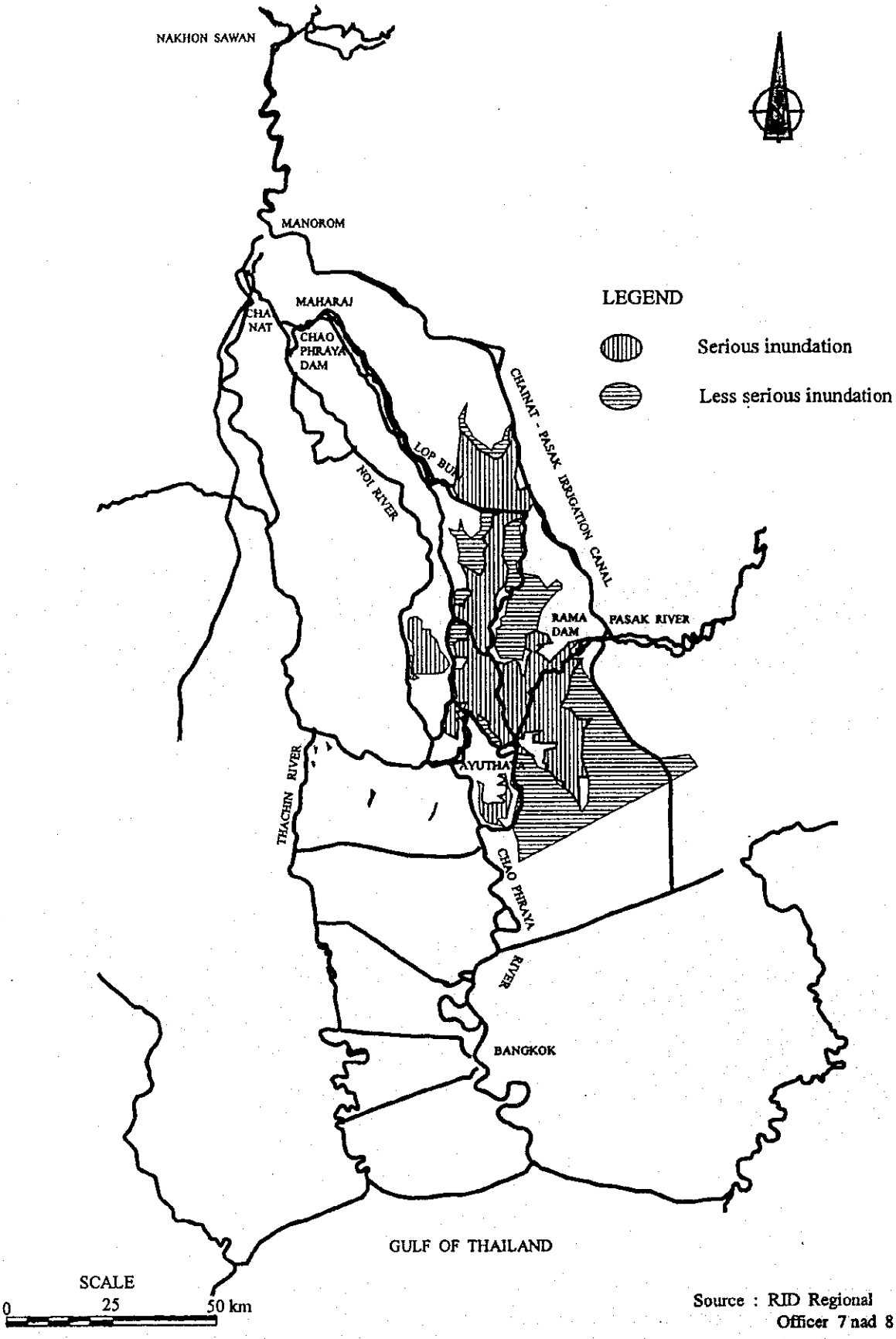
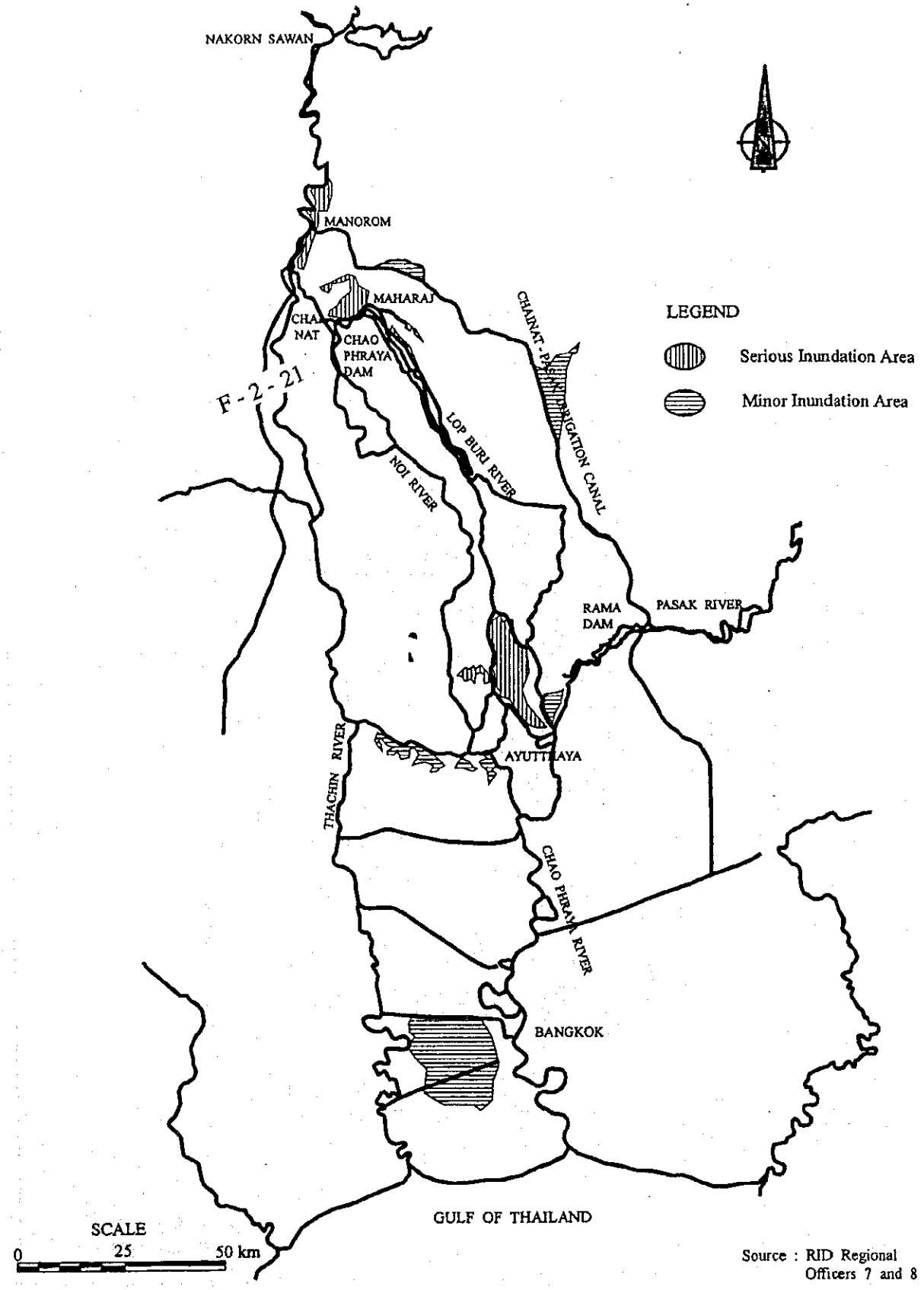
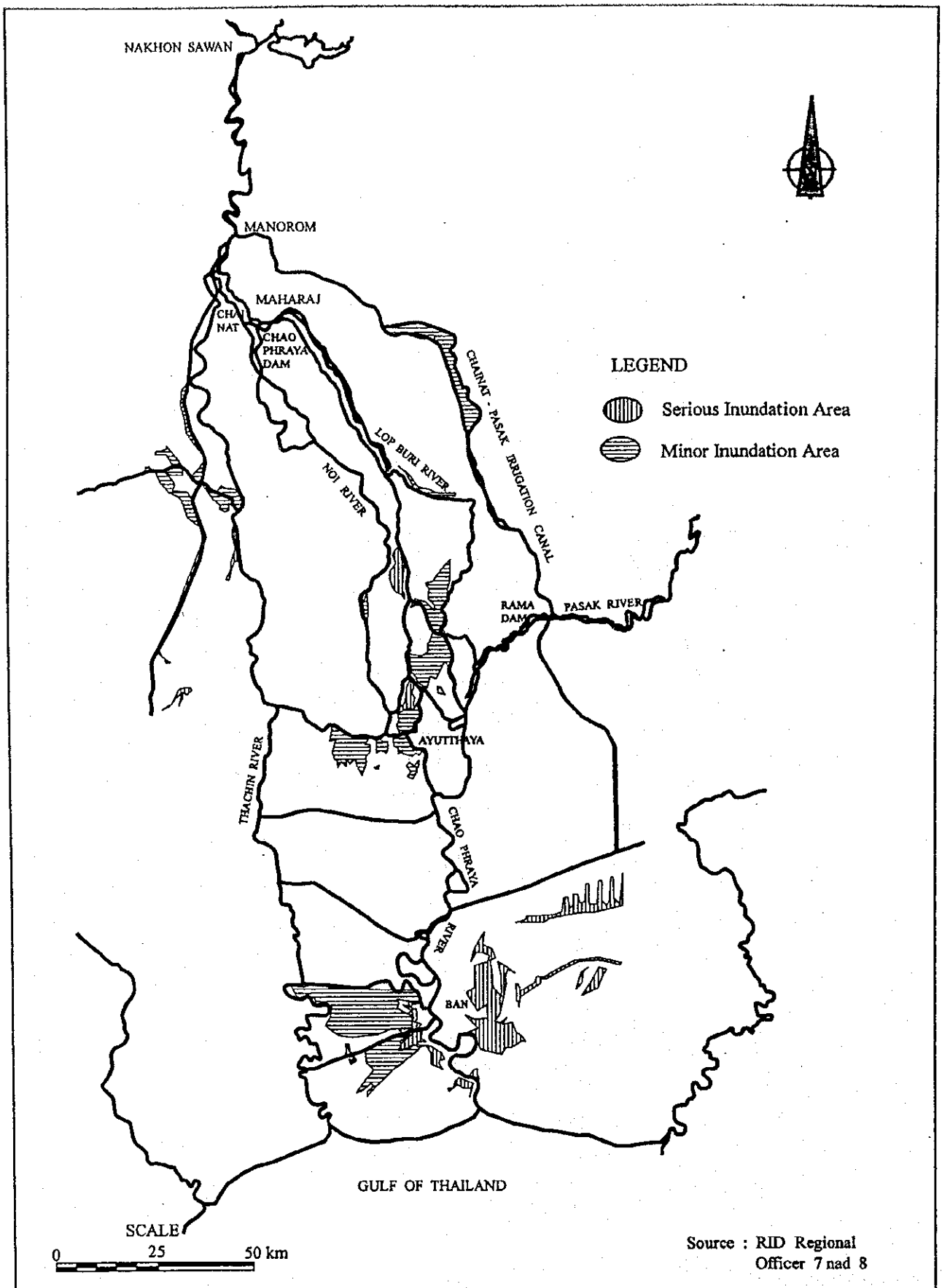


