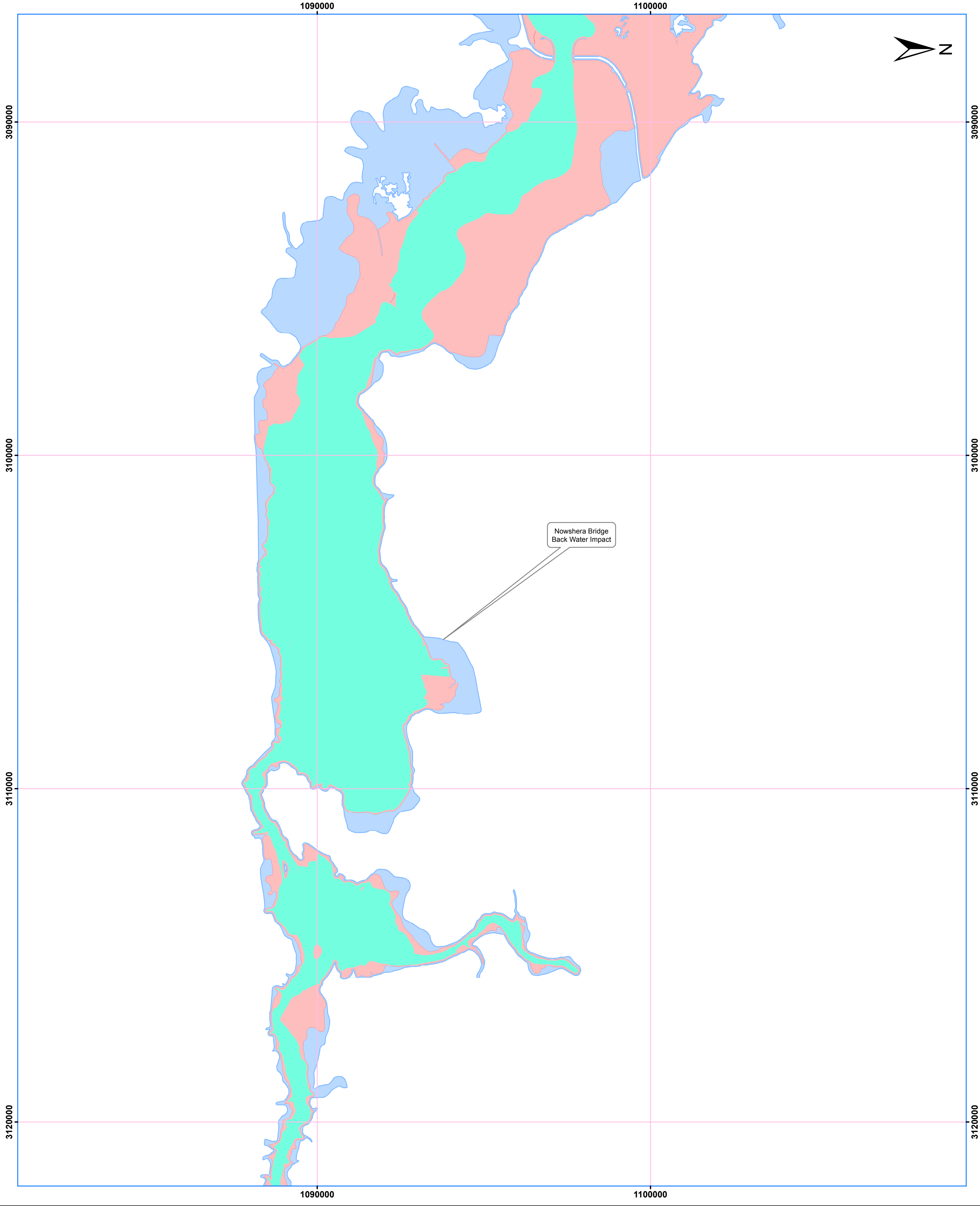
- High Risk Zone (Inundation Extent Corresponding to discharge of 62,083 cusecs below WARSAK DAM)
- Medium Risk Zone (Inundation Extent Corresponding to discharge of 110,323 cusecs below WARSAK DAM)
- Low Risk Zone (Inundation Extent Corresponding to discharge of 127,627 cusecs below WARSAK DAM)

