

Figure 2.5.6

Variation of River Bed Elevation

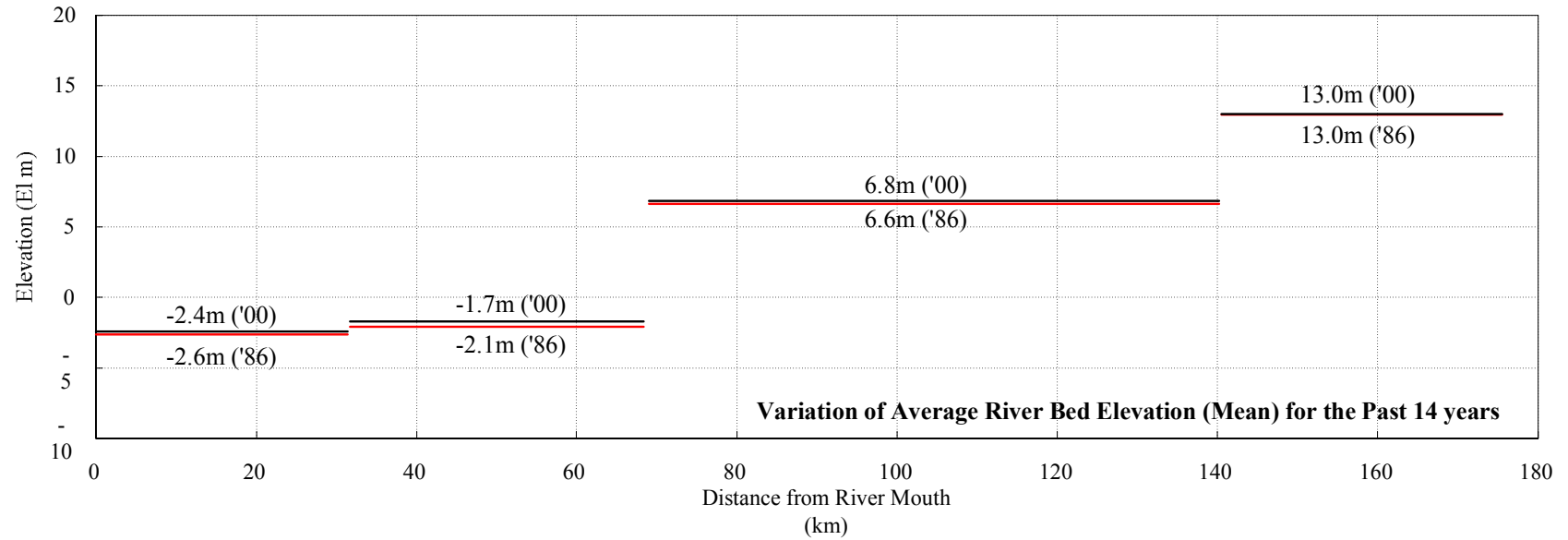
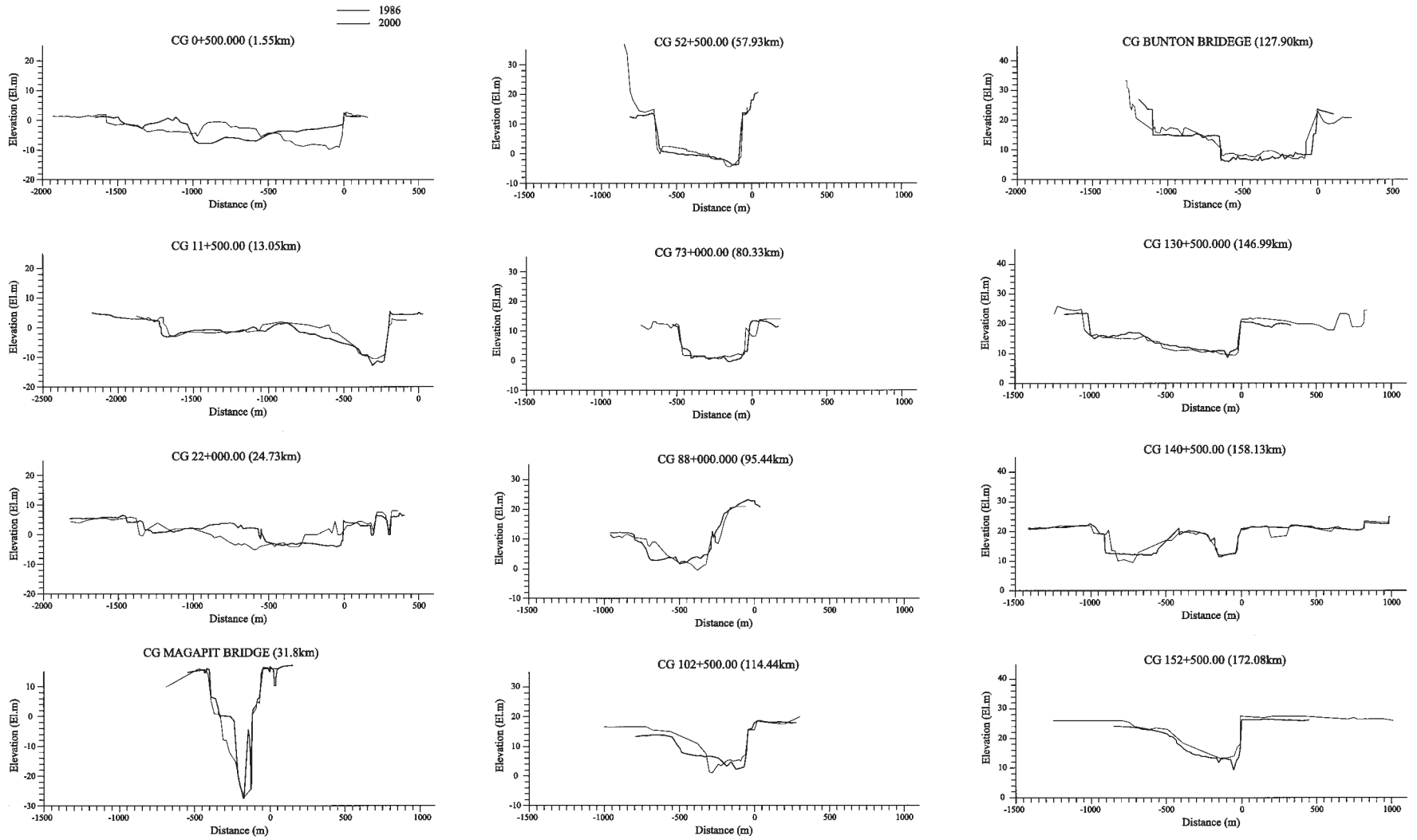


Figure 2.5.7
Cross-Sectional Variation



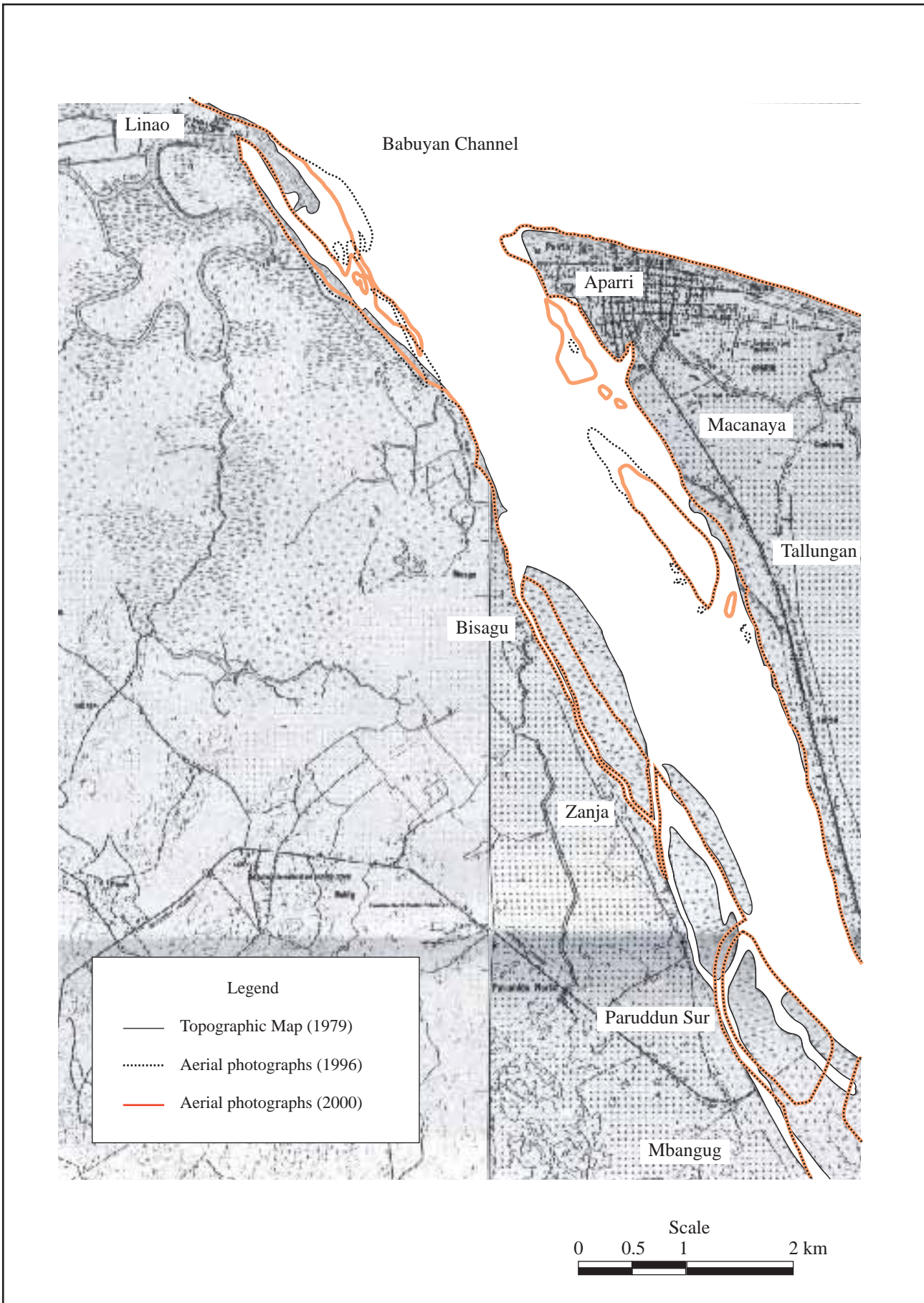
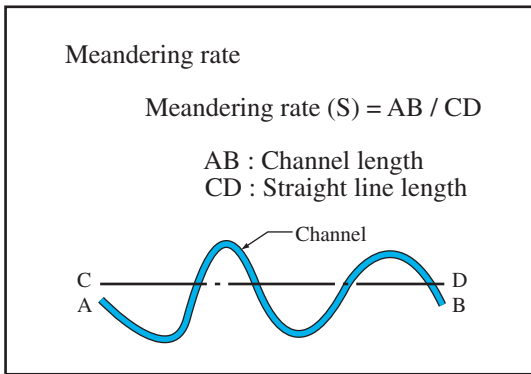


Figure 2.5.8

Variation of Sandbar near River Mouth



Meandering rate (S)

Year	AB (km)	CD (km)	S (AB/CD)
1953	87.0	41.0	2.12
1979	78.0	41.0	1.90
1996	74.8	41.0	1.82
2000	74.4	41.0	1.81