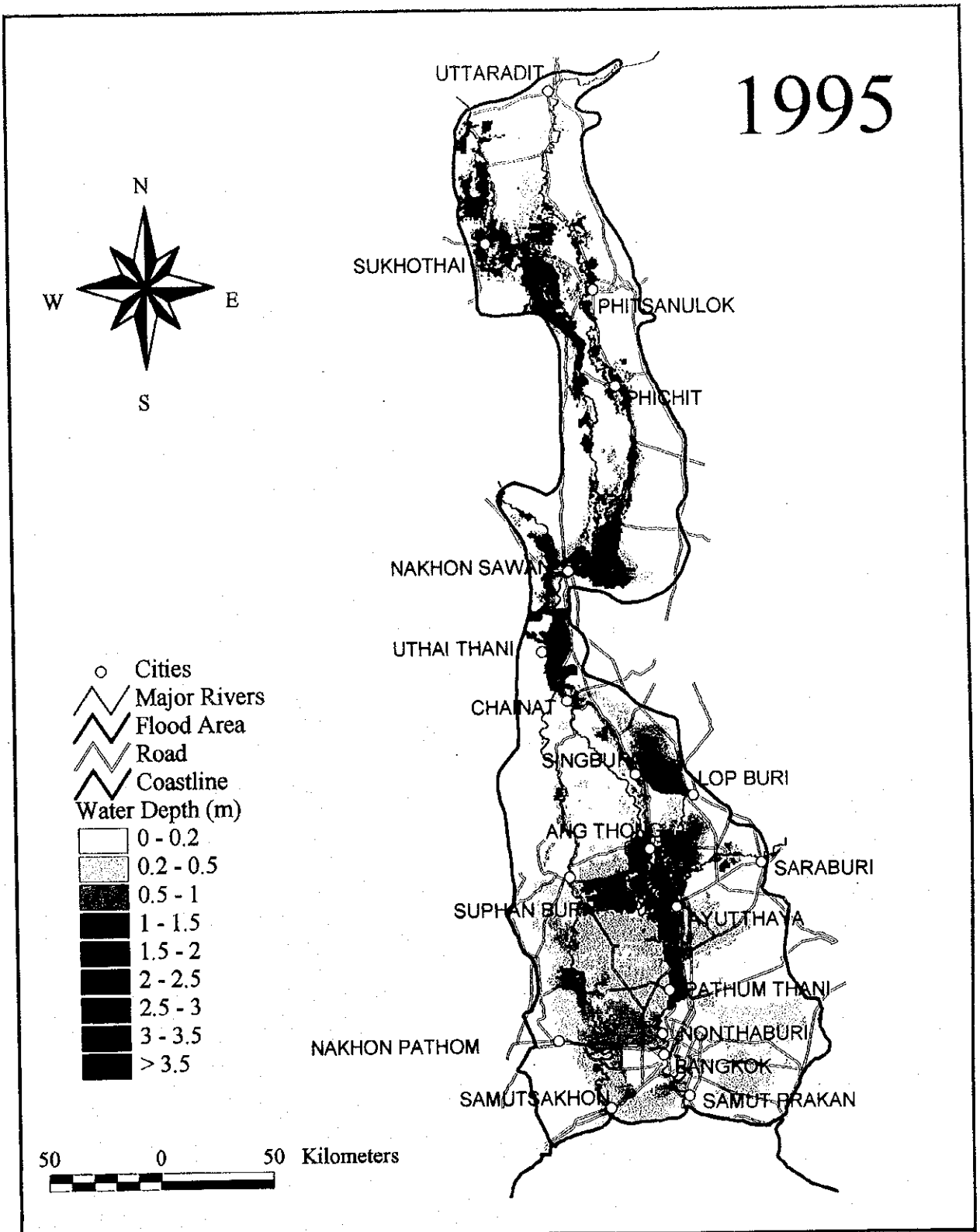
STUDY ON INTEGRATED PLAN FOR FLOOD MITIGATION IN CHAO PHRAYA RIVER BASIN	Fig. 2.5.2(1/5) Inundation Map of Recent Flood (1978)
CTI ENGINEERING CO., LTD AND INA CORPORATION	



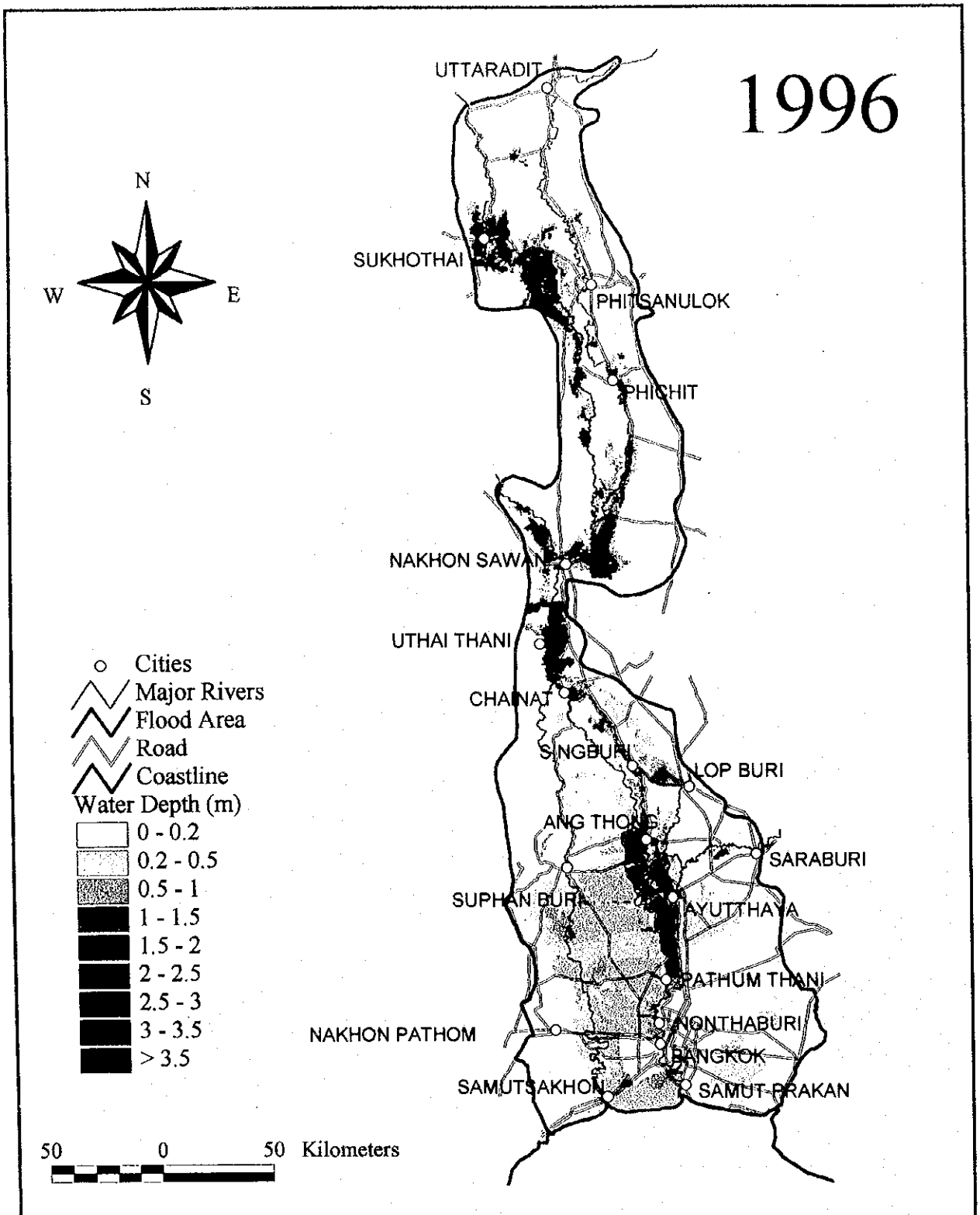
STUDY ON INTEGRATED PLAN FOR FLOOD MITIGATION IN CHAO PHRAYA RIVER BASIN	Fig. 2.5.2(2/5)
CTI ENGINEERING CO., LTD AND INA CORPORATION	Inundation Map of Recent Flood (1980)