Note: All flood extents are based on breachless conditions







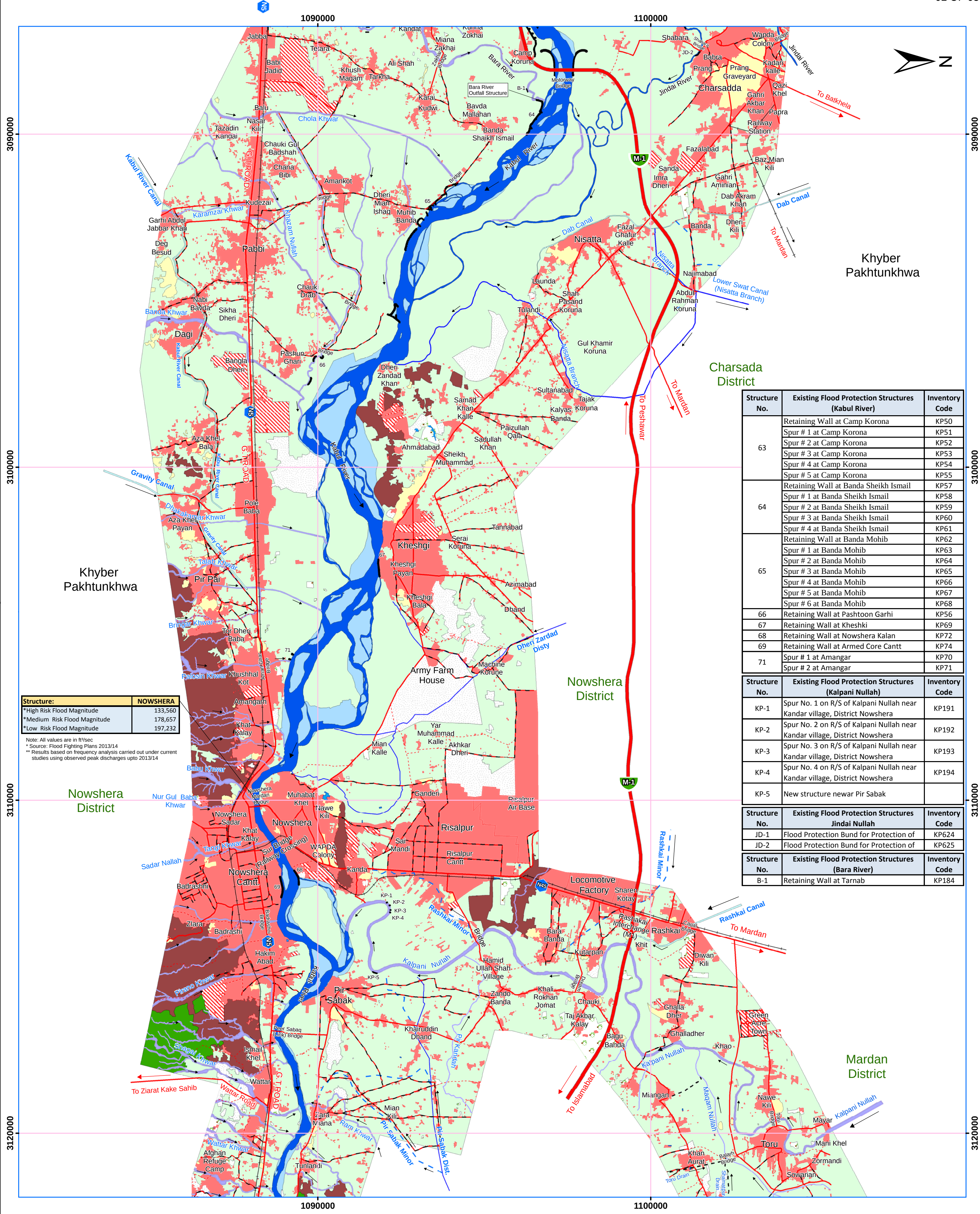


LEGEND

- High Risk Zone (Inundation Extent Corresponding to discharge of 62,083 cusecs below WARSAK DAM)
- Medium Risk Zone (Inundation Extent Corresponding to discharge of 110,323 cusecs below WARSAK DAM)
- Low Risk Zone (Inundation Extent Corresponding to discharge of 127,627 cusecs below WARSAK DAM)