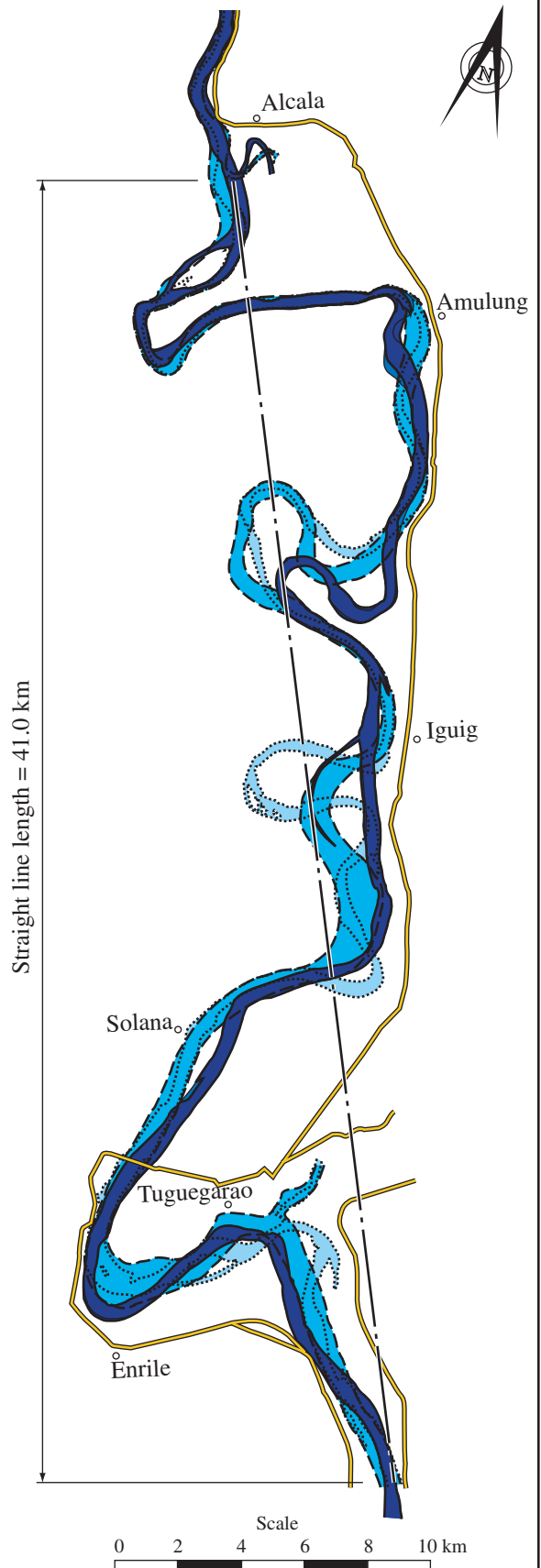
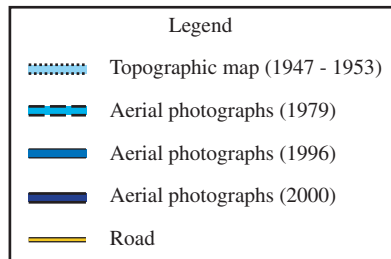
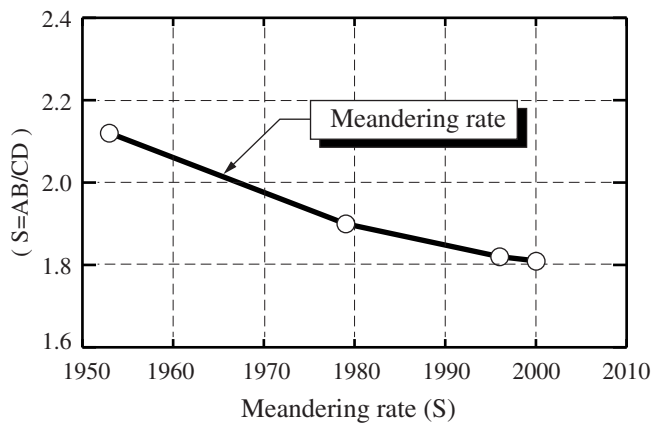
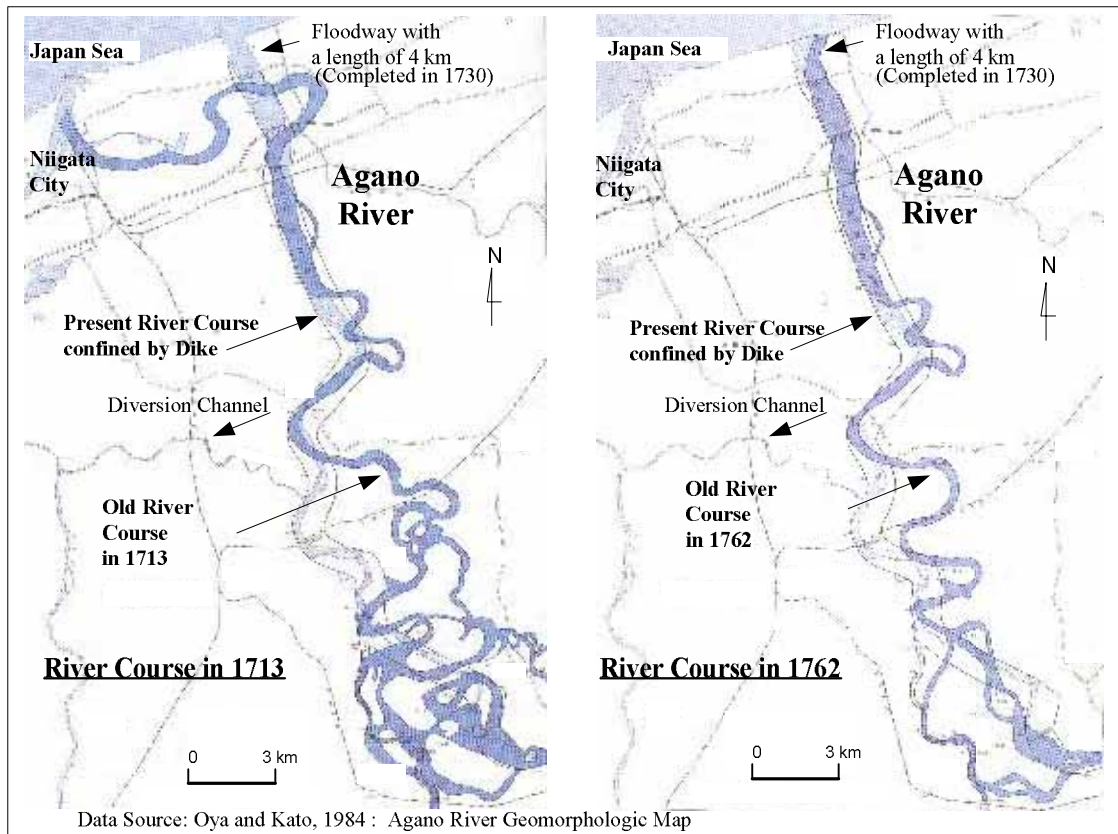
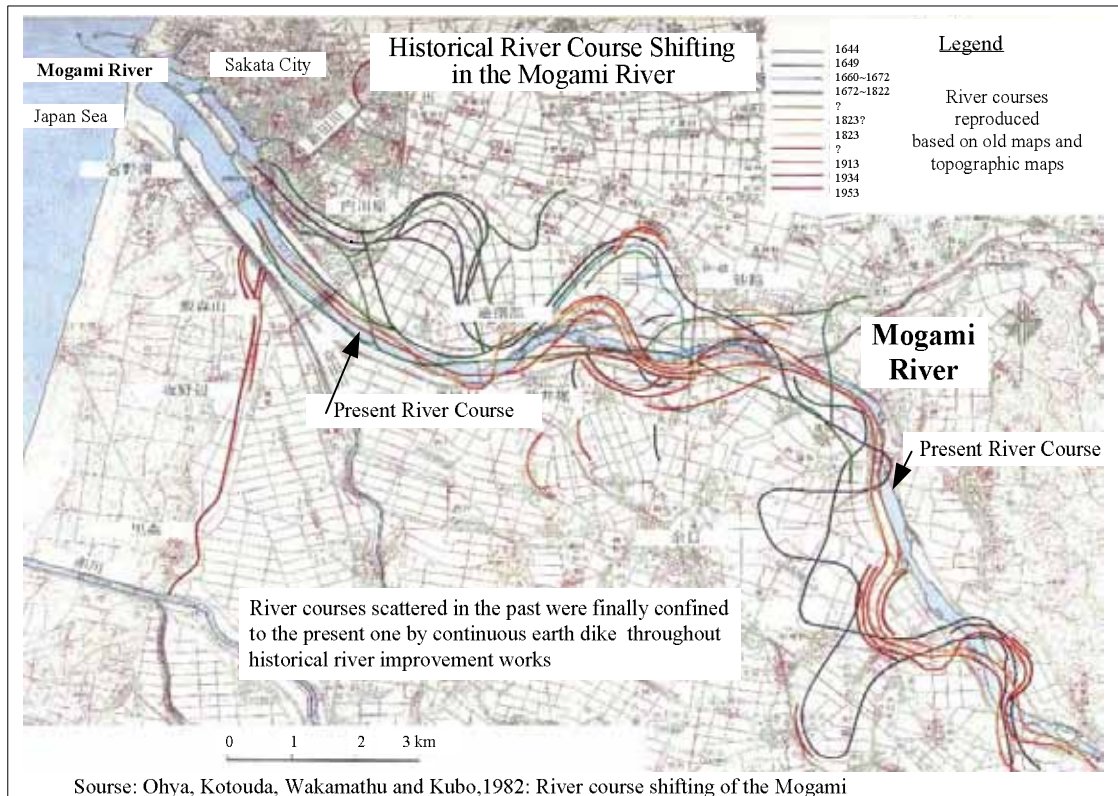


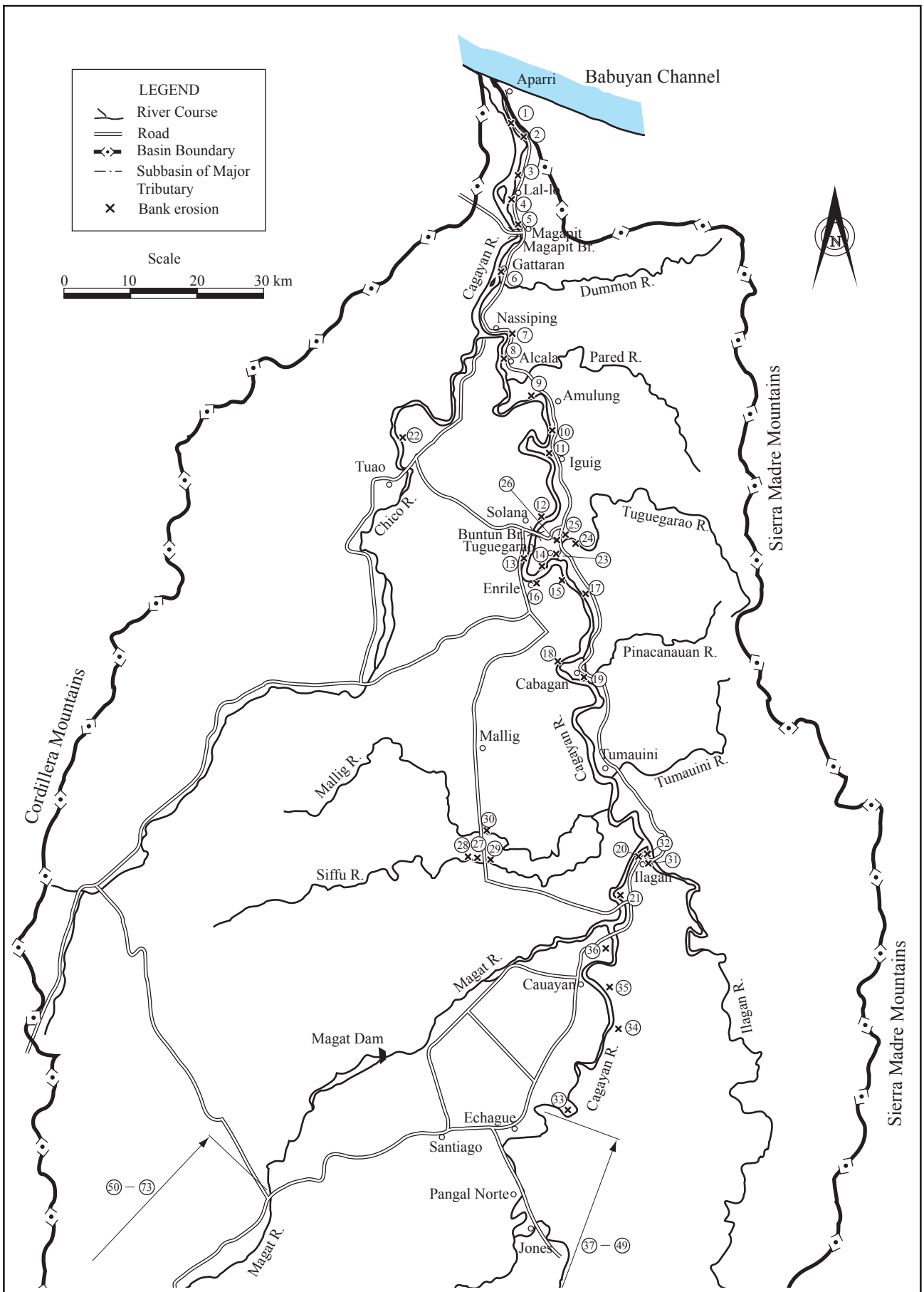
Figure 2.5.9
Meandering Rate in the Reach
from Alcala to Tuguegarao