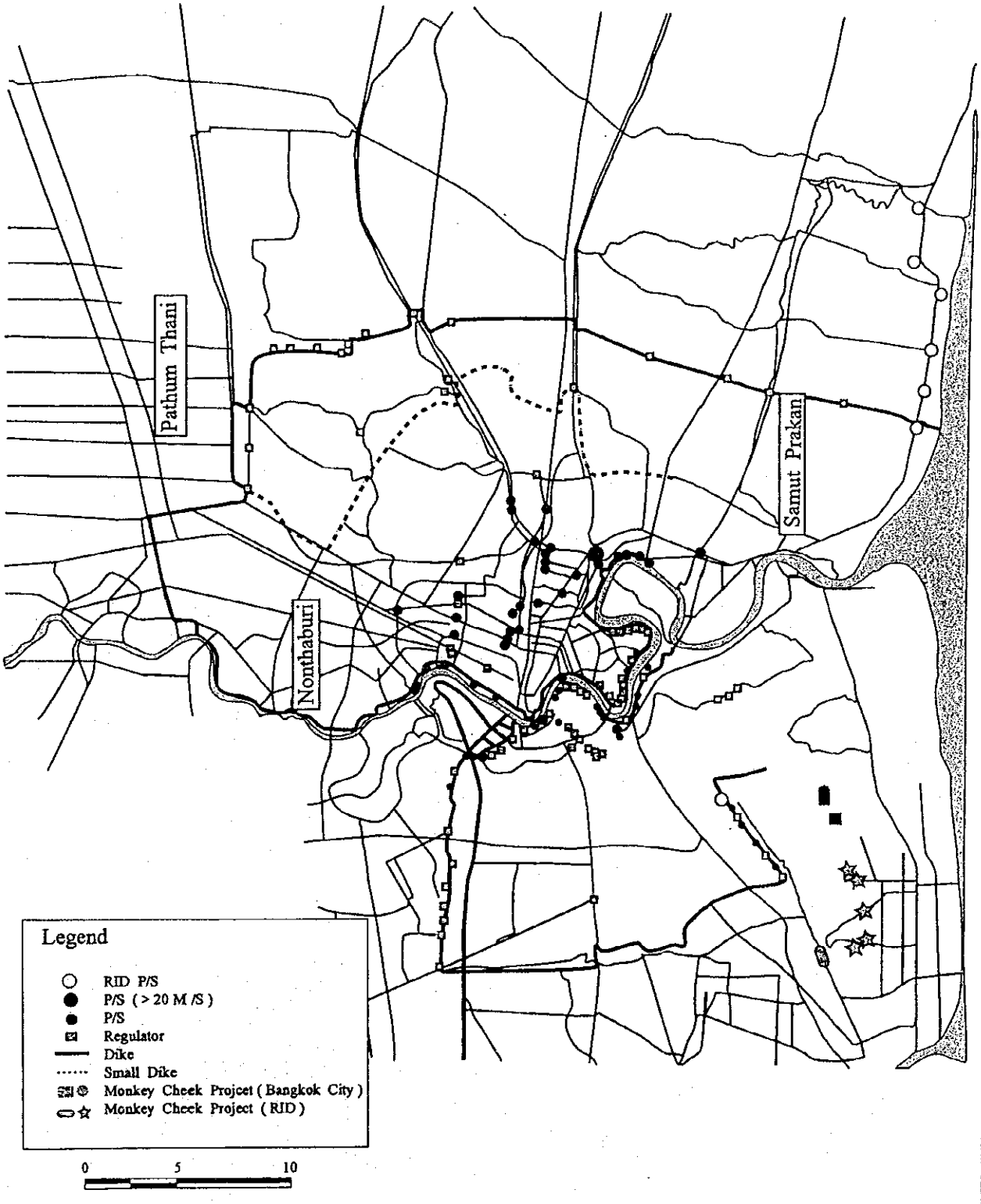
STUDY ON INTEGRATED PLAN FOR FLOOD MITIGATION IN CHAO PHRAYA RIVER BASIN	Fig. 2.5.2(3/5) Inundation Map of Recent Flood (1983)
CTI ENGINEERING CO., LTD. AND INA CORPORATION	



STUDY ON INTEGRATED PLAN FOR FLOOD MITIGATION IN CHAOPHRAYA RIVER BASIN	Fig.2.5.2 (4/5)
CTI ENGINEERING CO LTD., & INA CORPORATION	INUNDATION MAP OF RECENT FLOOD (1995)



STUDY ON INTEGRATED PLAN FOR FLOOD MITIGATION IN CHAOPHRAYA RIVER BASIN	Fig.2.5.2 (5/5)
CTI ENGINEERING CO LTD., & INA CORPORATION	INUNDATION MAP OF RECENT FLOOD (1996)

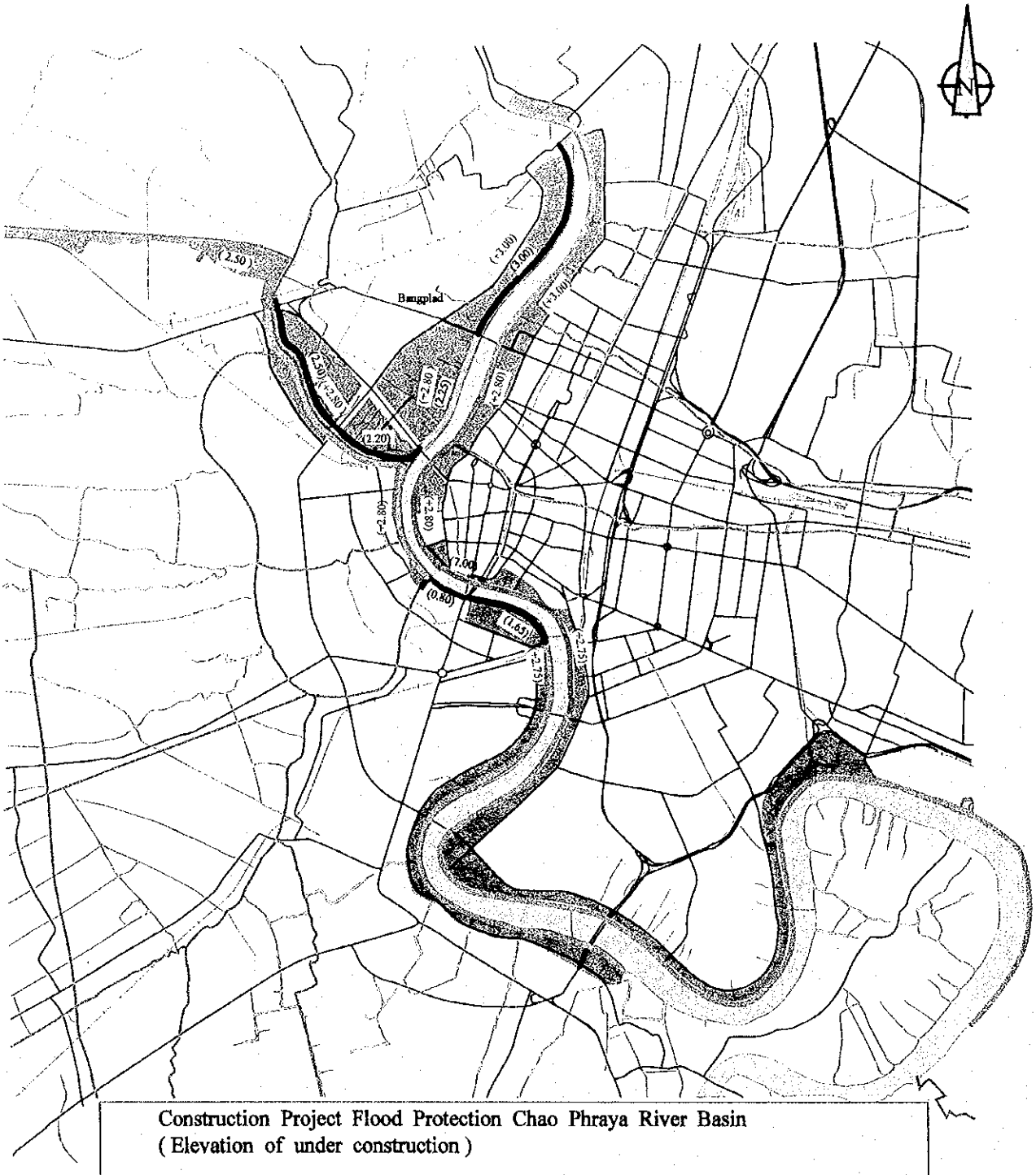


STUDY ON INTEGRATED PLAN FOR FLOOD MITIGATION IN CHAO PHRAYA RIVER BASIN

CTI ENGINEERING CO., LTD AND INA CORPORATION

Fig. 2.6.1

FLOOD PROTECTION & DRAINAGE FACILITIES OF BMA AREA



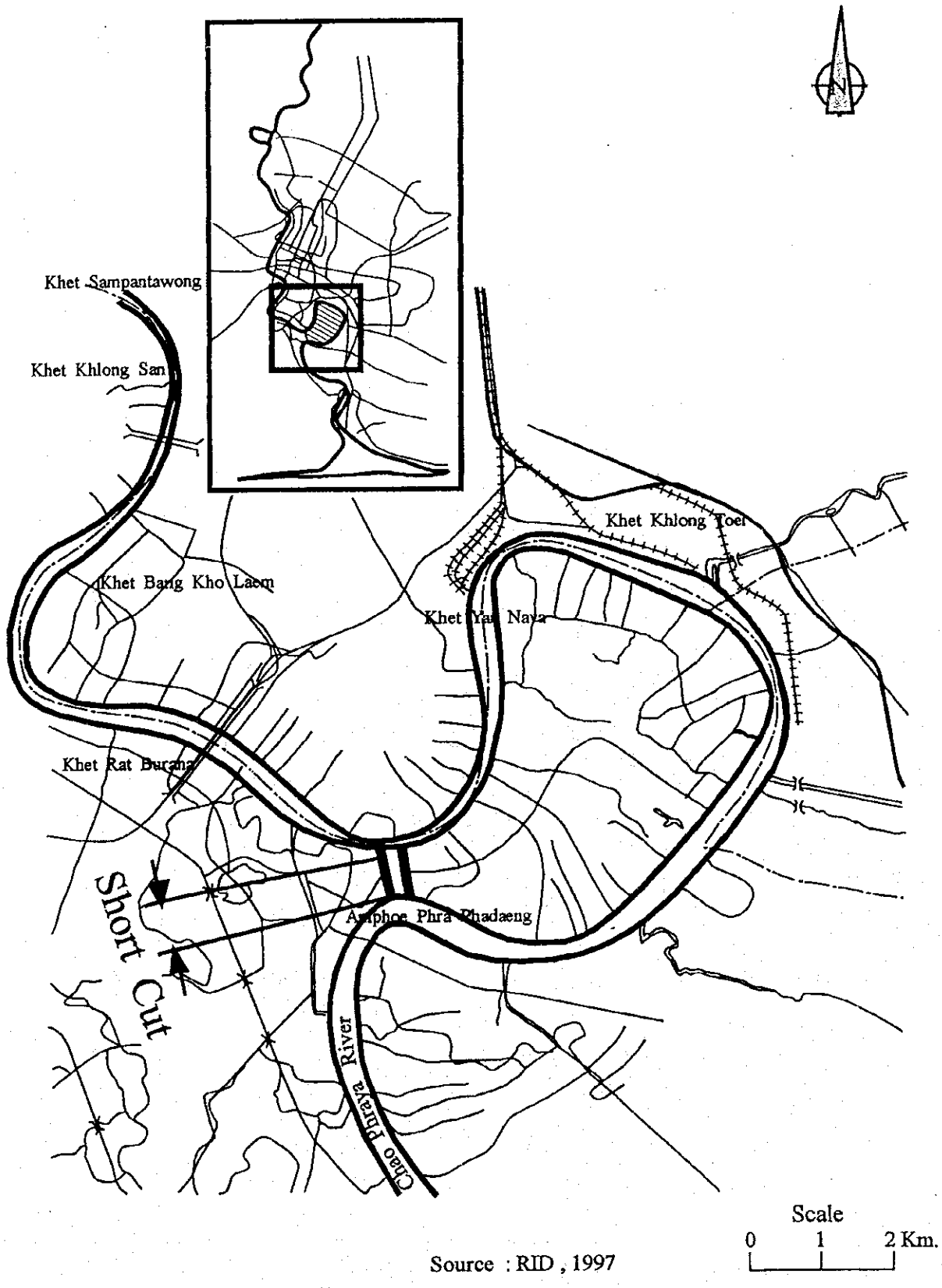
Construction Project Flood Protection Chao Phraya River Basin
(Elevation of under construction)