Note: All flood extents are based on breachless conditions





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

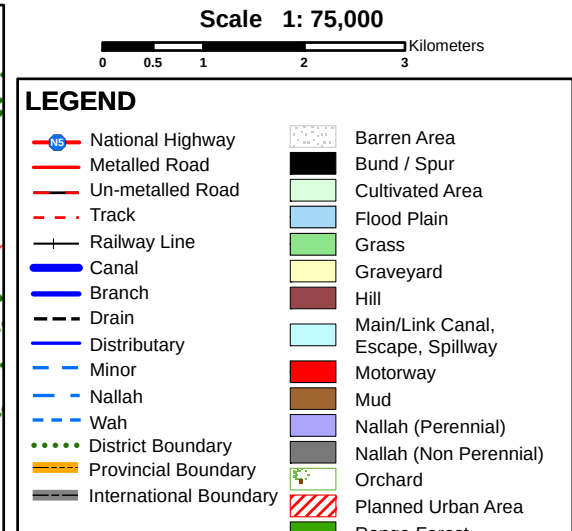
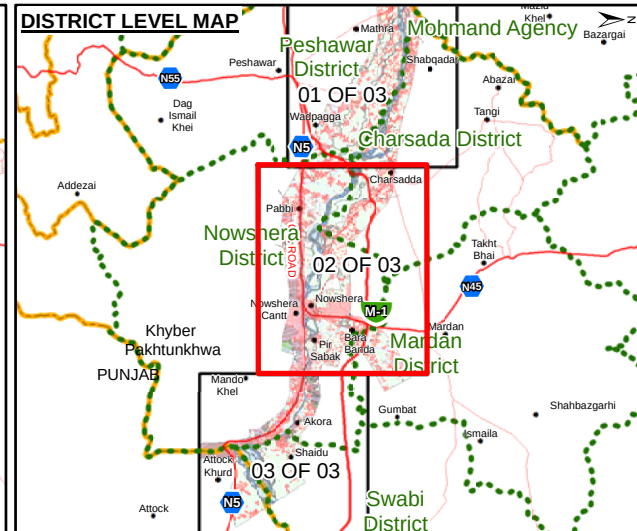
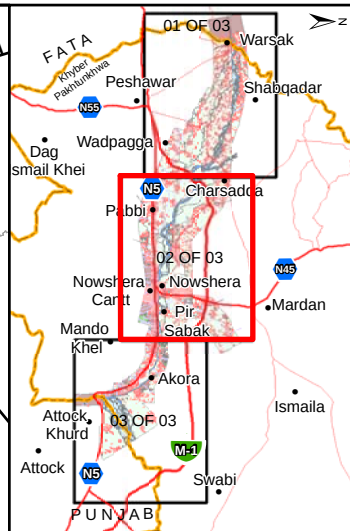
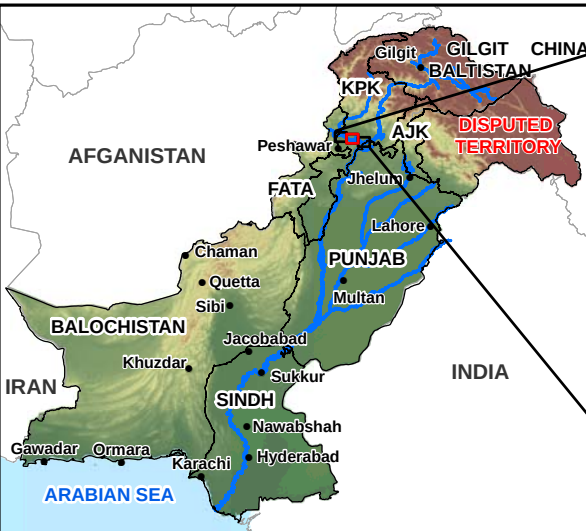
Note: All values are in R^2sec  
\* Source: Flood Fighting Plans 2013/14  
\*\* Results based on frequency analysis carried out under current studies using observed peak discharges upto 2013/14

| Structure No. | Existing Flood Protection Structures (Kabul 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            | Spur # 5 at Camp Korona                            | KP55           |
|               | 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            | Spur # 4 at Banda Sheikh Ismail                    | KP61           |
|               | 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           |
| 66            | Spur # 5 at Banda Mohib                            | KP67           |
|               | Spur # 6 at Banda Mohib                            | KP68           |
| 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 newar 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          |