(A): Case of the Agano River by Construction of Floodway



(B): Case of the Mogami River by Channel Improvement with a Confined Dike



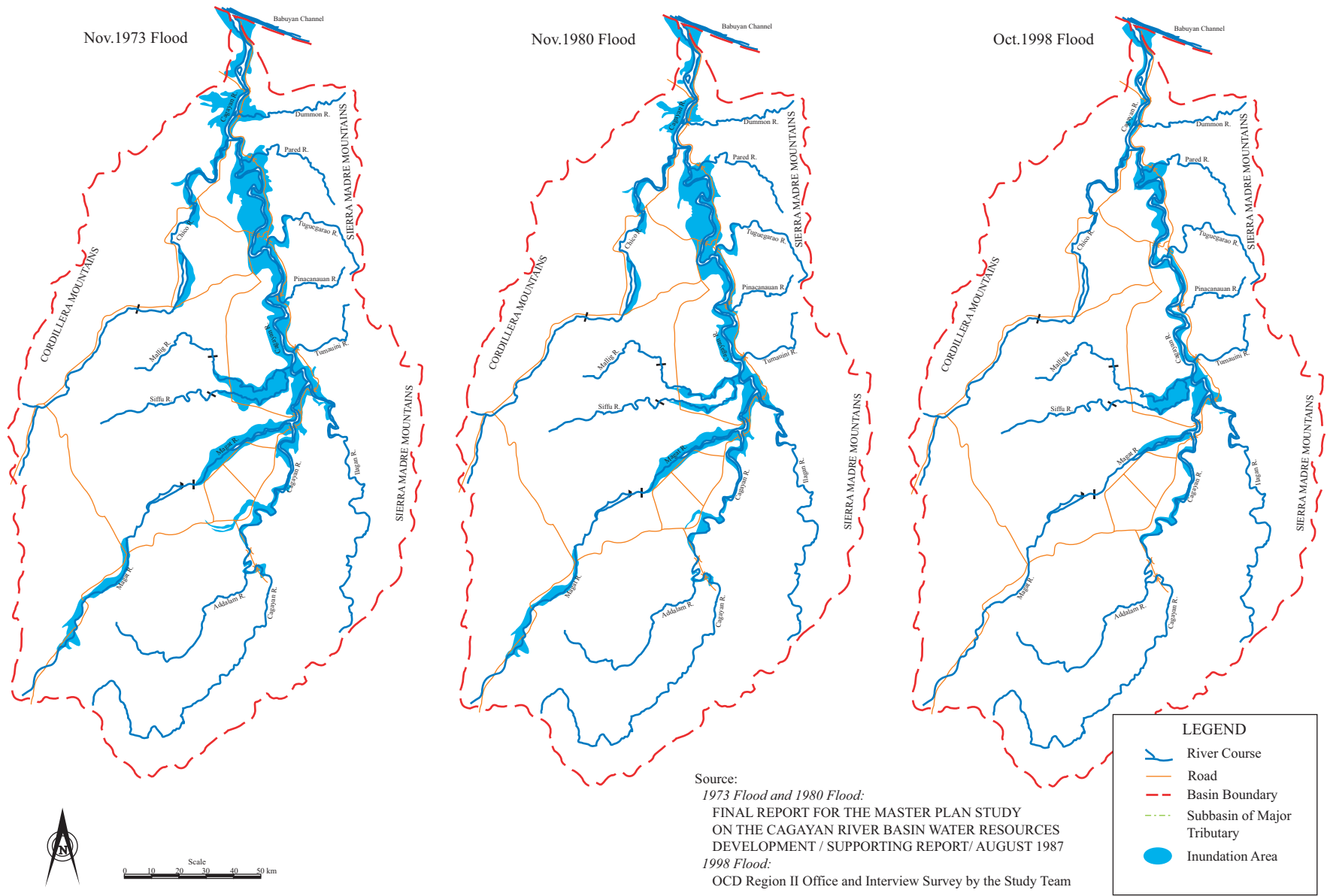


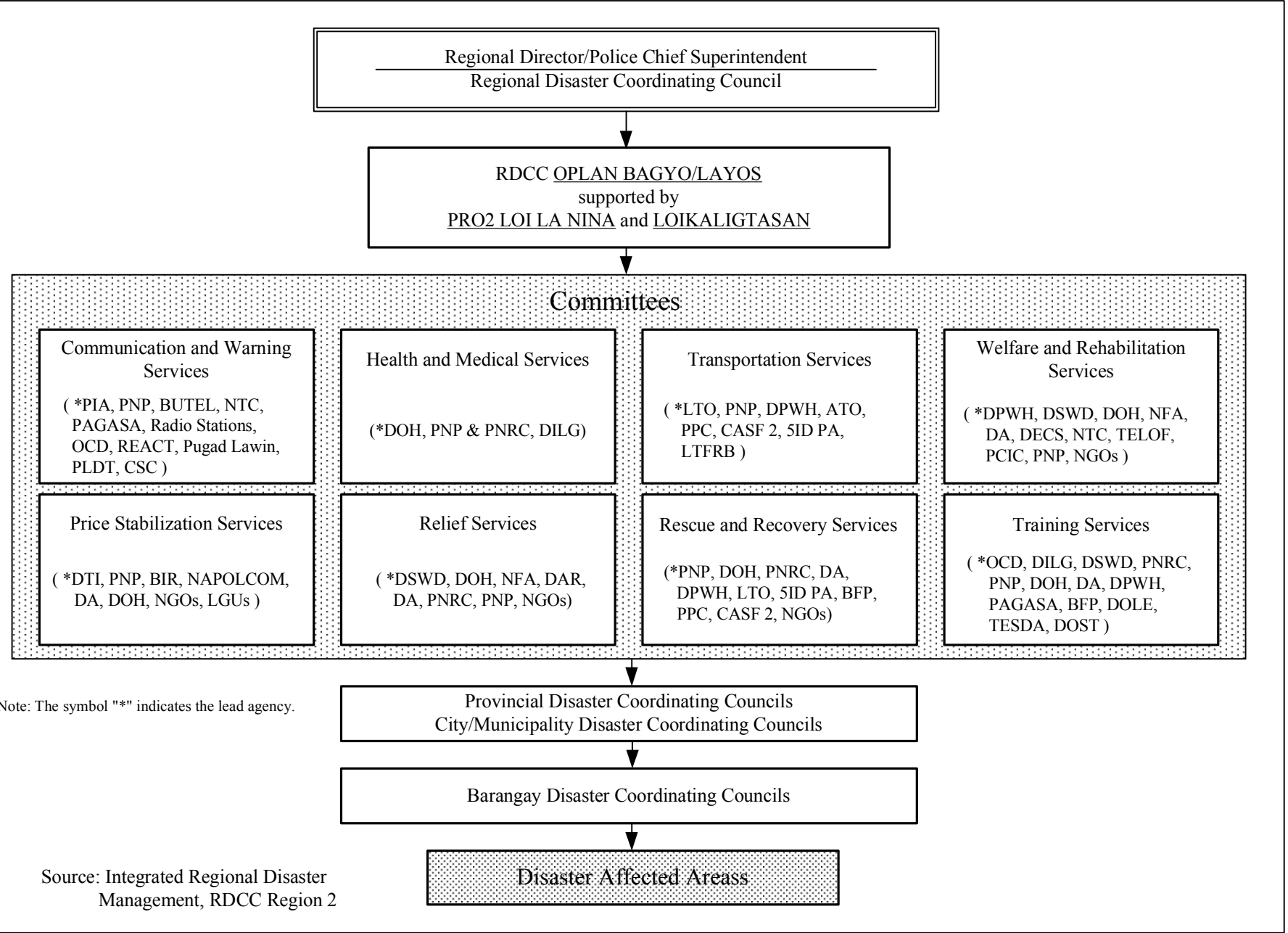
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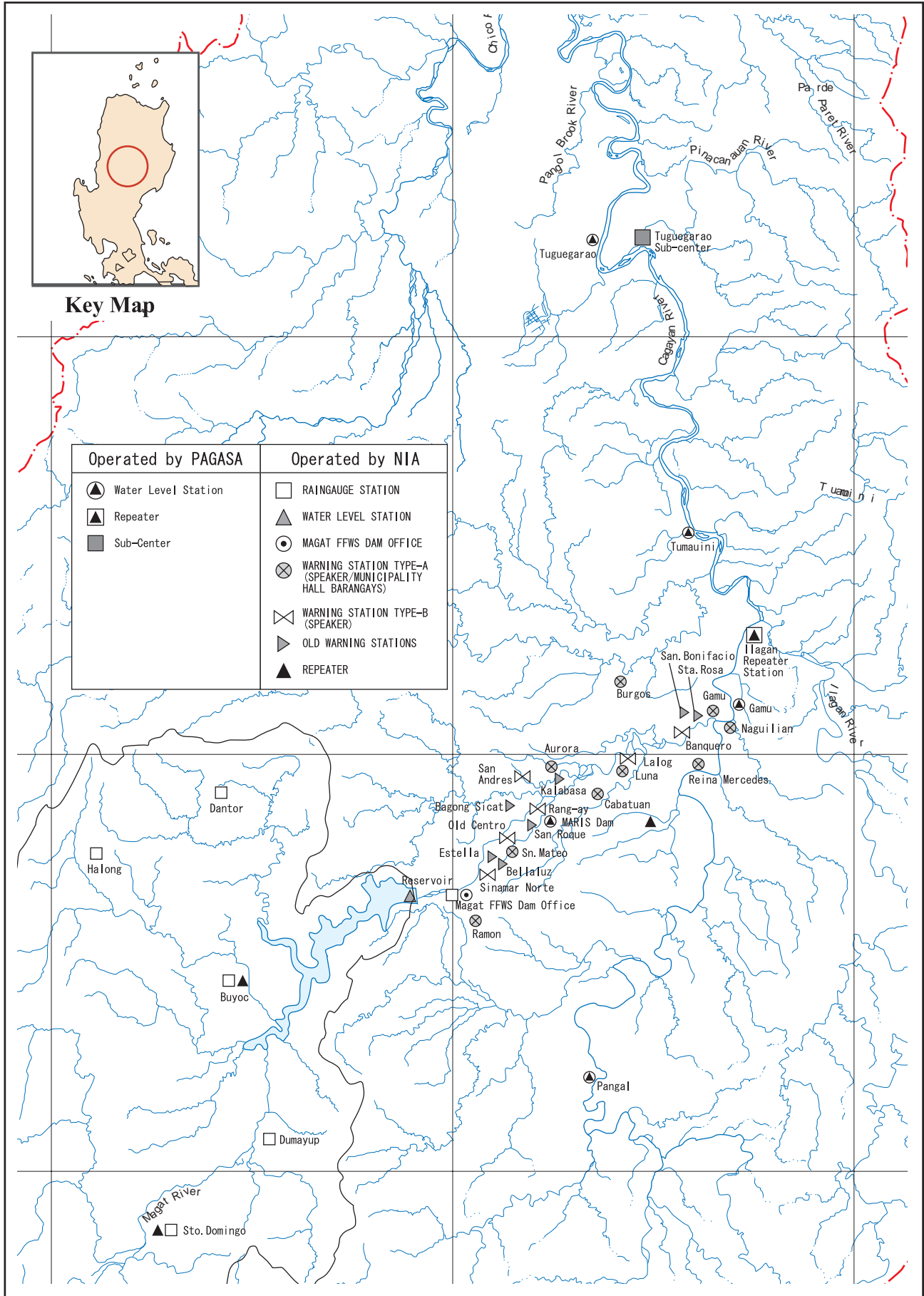
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Figure 2.6.1
Critical Bank Erosion Sites