- Flood Area .
- Bangplad Bangkoknoi Project (1997 - 2000 Budget 784 million Baht
- Krungthon Bridge Project - Prapinkao Bridge (1996 - 1998 Budget 205.17 million Baht)
- Prapinkao Bridge Project - Charansanitwong Road (1996 - 1998 Budget 194 million Baht
- Bangkoknoi West Side Canal Project and Mahasawad Canal (1996 - 1998 Budget 191.5 million Baht)
- Prapokkao Bridge Project - Klongsan (1996 - 1998 Budget 161.33 million Baht)
- Tevet Project - Sathorn (1996 - 1997 Budget 84.8 million Baht)
- Prapokkao Bridge Project - Bangkokyai Canal (1997 Budget 20.6 million Baht)
- Construction Project Flood Protection Chao Phraya River Basin a balance .
- (+3.00) Length of dike
- (+3.00) Elevation

STUDY ON INTEGRATED PLAN FOR FLOOD MITIGATION IN CHAO PHRAYA RIVER BASIN

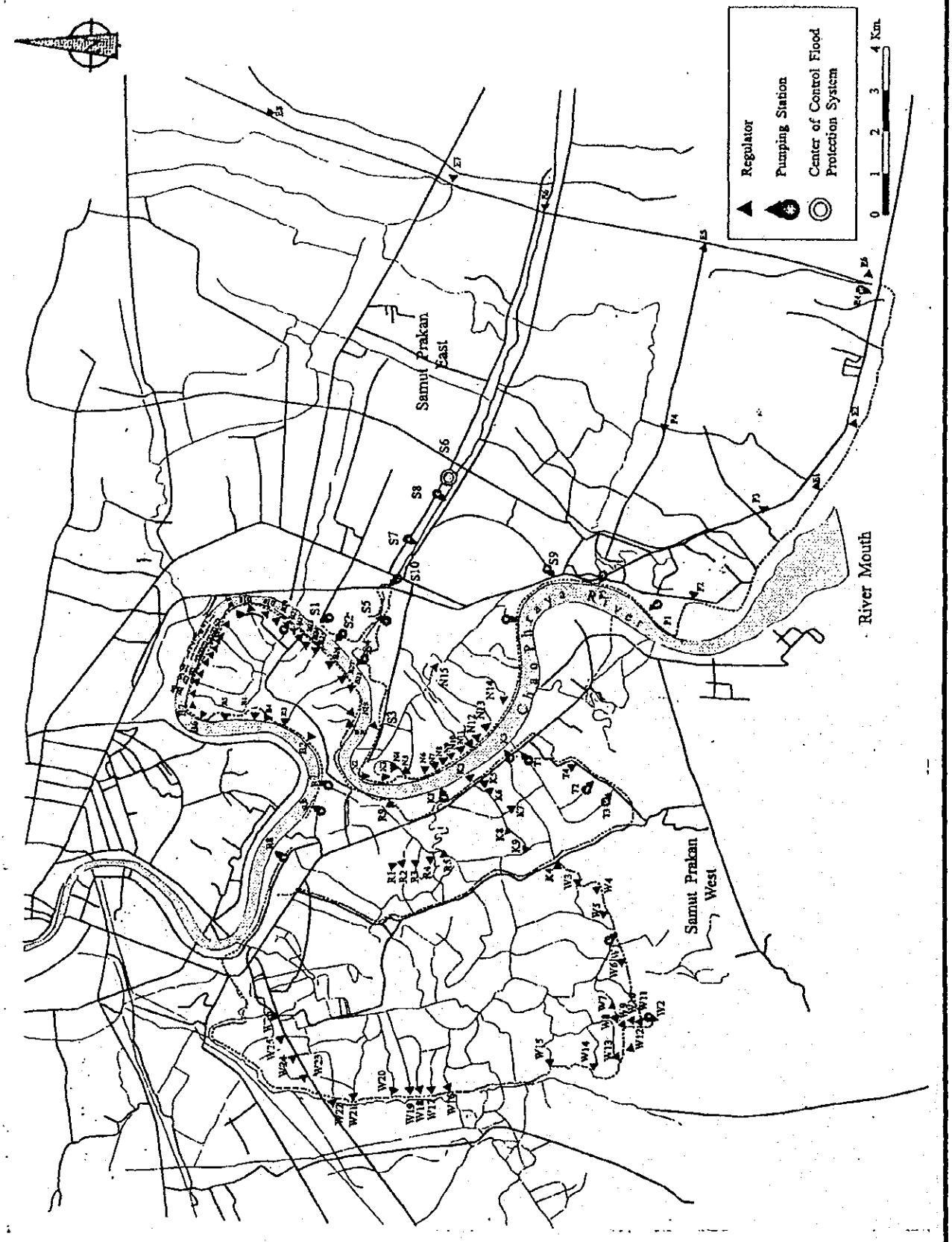
CTI ENGINEERING CO., LTD AND INA CORPORATION

Fig . 2.6.2
RIVER IMPROVEMENT PLAN FOR URBAN AREA (BANGKOK)



Source : RID , 1997

STUDY ON INTEGRATED PLAN FOR FLOOD MITIGATION IN CHAO PHRAYA RIVER BASIN	Fig. 2.6.3 RIVER IMPROVEMENT PLAN FOR LOOP-CUT AT BANGKOK PORT
CTI ENGINEERING CO., LTD AND INA CORPORATION	