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**

Client : **FEDERAL FLOOD COMMISSION**  
Ministry of Water & Power

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

in association with  
**DELTAES, THE NETHERLANDS**

| Rev. | Date: | Description | Ckd. | Ver. |
|------|-------|-------------|------|------|
|      |       |             |      |      |
|      |       |             |      |      |
|      |       |             |      |      |
|      |       |             |      |      |

Source of Information:  
1. Topographic sheets of Survey of Pakistan  
2. Freely available satellite imagery  
3. GEOEYE 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: June 30, 2015 By M.Waseem Saeed



Inundation Depth of Settlements in District Charsadda

Swat River - Sheet No. 23

| Sr. No. | Settlement Name                      | Zone* | District  | Inundation Depth at Discharge of 30,194 Cusec below Chakdara |         | Inundation Depth at Discharge of 38,846 Cusec below Chakdara |         | Inundation Depth at Discharge of 42,378 Cusec below Chakdara |         |
|---------|--------------------------------------|-------|-----------|--------------------------------------------------------------|---------|--------------------------------------------------------------|---------|--------------------------------------------------------------|---------|
|         |                                      |       |           | Min (m)                                                      | Max (m) | Min (m)                                                      | Max (m) | Min (m)                                                      | Max (m) |
| 1       | Abazai                               | H,M,L | Charsadda | 0.24                                                         | 3.37    | 0.37                                                         | 3.79    | 0.61                                                         | 4.06    |
| 2       | Bela                                 | H,M,L | Charsadda | 0.02                                                         | 3.46    | 0.86                                                         | 3.52    | 0.99                                                         | 4.60    |
| 3       | 7 settlements nearby Munda           | H,M,L | Charsadda | 0.06                                                         | 3.62    | 0.21                                                         | 4.06    | 0.32                                                         | 4.76    |
| 4       | 5 settlements nearby Tarakai Ghakhai | M,L   | Charsadda | 0.00                                                         | 0.00    | 0.24                                                         | 3.38    | 0.74                                                         | 3.49    |
| 5       | 1 settlement nearby Sadar Garhi      | L     | Charsadda | 0.00                                                         | 0.00    | 0.00                                                         | 0.00    | 0.08                                                         | 1.49    |
| 6       | Miawhay                              | L     | Charsadda | 0.00                                                         | 0.00    | 0.00                                                         | 0.00    | 0.08                                                         | 0.91    |

Swat River - Sheet No. 24

| Sr. No. | Settlement Name                          | Zone* | District  | Inundation Depth at Discharge of 30,194 Cusec below Chakdara |         | Inundation Depth at Discharge of 38,846 Cusec below Chakdara |         | Inundation Depth at Discharge of 42,378 Cusec below Chakdara |         |
|---------|------------------------------------------|-------|-----------|--------------------------------------------------------------|---------|--------------------------------------------------------------|---------|--------------------------------------------------------------|---------|
|         |                                          |       |           | Min (m)                                                      | Max (m) | Min (m)                                                      | Max (m) | Min (m)                                                      | Max (m) |
| 1       | 2 settlements nearby Dagai Mukarram Khan | H,M,L | Charsadda | 0.45                                                         | 3.64    | 0.51                                                         | 4.17    | 0.59                                                         | 4.36    |
| 2       | 1 settlement nearby Kharkai              | H,M,L | Charsadda | 0.05                                                         | 3.60    | 0.14                                                         | 4.27    | 0.19                                                         | 4.74    |
| 3       | Mulla Khel                               | H,M,L | Charsadda | 0.07                                                         | 3.85    | 0.34                                                         | 4.09    | 0.44                                                         | 4.70    |
| 4       | 1 settlement nearby Mirozai              | L     | Charsadda | 0.00                                                         | 0.00    | 0.00                                                         | 0.00    | 0.04                                                         | 0.65    |
| 5       | Sarsang                                  | L     | Charsadda | 0.00                                                         | 0.00    | 0.00                                                         | 0.00    | 0.05                                                         | 0.60    |
| 6       | Shahi                                    | L     | Charsadda | 0.00                                                         | 0.00    | 0.00                                                         | 0.00    | 0.07                                                         | 0.68    |