Figure 2.6.2
Inundation Area Map



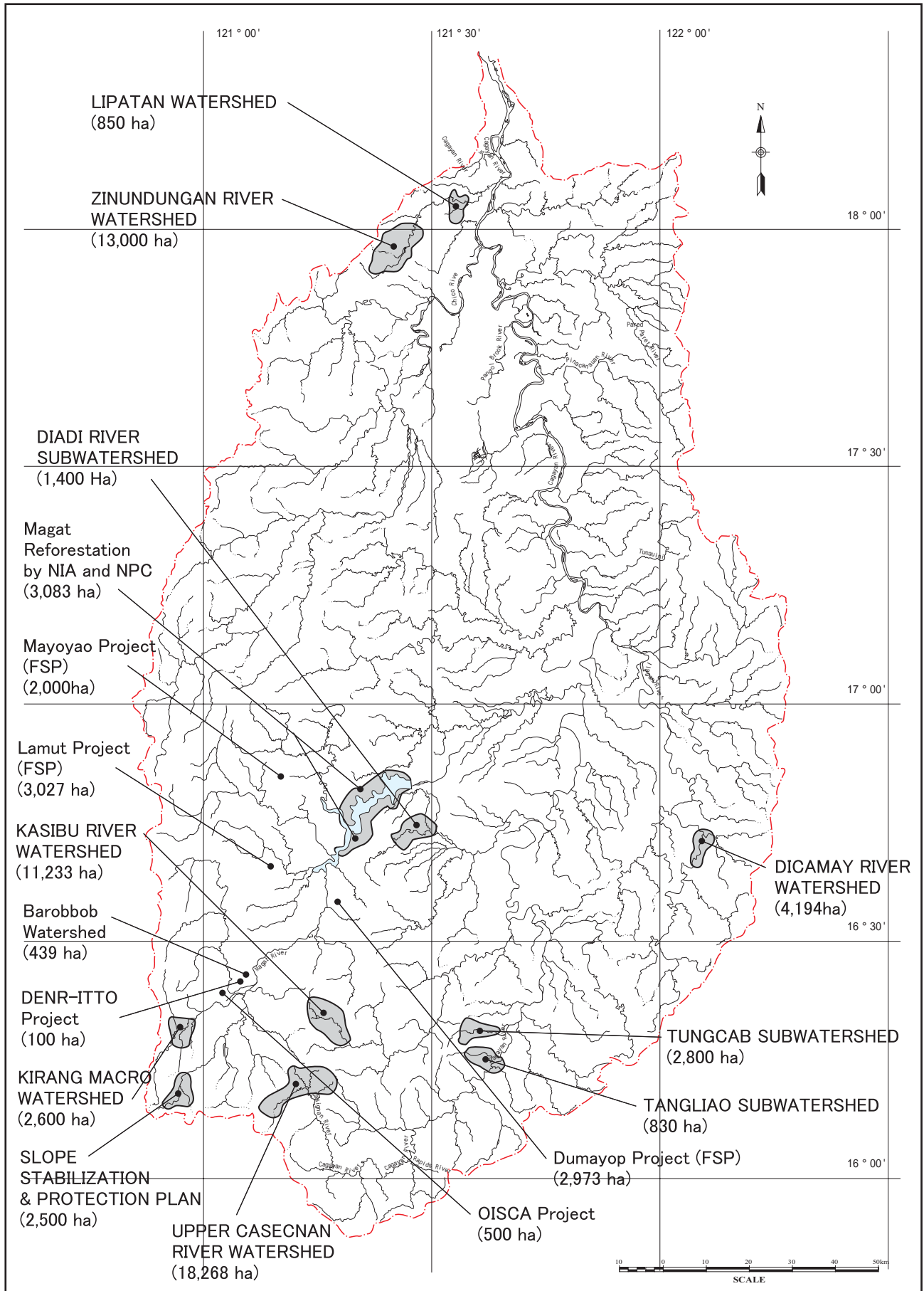




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Figure 2.6.4
Existing Flood Forecasting and
Warning Systems



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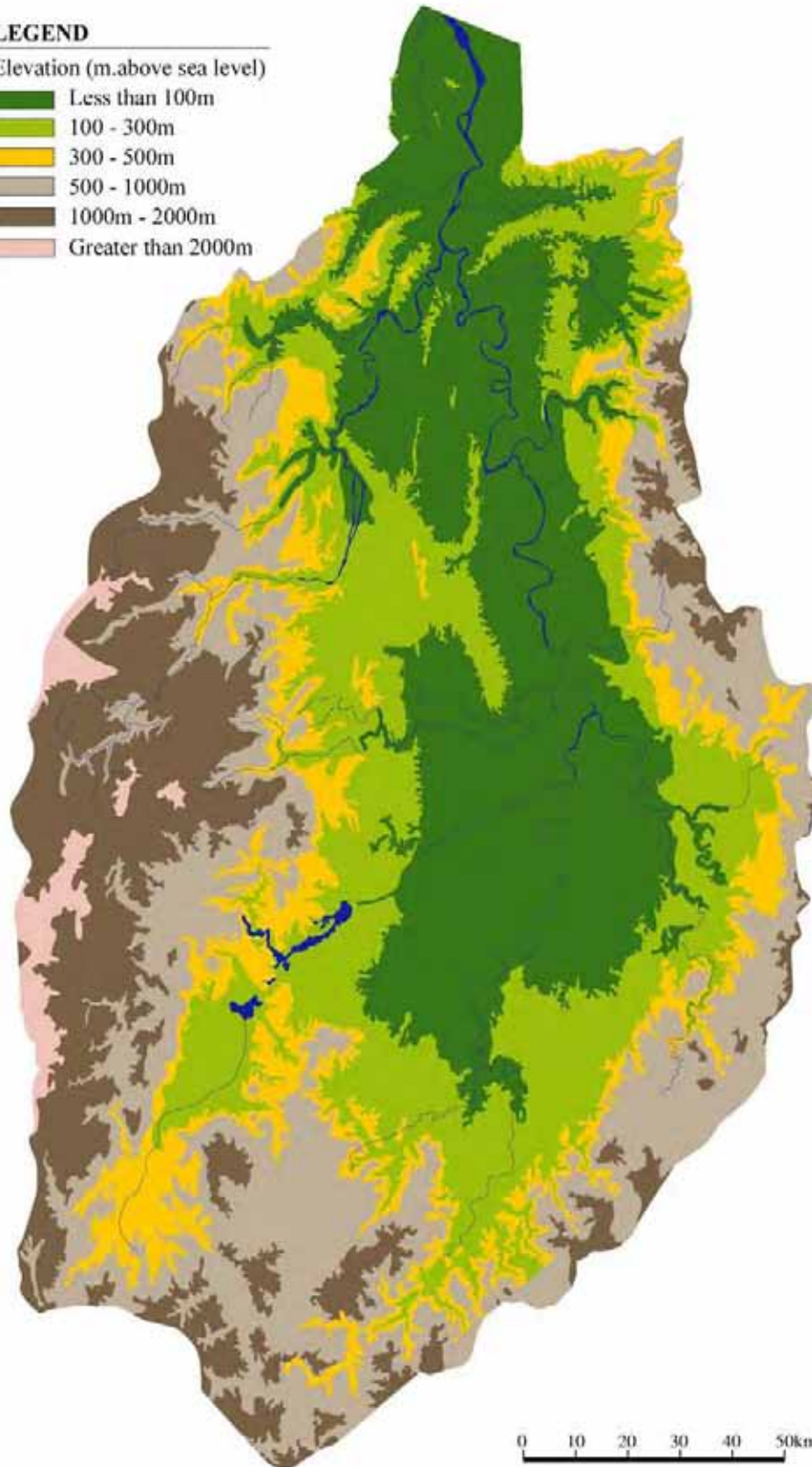
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Figure 2.7.1
Existing Watershed Management Activities

LEGEND

Elevation (m.above sea level)

- Less than 100m
- 100 - 300m
- 300 - 500m
- 500 - 1000m
- 1000m - 2000m
- Greater than 2000m



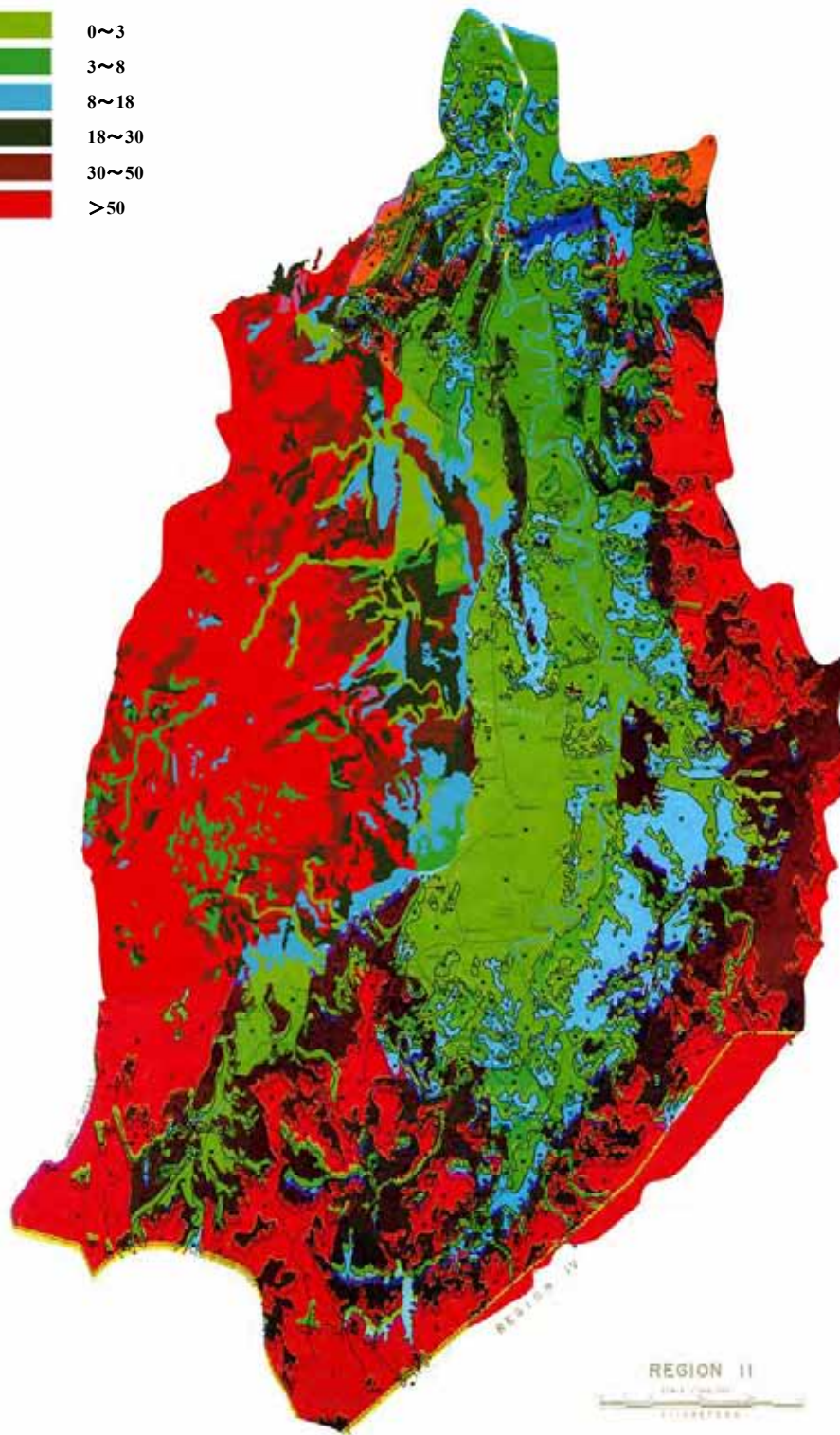
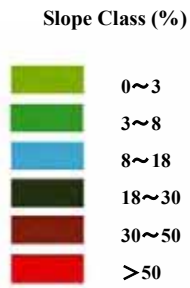
Source: "Philippine Land and Soils Management Atlas for Cagayan Valley, Region II, 1995" BSWM and "Elevation Map, Land Use Assessment for Potential Agri-Environmental Development and Investment for CAR", Nov. 1990, BSWM. CAR