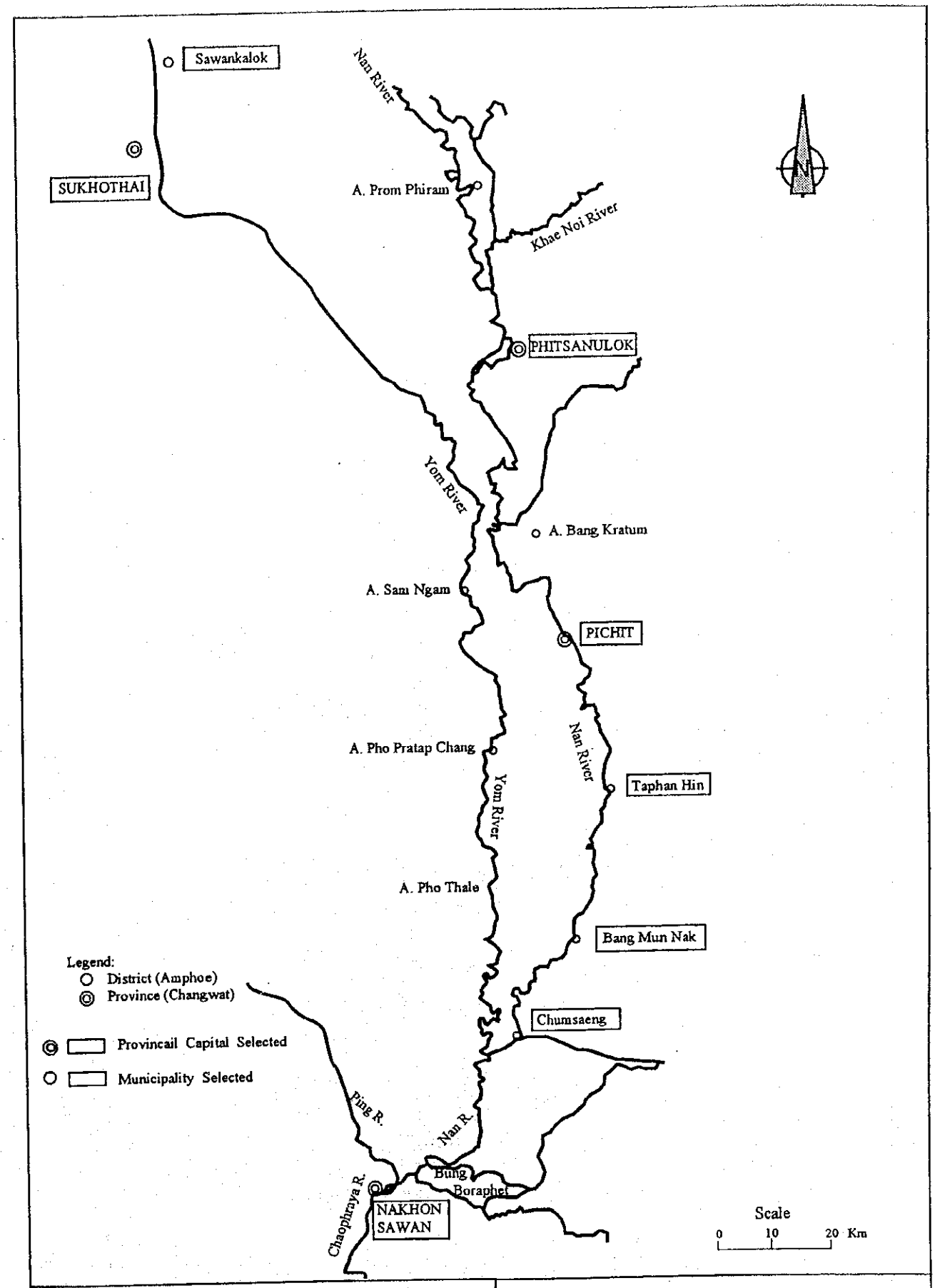


STUDY ON INTEGRATED PLAN FOR FLOOD MITIGATION IN CHAO PHRAYA RIVER BASIN

CTI ENGINEERING CO., LTD AND INA CORPORATION

Fig. 2.6.4

RIVER IMPROVEMENT PLAN FOR URBAN AREA IN SAMUT PRAKAN

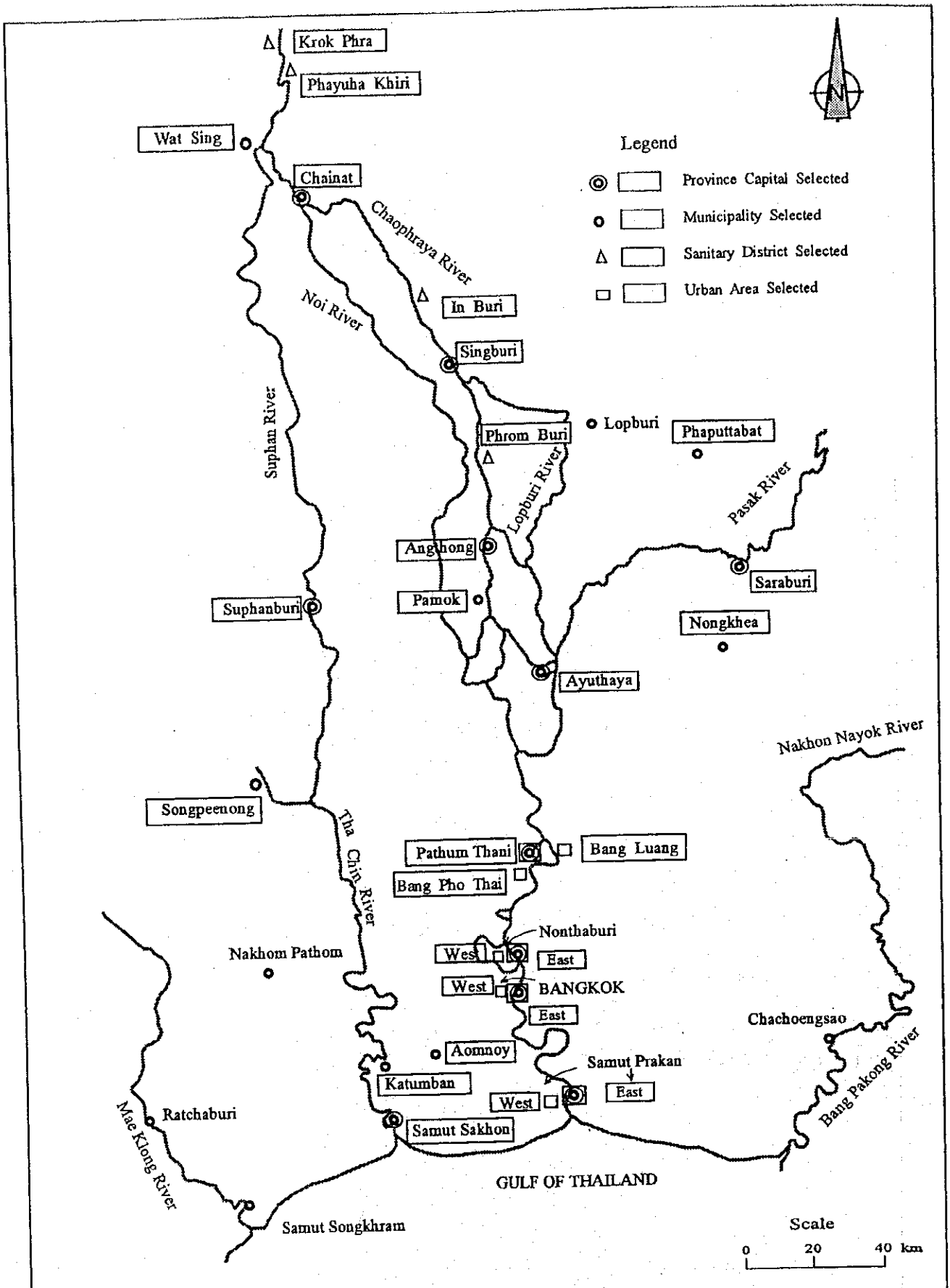


STUDY ON INTEGRATED PLAN FOR FLOOD MITIGATION IN CHAO PHRAYA RIVER BASIN

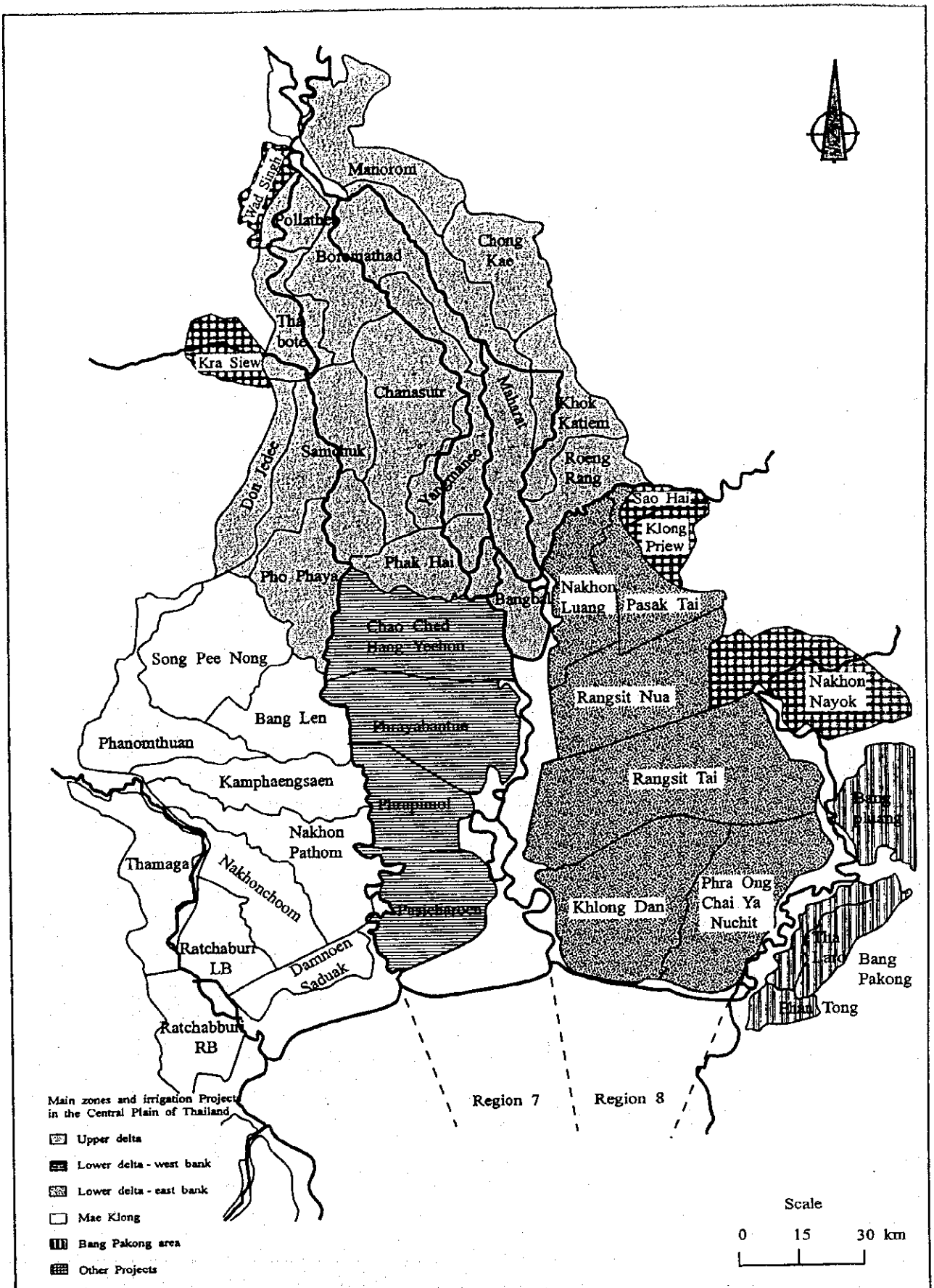
CTI ENGINEERING CO., LTD. AND INA CORPORATION

Fig. 2.6.5(1/2)