Swat River - Sheet No. 26

| Sr. No. | Settlement Name                       | Zone* | District  | Inundation Depth at Discharge of 30,194 Cusec below Chakdara |         | Inundation Depth at Discharge of 38,846 Cusec below Chakdara |         | Inundation Depth at Discharge of 42,378 Cusec below Chakdara |         |
|---------|---------------------------------------|-------|-----------|--------------------------------------------------------------|---------|--------------------------------------------------------------|---------|--------------------------------------------------------------|---------|
|         |                                       |       |           | Min (m)                                                      | Max (m) | Min (m)                                                      | Max (m) | Min (m)                                                      | Max (m) |
| 1       | 6 settlements nearby Chehi Ghazi Baba | H,M,L | Charsadda | 0.05                                                         | 3.26    | 0.06                                                         | 4.27    | 1.03                                                         | 4.40    |
| 2       | Goharabad and nearby 6 settlements    | H,M,L | Charsadda | 0.06                                                         | 3.80    | 0.24                                                         | 3.95    | 0.47                                                         | 4.61    |
| 3       | Hussainabad                           | H,M,L | Charsadda | 0.06                                                         | 3.25    | 0.49                                                         | 3.72    | 0.87                                                         | 4.54    |
| 4       | Rajjar                                | H,M,L | Charsadda | 0.06                                                         | 3.76    | 0.37                                                         | 4.08    | 0.91                                                         | 4.90    |
| 5       | Sardaryab and nearby 4 settlements    | H,M,L | Charsadda | 0.10                                                         | 2.94    | 0.31                                                         | 3.93    | 0.74                                                         | 4.21    |
| 6       | Shaikhani                             | H,M,L | Charsadda | 0.06                                                         | 3.42    | 0.30                                                         | 4.08    | 0.83                                                         | 4.42    |
| 7       | Adgan and nearby 6 settlements        | M,L   | Charsadda | 0.00                                                         | 0.00    | 0.03                                                         | 2.44    | 0.04                                                         | 3.56    |
| 8       | 4 settlements nearby Shabara          | M,L   | Charsadda | 0.00                                                         | 0.00    | 0.02                                                         | 2.78    | 0.06                                                         | 3.96    |