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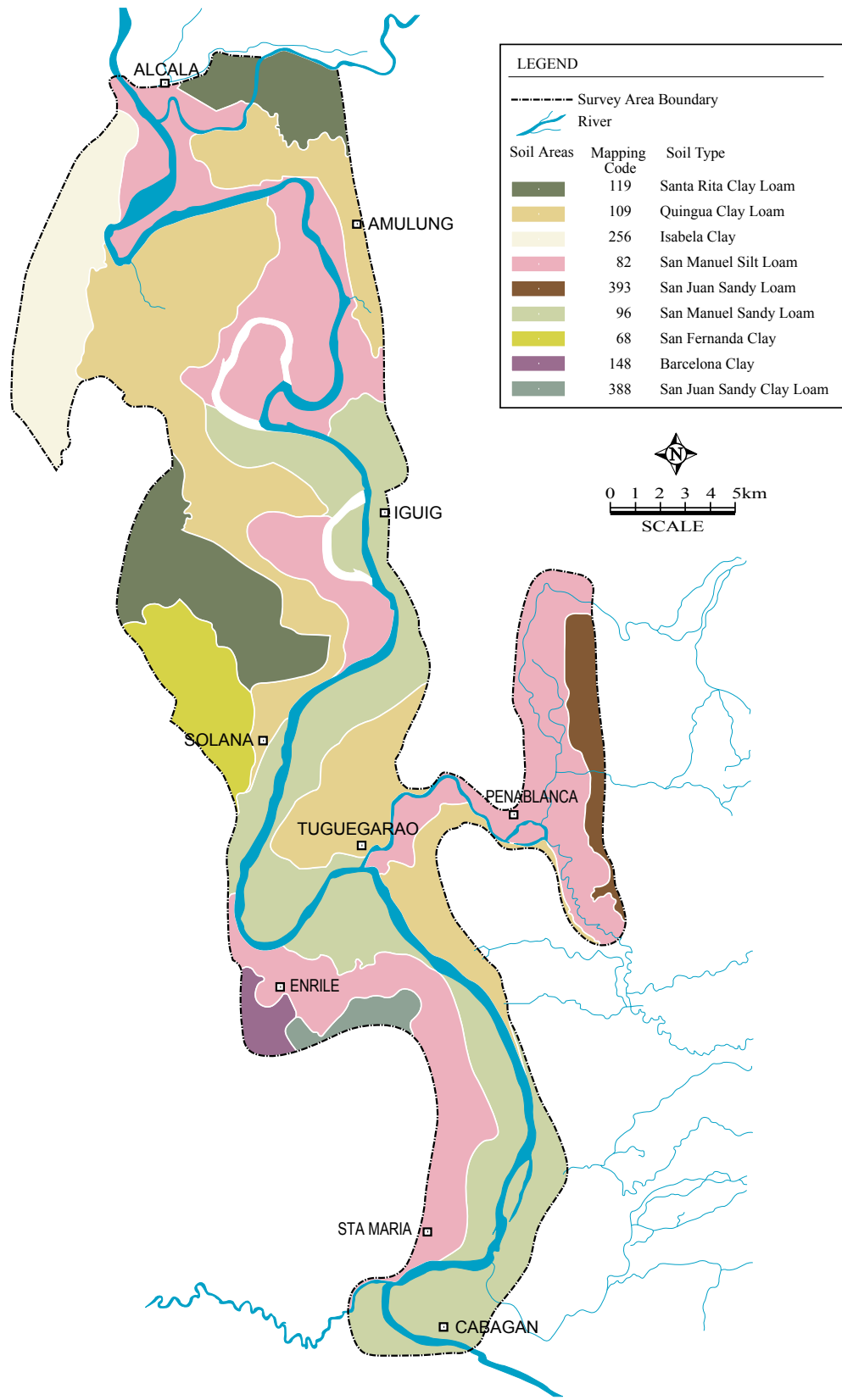
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Figure 2.8.1

Elevation Map



Source: "Philippine Land and Soils Management Atlas for Cagayan Valley, Region II, 1995" BSWM and "Slope Map, Land Use Assessment for Potential Agri-Environmental Development and Investment for CAR", Nov. 1990, BSWM. CAR





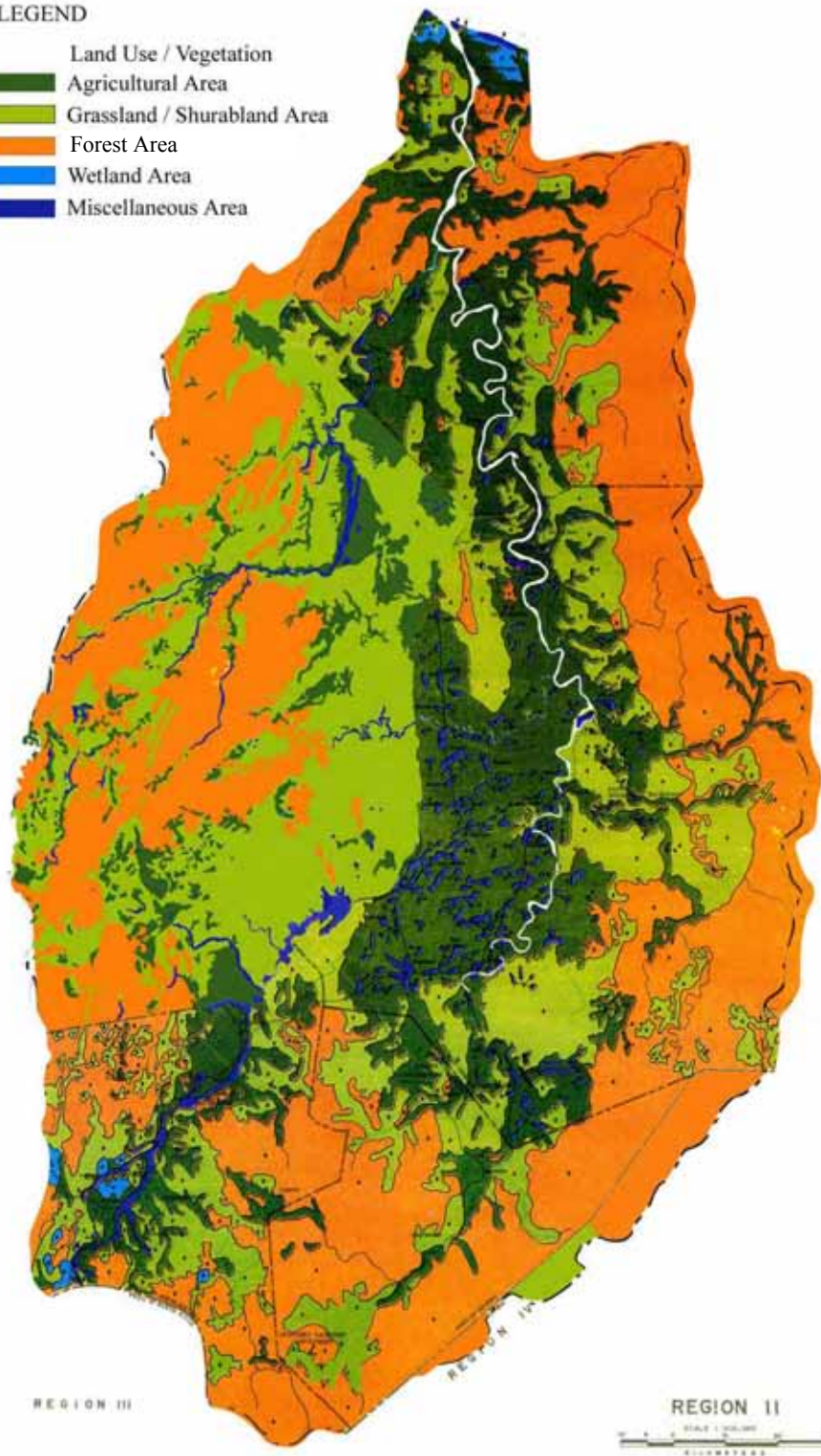
Source: Prepared by the JICA Study Team in 2000

Figure 2.8.3

Soil Map

LEGEND

- Land Use / Vegetation
-  Agricultural Area
-  Grassland / Shrubland Area
-  Forest Area
-  Wetland Area
-  Miscellaneous Area



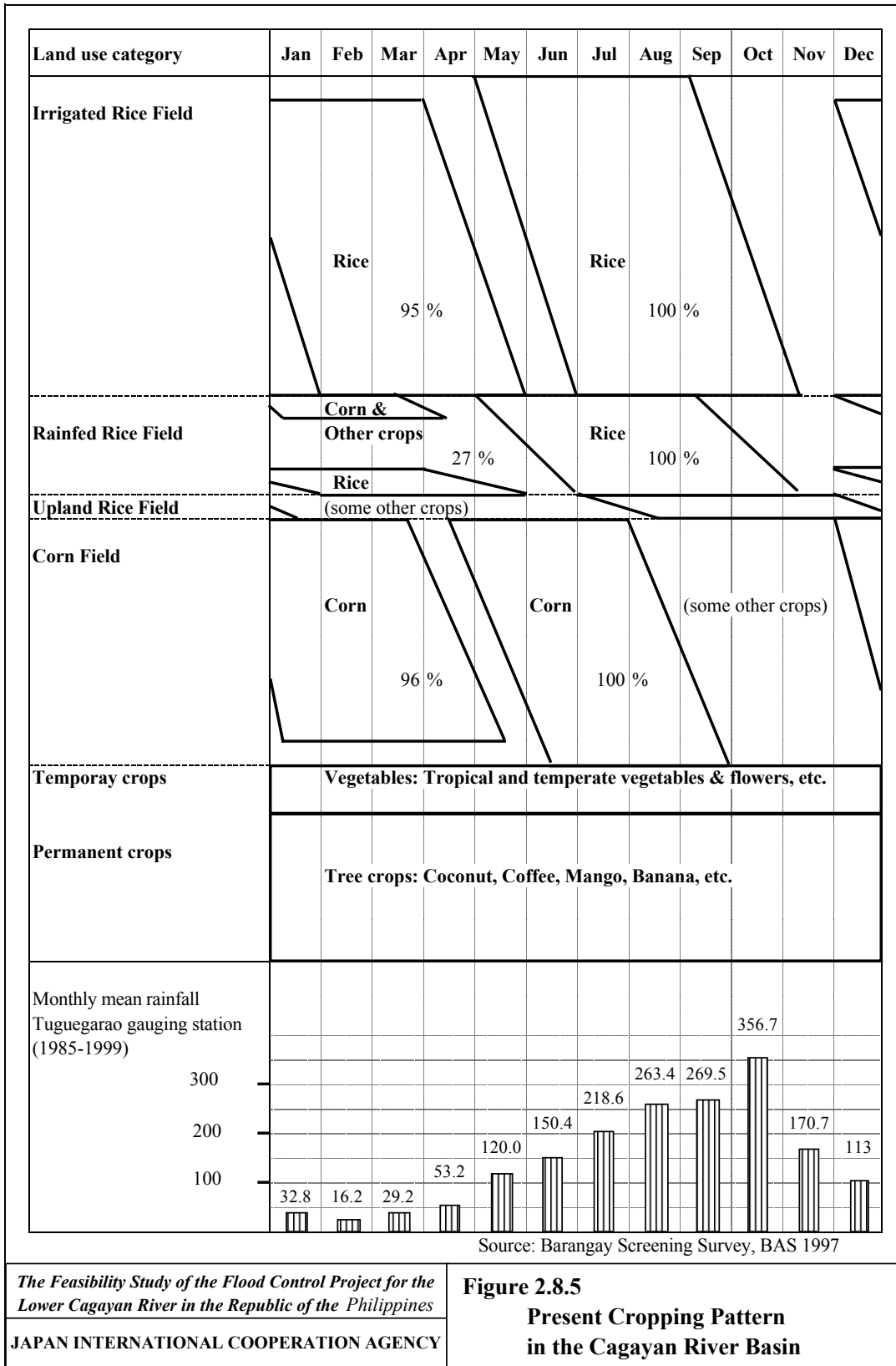
Source: "Philippine Land and Soils Management Atlas for Cagayan Valley, Region II, 1995" BSWM and "Land Use/Vegetation Map, CAR", BSWM. CAR