LOCATION OF SELECTED URBAN AREAS



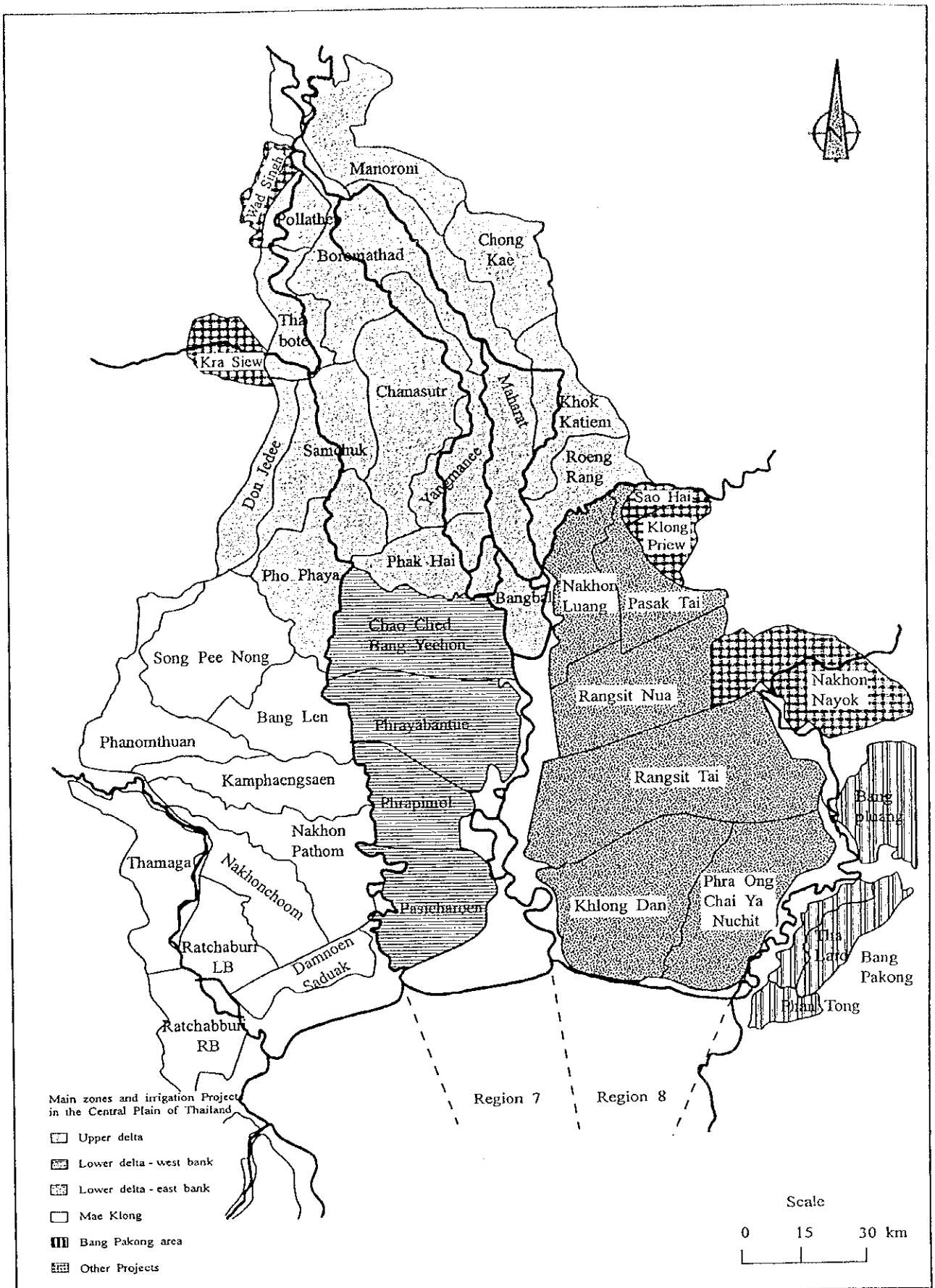
STUDY ON INTEGRATED PLAN FOR FLOOD MITIGATION IN CHAO PHRAYA RIVER BASIN	Fig. 2.6.5(2/2) LOCATION OF SELECTED URBAN AREAS
CTI ENGINEERING CO., LTD AND INA CORPORATION	



STUDY ON INTEGRATED PLAN FOR FLOOD MITIGATION IN CHAO PHRAYA RIVER BASIN

CTI ENGINEERING CO., LTD AND INA CORPORATION

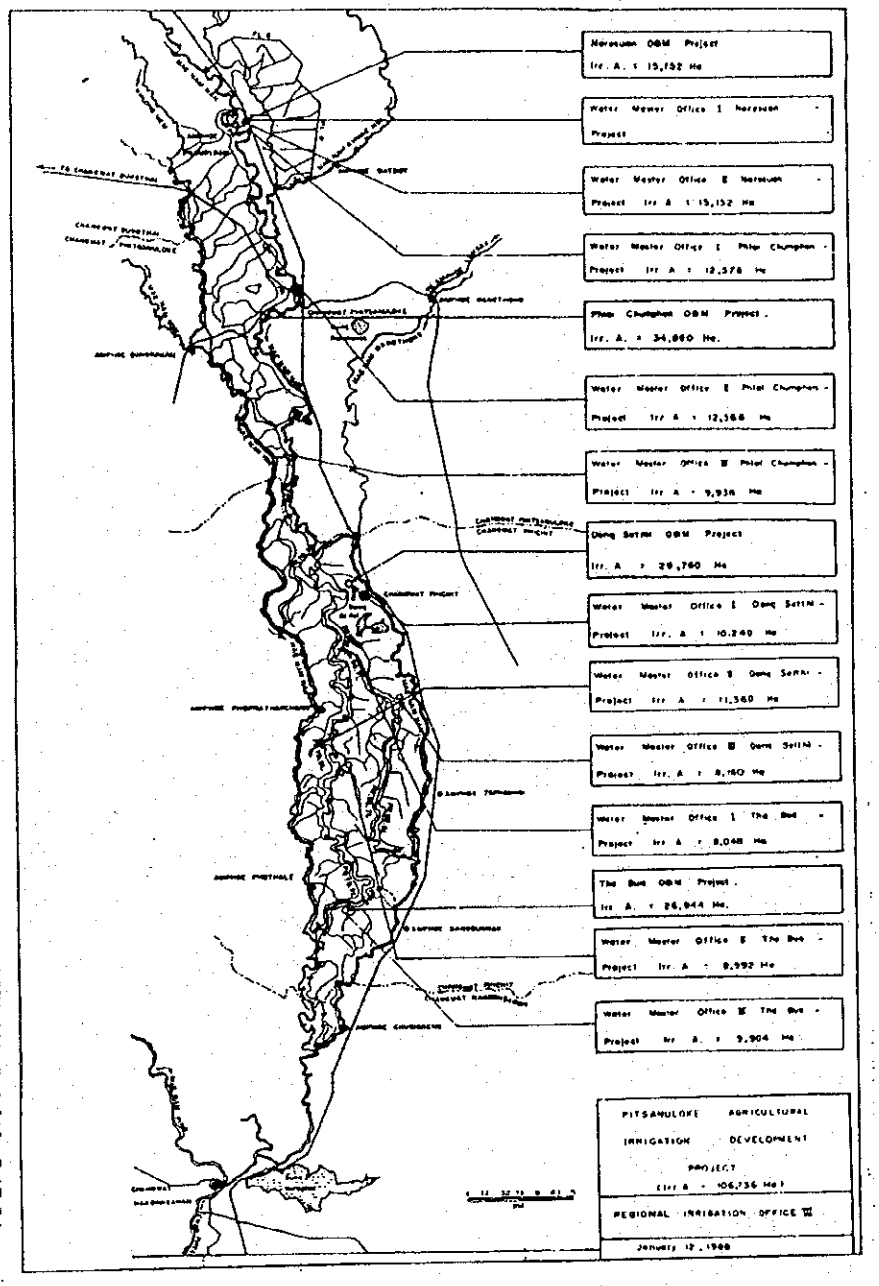
Fig. 2.6.6
COMMAND AREAS OF RID PROJECT OFFICE IN CHAO PHRAYA DELTA



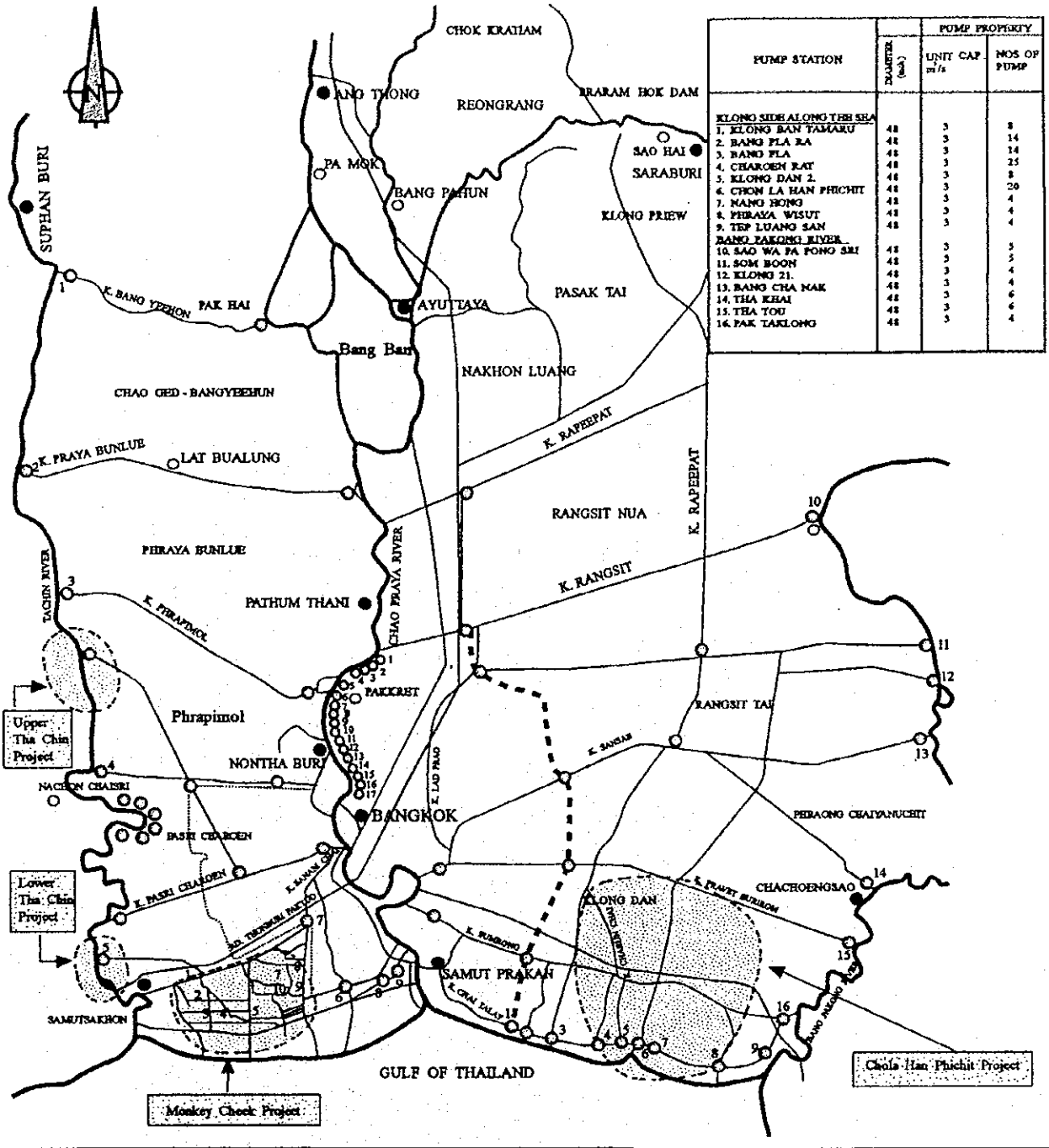
STUDY ON INTEGRATED PLAN FOR FLOOD MITIGATION IN CHAO PHRAYA RIVER BASIN

CTI ENGINEERING CO., LTD AND INA CORPORATION

Fig. 2.6.6
COMMAND AREAS OF RID PROJECT OFFICE IN CHAO PHRAYA DELTA



STUDY ON INTEGRATED PLAN FOR FLOOD MITIGATION IN CHAO PHRAYA RIVER BASIN	Fig. 2.6.7 COMMAND AREA OF RID PROJECT OFFICE IN YOM-NAN BASIN
CTI ENGINEERING CO., LTD AND INA CORPORATION	