Zone\*

- 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



# Inundation Depth of Settlements in District Charsadda

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       | 1 Settlement nearby Bala Agro       | H,M,L | Charsadda | 0.40                                                           | 1.02    | 0.51                                                            | 1.56    | 0.89                                                            | 1.80    |
| 2       | 2 Settlements nearby Sardaryab      | H,M,L | Charsadda | 0.07                                                           | 2.24    | 0.48                                                            | 2.83    | 0.65                                                            | 3.07    |
| 3       | 3 Settlements nearby Janar          | H,M,L | Charsadda | 0.75                                                           | 1.37    | 0.85                                                            | 1.77    | 0.89                                                            | 1.90    |
| 4       | 9 Settlements nearby Charsadda      | M,L   | Charsadda | 0.00                                                           | 0.00    | 0.06                                                            | 1.01    | 0.24                                                            | 1.17    |
| 5       | 5 Kuz Agro and nearby 4 Settlements | M,L   | Charsadda | 0.00                                                           | 0.00    | 0.55                                                            | 2.27    | 0.73                                                            | 2.50    |
| 6       | 6 Shabara and nearby 3 Settlements  | M,L   | Charsadda | 0.00                                                           | 0.00    | 2.37                                                            | 2.49    | 2.59                                                            | 2.67    |
| 7       | 10 Settlements nearby Hussain Abad  | L     | Charsadda | 0.00                                                           | 0.00    | 0.00                                                            | 0.00    | 0.85                                                            | 1.71    |
| 8       | 2 Settlements nearby Garhi Saidan   | L     | Charsadda | 0.00                                                           | 0.00    | 0.00                                                            | 0.00    | 0.07                                                            | 0.17    |
| 9       | 2 Settlements nearby Halizai        | L     | Charsadda | 0.00                                                           | 0.00    | 0.00                                                            | 0.00    | 0.79                                                            | 0.94    |
| 10      | 2 Settlements nearby Tarkha         | L     | Charsadda | 0.00                                                           | 0.00    | 0.00                                                            | 0.00    | 0.42                                                            | 1.54    |
| 11      | 3 Settlements nearby Mian Qala      | L     | Charsadda | 0.00                                                           | 0.00    | 0.00                                                            | 0.00    | 0.08                                                            | 0.75    |
| 12      | 12 Dilazak and nearby 5 Settlements | L     | Charsadda | 0.00                                                           | 0.00    | 0.00                                                            | 0.00    | 0.23                                                            | 0.77    |
| 13      | 13 Gharambak                        | L     | Charsadda | 0.00                                                           | 0.00    | 0.00                                                            | 0.00    | 0.03                                                            | 0.09    |
| 14      | 14 Mah Hazara                       | L     | Charsadda | 0.00                                                           | 0.00    | 0.00                                                            | 0.00    | 0.08                                                            | 1.08    |
| 15      | 15 Nurani                           | L     | Charsadda | 0.00                                                           | 0.00    | 0.00                                                            | 0.00    | 0.25                                                            | 0.80    |
| 16      | 16 Rashakai                         | L     | Charsadda | 0.00                                                           | 0.00    | 0.00                                                            | 0.00    | 0.29                                                            | 1.19    |
| 17      | 17 Sarwani                          | L     | Charsadda | 0.00                                                           | 0.00    | 0.00                                                            | 0.00    | 0.50                                                            | 1.50    |

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       | 2 Settlements nearby Nisatta               | M,L   | Charsadda | 0.00                                                           | 0.00    | 0.01                                                            | 2.32    | 1.25                                                            | 2.57    |
| 2       | 2 Settlements nearby Tulandi               | M,L   | Charsadda | 0.00                                                           | 0.00    | 0.07                                                            | 1.91    | 1.73                                                            | 2.17    |
| 3       | 3 Faqirabad Dheri and nearby 3 Settlements | M,L   | Charsadda | 0.00                                                           | 0.00    | 0.03                                                            | 1.91    | 1.73                                                            | 2.09    |
| 4       | 4 Fazalabad                                | M,L   | Charsadda | 0.00                                                           | 0.00    | 0.46                                                            | 2.17    | 1.67                                                            | 2.40    |
| 5       | 5 Launda                                   | M,L   | Charsadda | 0.00                                                           | 0.00    | 0.66                                                            | 2.05    | 0.76                                                            | 2.31    |
| 6       | 6 Shabara and nearby 15 Settlements        | M,L   | Charsadda | 0.00                                                           | 0.00    | 0.49                                                            | 2.49    | 0.79                                                            | 2.67    |
| 7       | 4 Settlements nearby Dheri Zandad Khan     | L     | Charsadda | 0.00                                                           | 0.00    | 0.00                                                            | 0.00    | 0.29                                                            | 1.19    |
| 8       | 8 Gahri Akbar Khan                         | L     | Charsadda | 0.00                                                           | 0.00    | 0.00                                                            | 0.00    | 0.05                                                            | 0.52    |
| 9       | 9 Hussain Abad                             | L     | Charsadda | 0.00                                                           | 0.00    | 0.00                                                            | 0.00    | 0.01                                                            | 1.16    |
| 10      | 10 Samad Khan Kalle                        | L     | Charsadda | 0.00                                                           | 0.00    | 0.00                                                            | 0.00    | 0.04                                                            | 0.27    |

**Zone\***

- 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