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Figure 2.8.4

Land Use Map

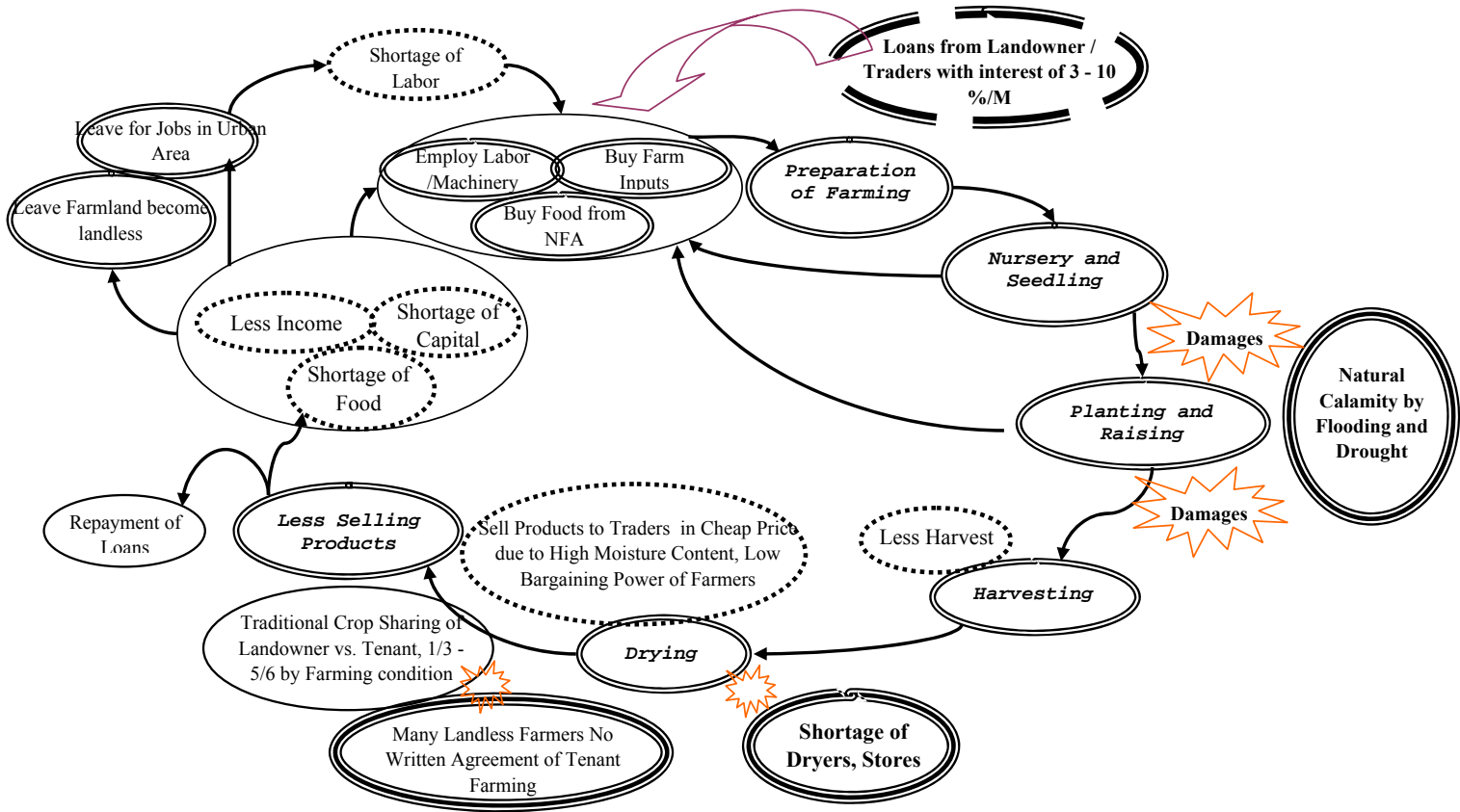


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Figure 2.8.5

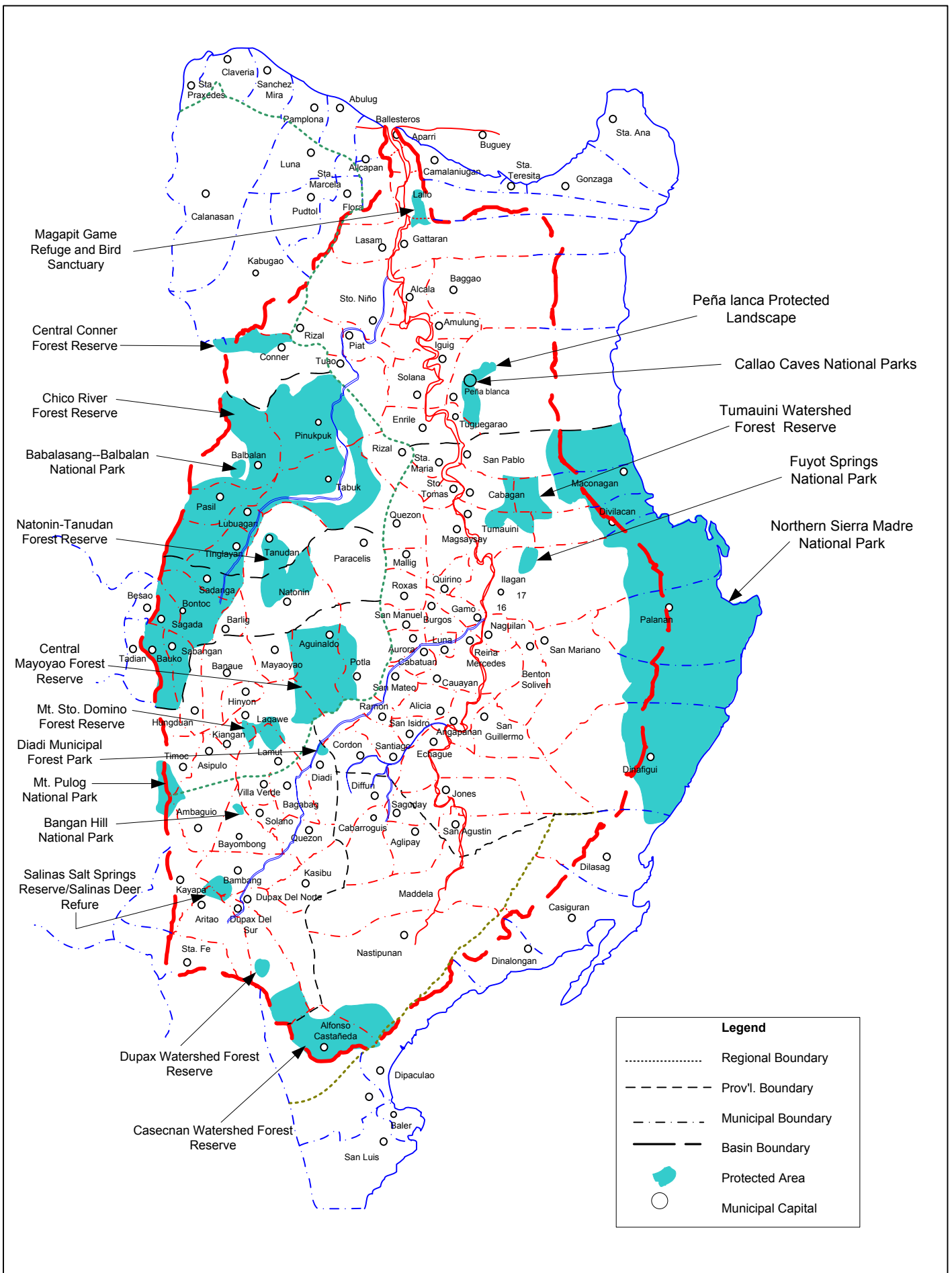
**Present Cropping Pattern
in the Cagayan River Basin**



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Figure 2.8.6 Vicious Cycle of Farmer's Livelihood in Lower Cagayan River Area

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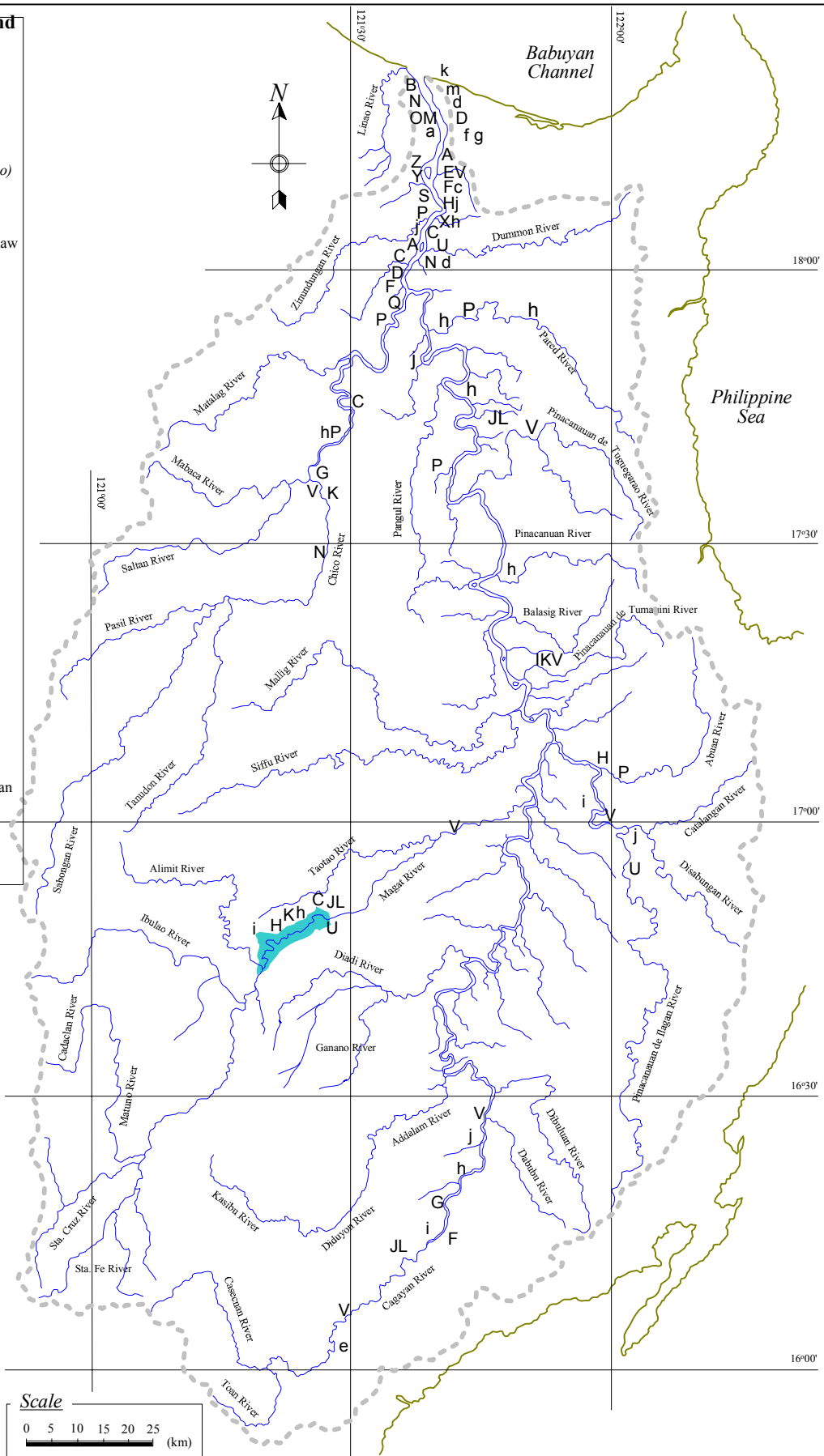
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Figure 2.11.1