PUMP STATION	DIAMETER (inch)	PUMP PROPERTY: UNIT CAP m³/s	PUMP PROPERTY: NOS OF PUMP
KLONG SIDE ALONG THE SEA			
1. KLONG BAN TAMARU	48	3	8
2. BANG PLA RA	48	3	14
3. BANG PLA	48	3	14
4. CHAROEN RAT	48	3	25
5. KLONG DAN 2.	48	3	8
6. CHON LA HAN PHICHIT	48	3	20
7. NANG HONG	48	3	4
8. PHRAYA WISUT	48	3	4
9. TEP LUANG SAN	48	3	4
BANG PAKONG RIVER			
10. SAO WA PA PONG SRI	48	3	3
11. SOM BOON	48	3	3
12. KLONG 21.	48	3	4
13. BANG CHA NAK	48	3	4
14. THA KHAI	48	3	6
15. THA TOU	48	3	6
16. PAK TAKLONG	48	3	4

PUMP STATION	PUMP PROPERTY: DIAMETER (inch)	UNIT CAP m³/s	NOS OF PUMP
EAST BANK			
1. KLONG BAN TAI	48	3	3
2. BAN KAO	24	1	2
3. BAN PHUNG	48	3	3
4. BANG PAD NAI	48	3	3
5. WAT KHLANG KET	20	0.5	3
6. BANG TARAT	48	3	4
7. BANG THAOLANCE	48	3	2
8. BANG SUE NOI	20	0.5	3
9. BANG KA SOR	20	0.5	3

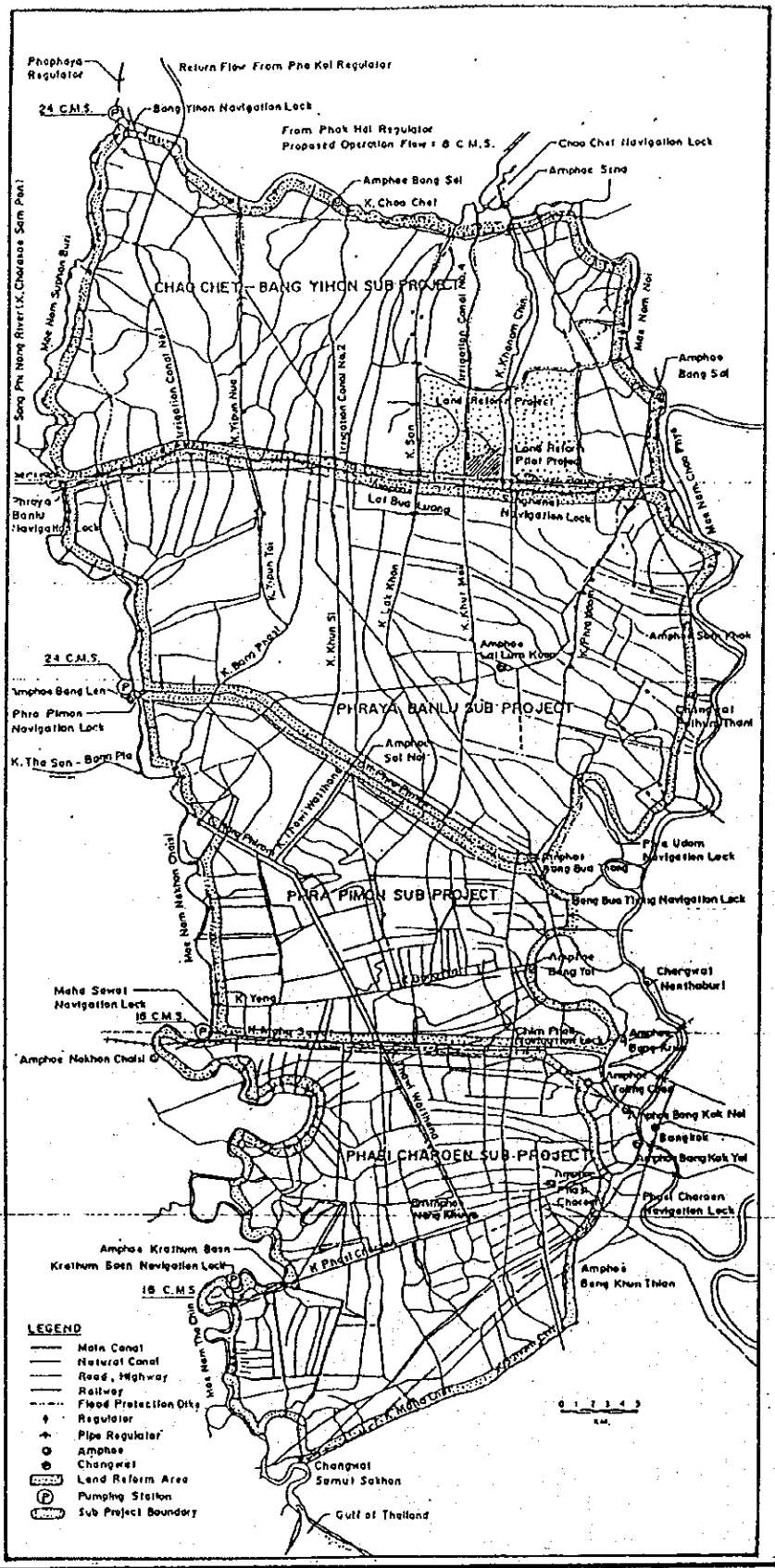
PUMP STATION	PUMP PROPERTY: DIAMETER (inch)	UNIT CAP m³/s	NOS OF PUMP
10. BANG SUE NOI	48	3	2
11. MA KHAM PHONG	20	0.5	3
12. BANG PHRACK 2	20	0.5	3
13. BANG PHRACK	48	3	2
14. BANG TA NOW SRI	48	3	2
15. BANG KHUN THIAN	20	0.5	3
16. BANG MOON NAK	20	0.5	3
17. BANG KHEN KAO	48	3	3
18. BANG KHEN MAI	48	3	4

PUMP STATION	PUMP PROPERTY: DIAMETER (inch)	UNIT CAP. m³/s	NOS OF PUMP
THACHIN RIVER			
1. BANG YEEHON	48	3	8
2. PHRAYA BUNLUE	48	3	8
3. PHRAPIMOL	48	3	8
4. KLONG MAHA SAWAT	48	3	6
5. KLONG SRI WA PA SAWAT	48	3	4
6. KLONG CHOK KRABU	24	1	2
THE SIDE ALONG THE SEA			
7. KLONG RATCHAMONTRI	48	3	3
8. KLONG SUAN	48	3	6
9. KLONG KRA OOM	48	3	3