Locations of Protected Areas in Cagayan Valley

- Distribution Legend**
- Class Pisces**
- A - Anchovies/Anuraw
 - B - Araro/Liwalo
 - C - Ayungin
 - D - Bakulaw
 - E - Bagsay
 - F - Banak
 - G - Carp (*Cyprinus Carpio*)
 - H - Carp (*Carassius sp.*)
 - I - Carp (silver)
 - J - Catfish (freshwater)
 - K - Catfish (manila)/Kurilaw
 - L - Catfish/Paltat/Hito
 - M - Croaker/Twel
 - N - Eel/Igat
 - O - Gizzard Shad/Kabasi
 - P - Goby/Bunog/Biya
 - Q - Gourami
 - R - Grouper/Lapu-lapu
 - S - Igat
 - T - Kansusuwit
 - U - Mudfish/Dalag
 - V - Mullet/Ludong
 - W - Mullet/Purong
 - X - Mullet/Pasga
 - Y - Seabass/Perch/Kakak/ Apahap
 - Z - Shark/Yu
 - a - Slipmouth/Ikuran/ Sapsap/ Bagsang
 - b - Snappers
 - c - Spadefish/Kapiged
 - d - Surgeonfish
 - e - Talakitok
 - f - Tarpoon/Bulan-bulan
 - g - Tilapia
 - h - Tilapia (black)
 - i - Tilapia (white)
- Class Crustacea**
- j - Ulang/Udang
 - k - Shrimp (white)/Pasayan
 - l - Prawn /Padaw
 - m - Mudcrab/Alimango
 - n - Crab (black rice)
 - o - Crab/rasa
 - p - Crab/kappi



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Figure 2.11.2
Distribution Map of Aquatic Organisms in Cagayan River System

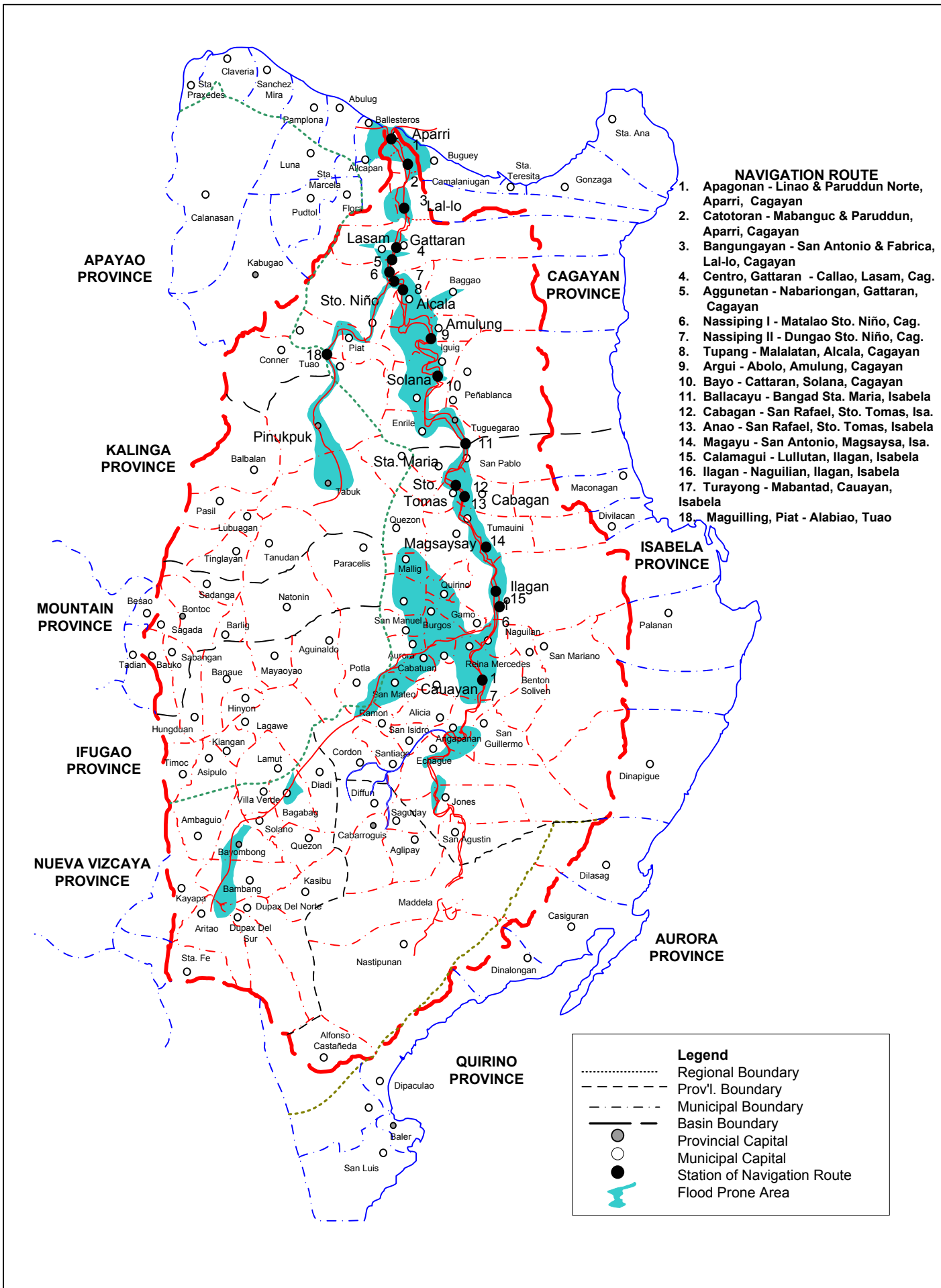


Figure 2.11.3
List of Ferry Transportation on the
Lower Cagayan River

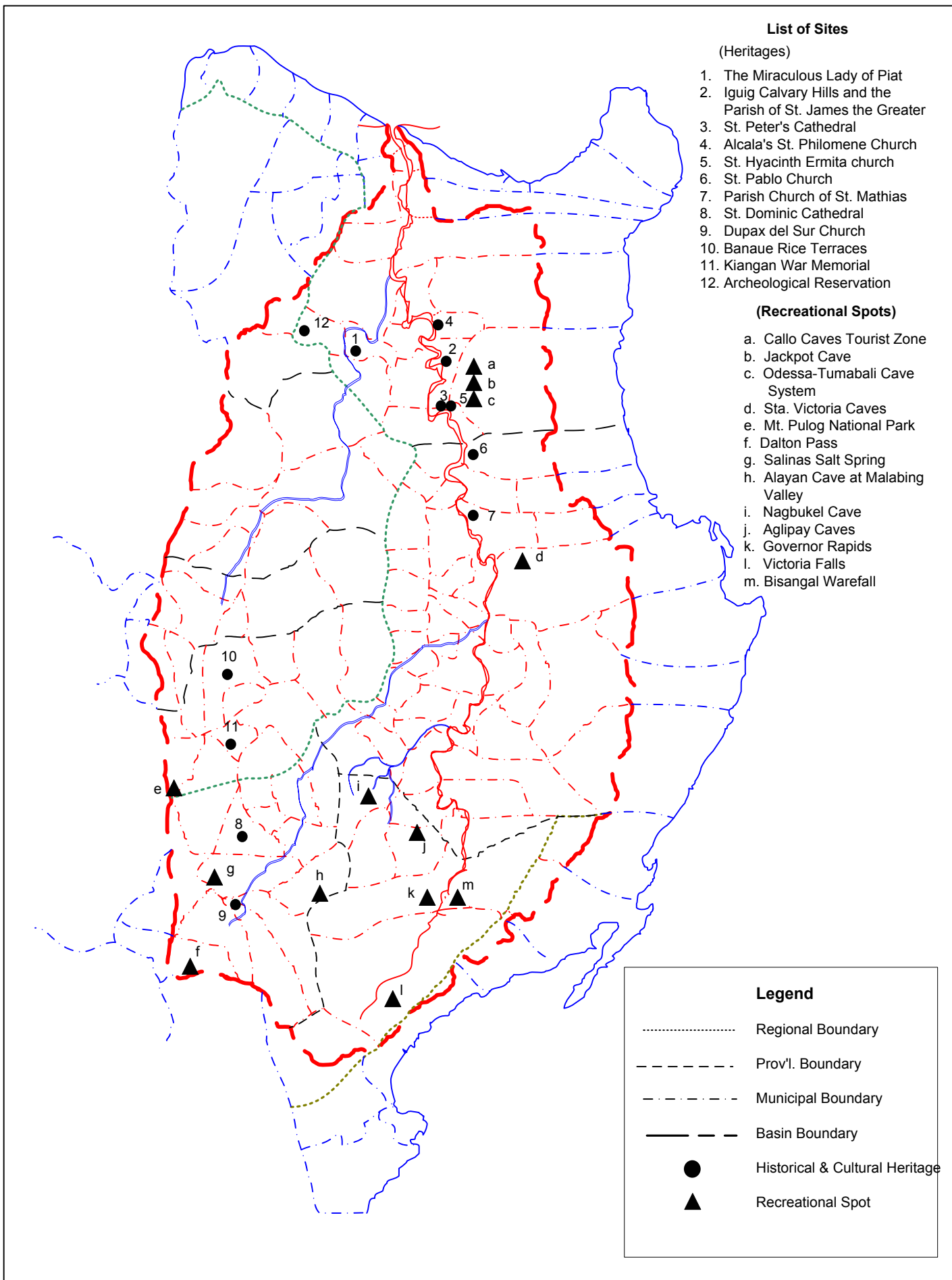
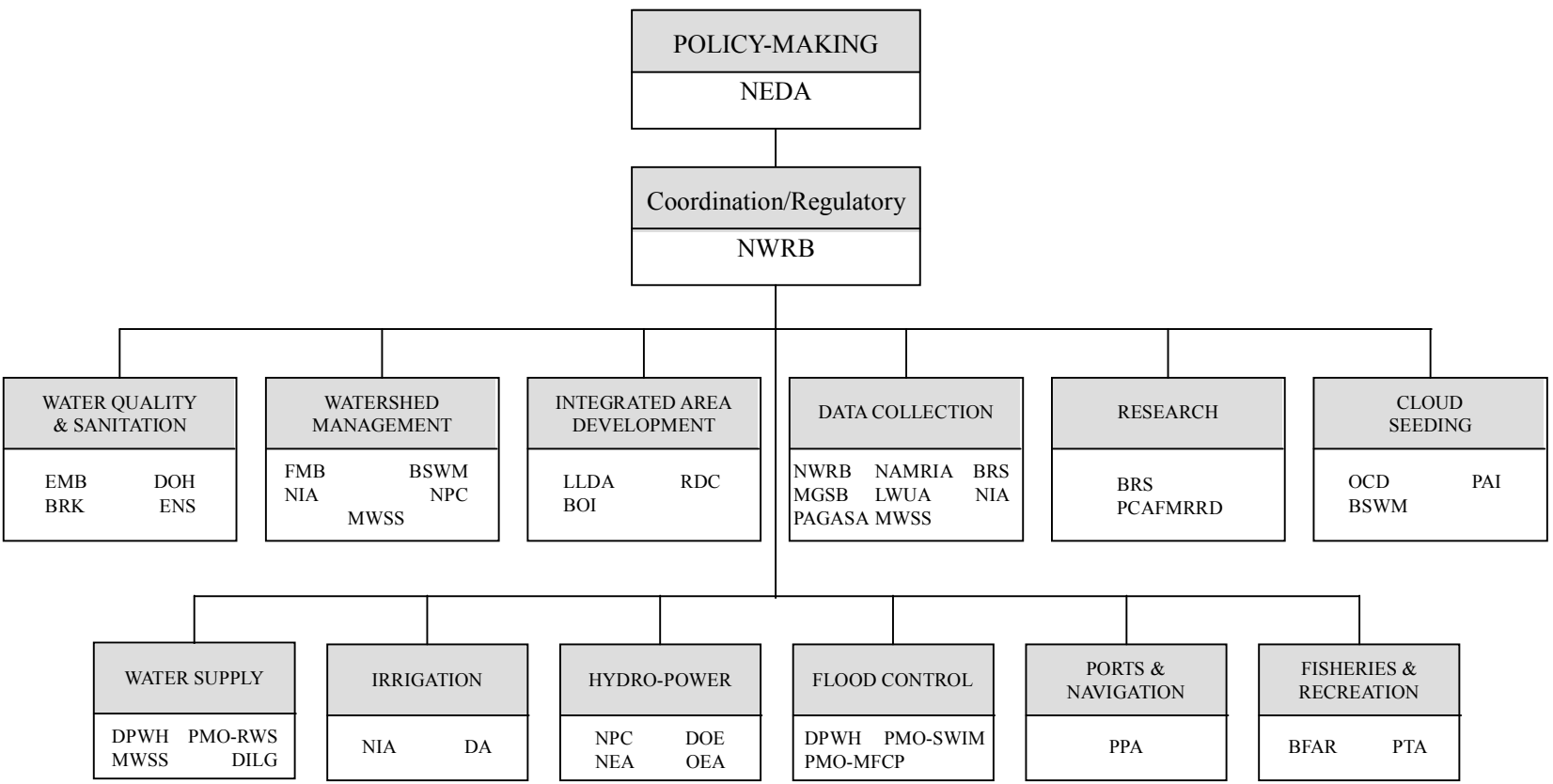


Figure 2.11.4
Locations of Historical and Cultural Heritages
and Recreational Spots in the Cagayan Valley



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Figure 2.12.1
**Functional Relationship for
Water Related Works**

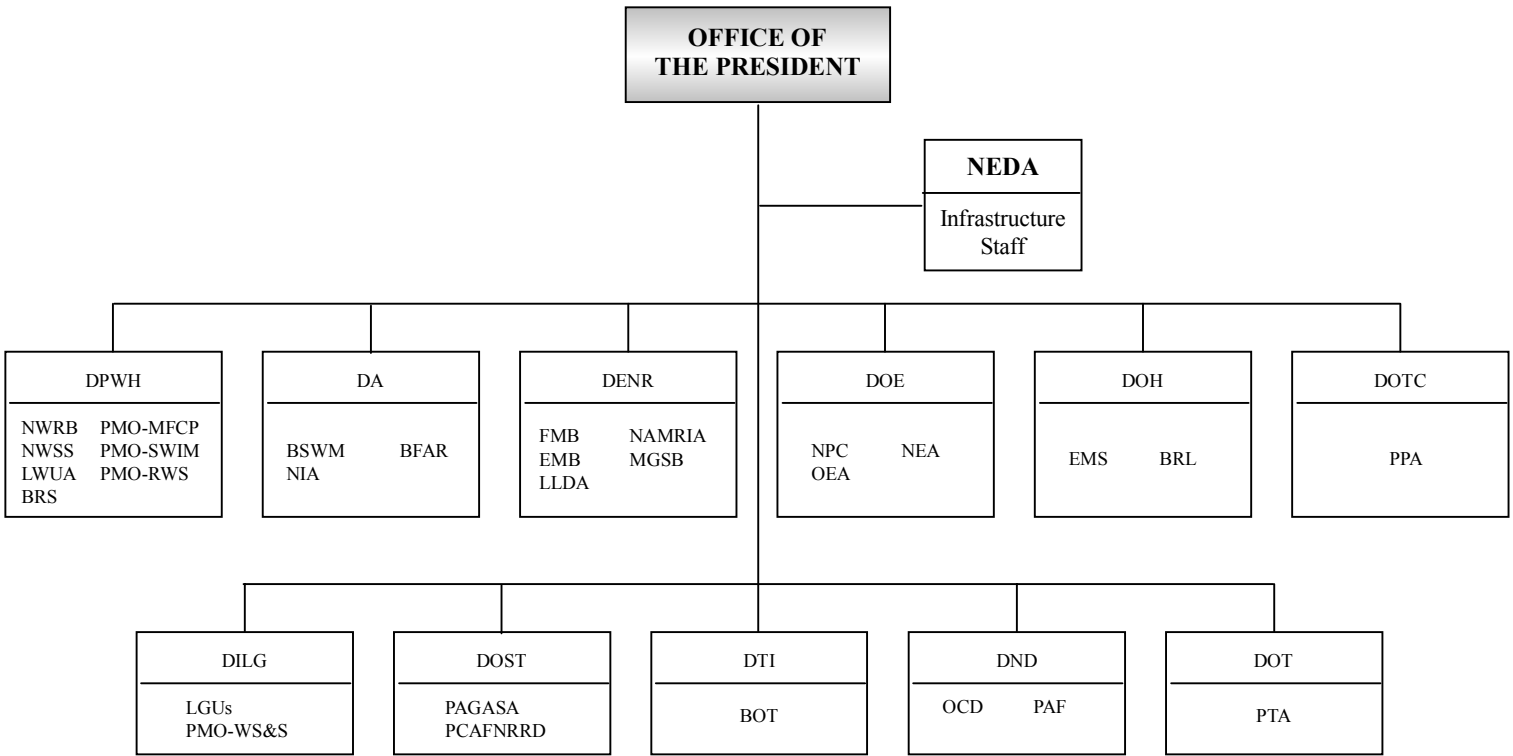
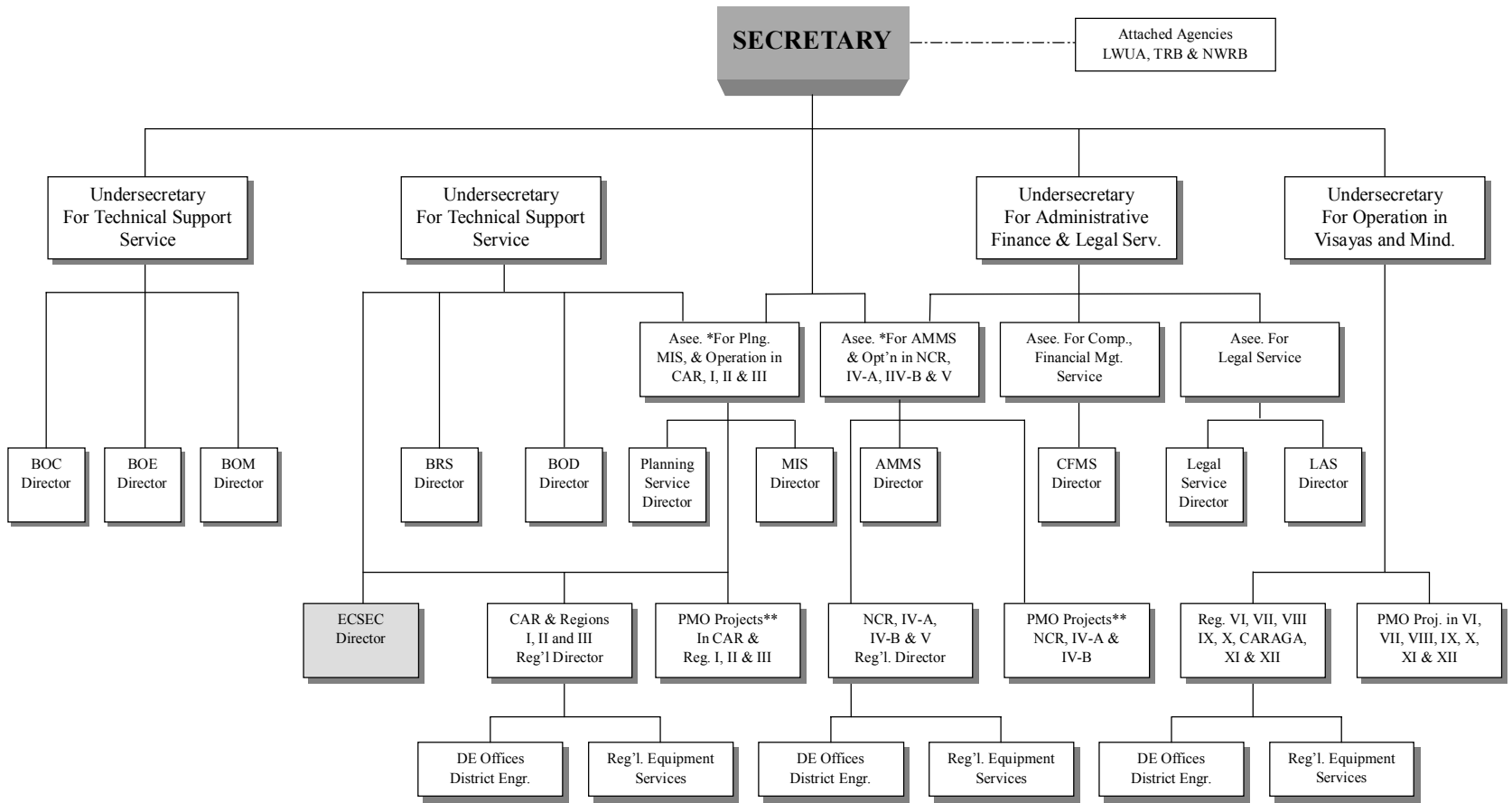


Figure 2.12.2
**Organizational Relationship for
Water Related Works**

Figure 2.12.3
Organizational Chart Department
of Public Works and Highways



* Reports to the concerned Undersecretary for matters on Services under them and directly to the Secretary for matters concerning regional operations.
** PMO Heads report to the Undersecretary and two Assistant Secretaries for operations depending on the specific geographic jurisdiction of their projects.

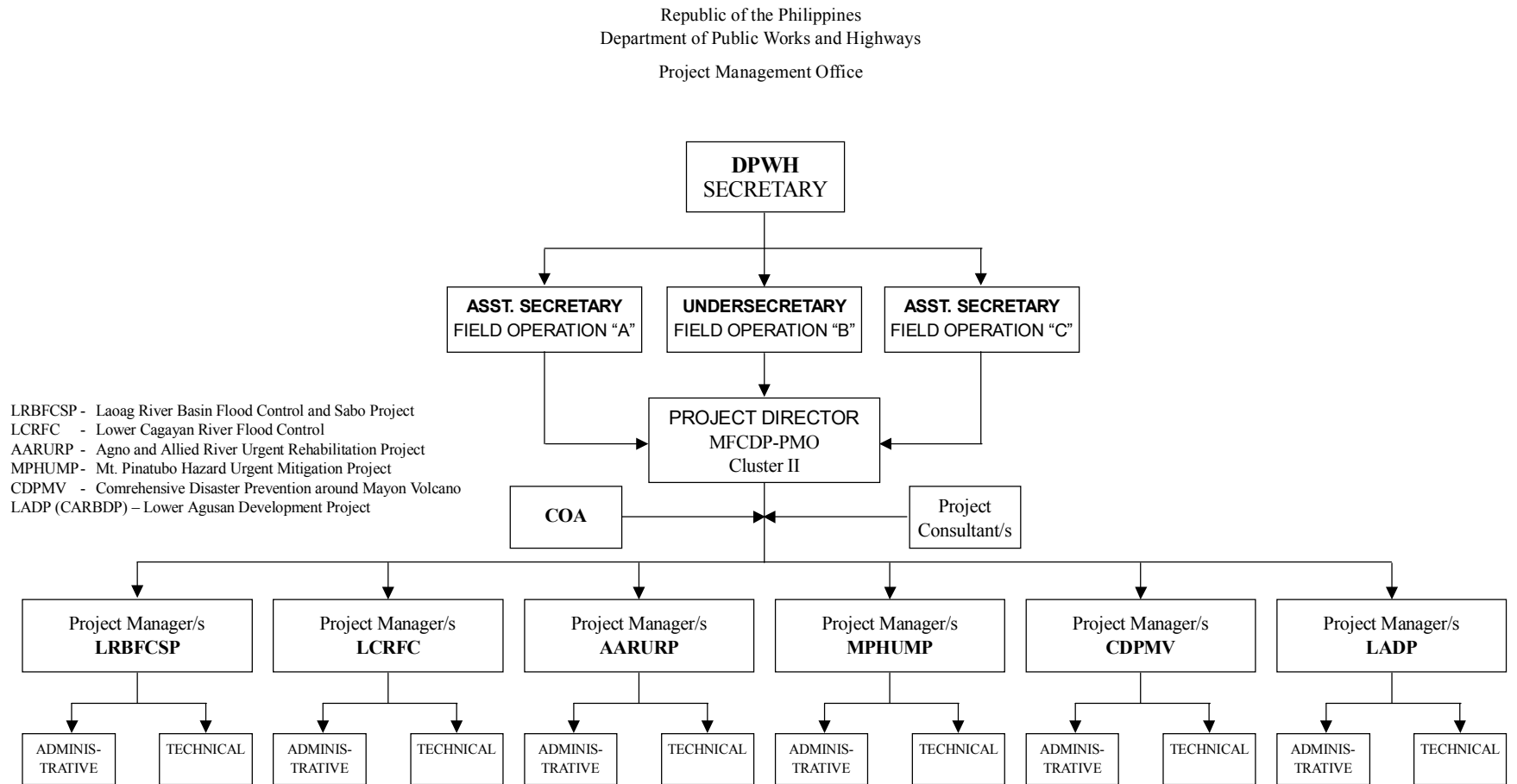


Figure 2.12.5
Overall Organization of the Regional Office