STUDY ON INTEGRATED PLAN FOR FLOOD MITIGATION IN CHAO PHRAYA RIVER BASIN

CTI ENGINEERING CO., LTD AND INA CORPORATION

Fig. 2.6.8
RID DRAINAGE FACILITIES AND ONGOING PROJECT

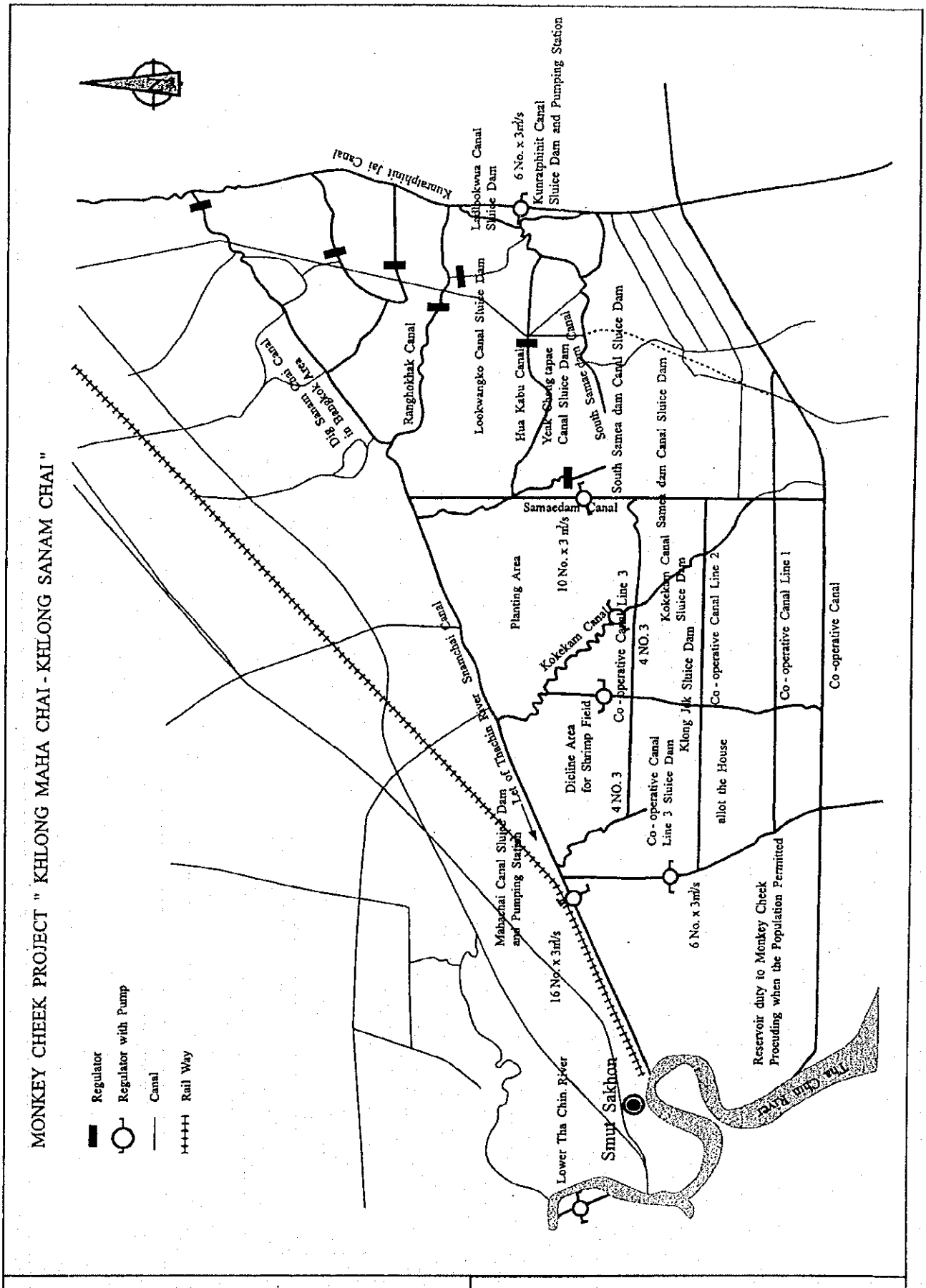


STUDY ON INTEGRATED PLAN FOR FLOOD MITIGATION IN CHAO PHRAYA RIVER BASIN

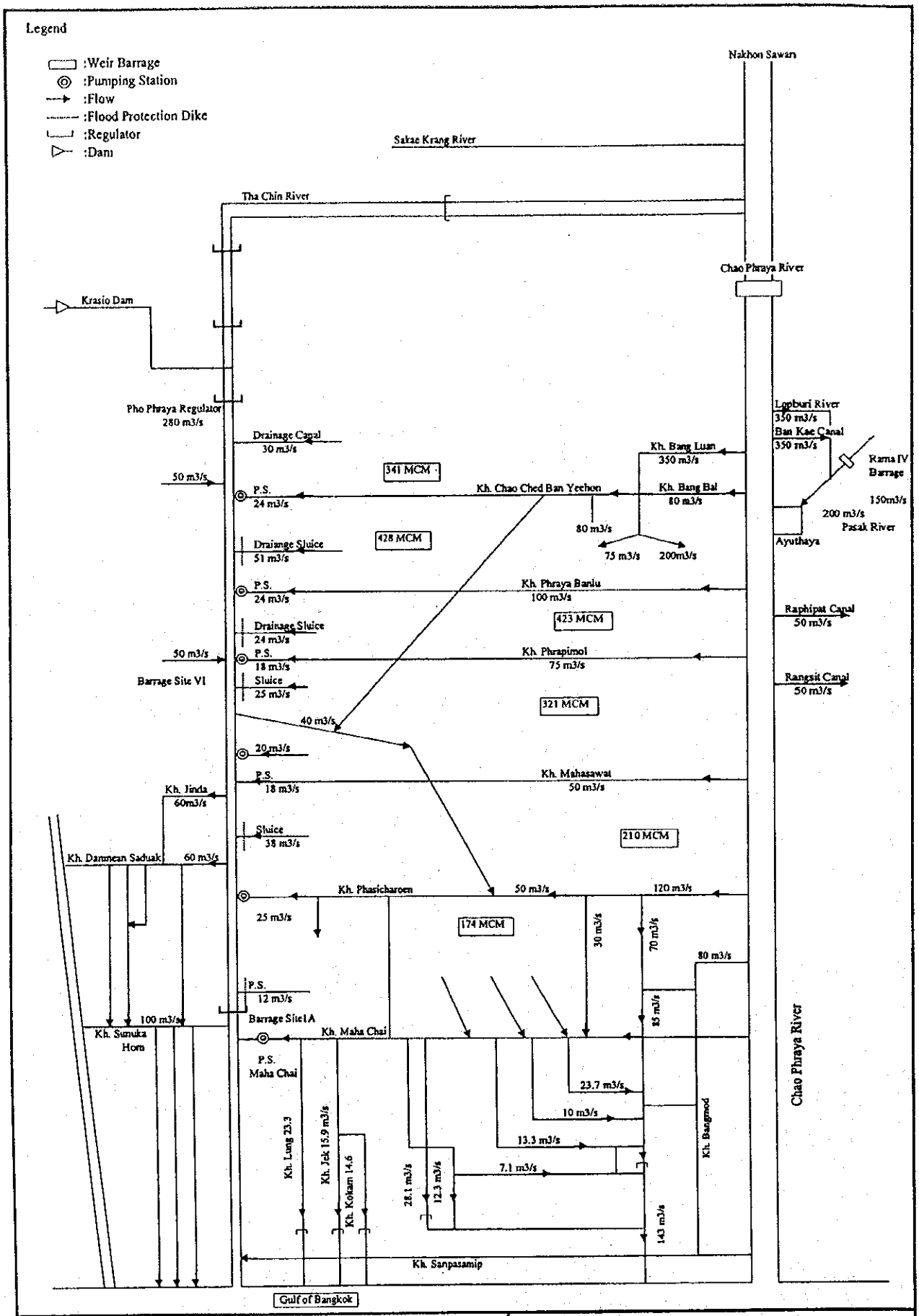
CTI ENGINEERING CO., LTD AND INA CORPORATION

Fig. 2.6.9

WEST BANK OF LOWER DELTA



STUDY ON INTEGRATED PLAN FOR FLOOD MITIGATION IN CHAO PHRAYA RIVER BASIN	Fig. 2.6.10 MONKEY CHEEK PROJECT
CTI ENGINEERING CO., LTD AND INA CORPORATION	

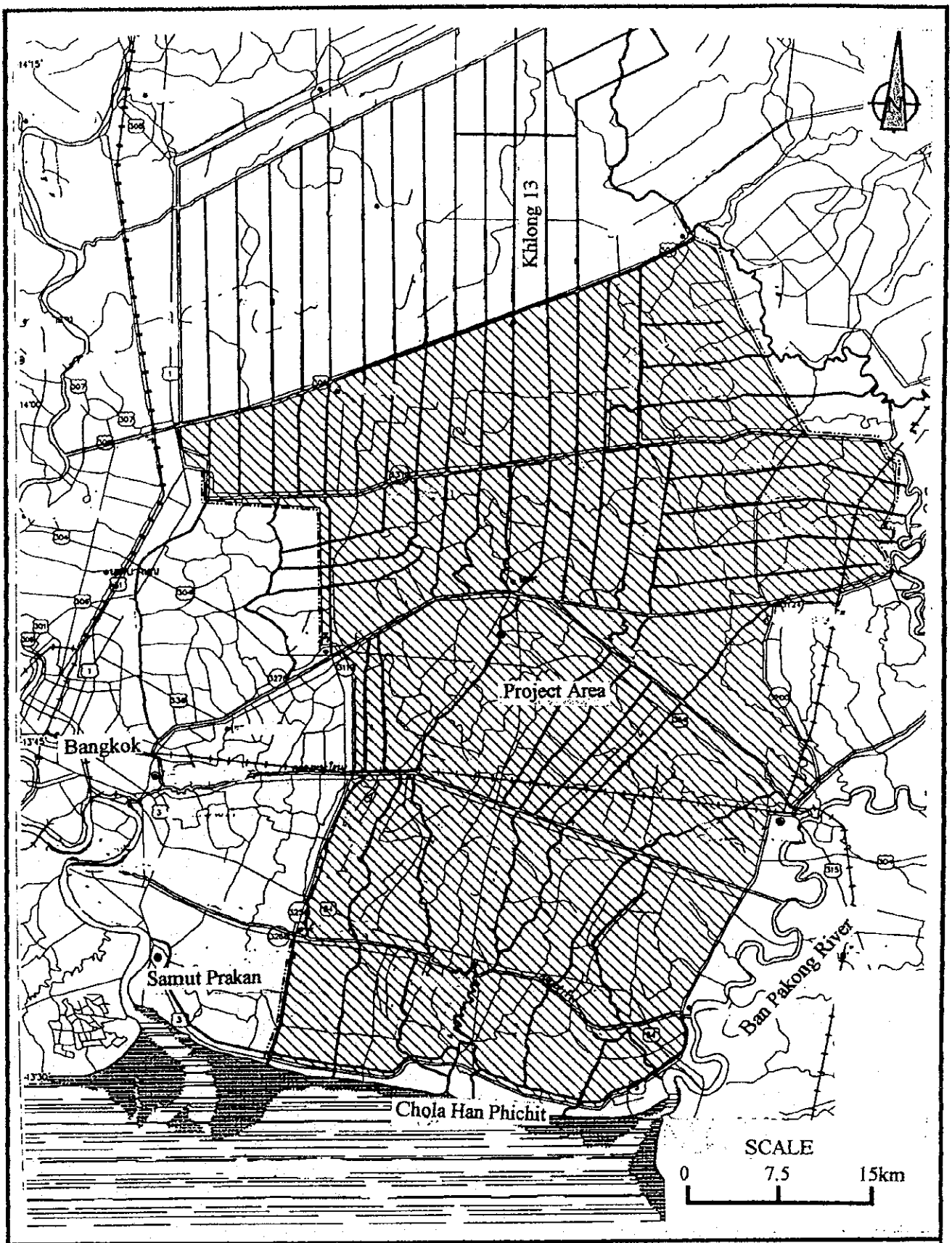


STUDY ON INTEGRATED PLAN FOR FLOOD MITIGATION IN CHAO PHRAYA RIVER BASIN

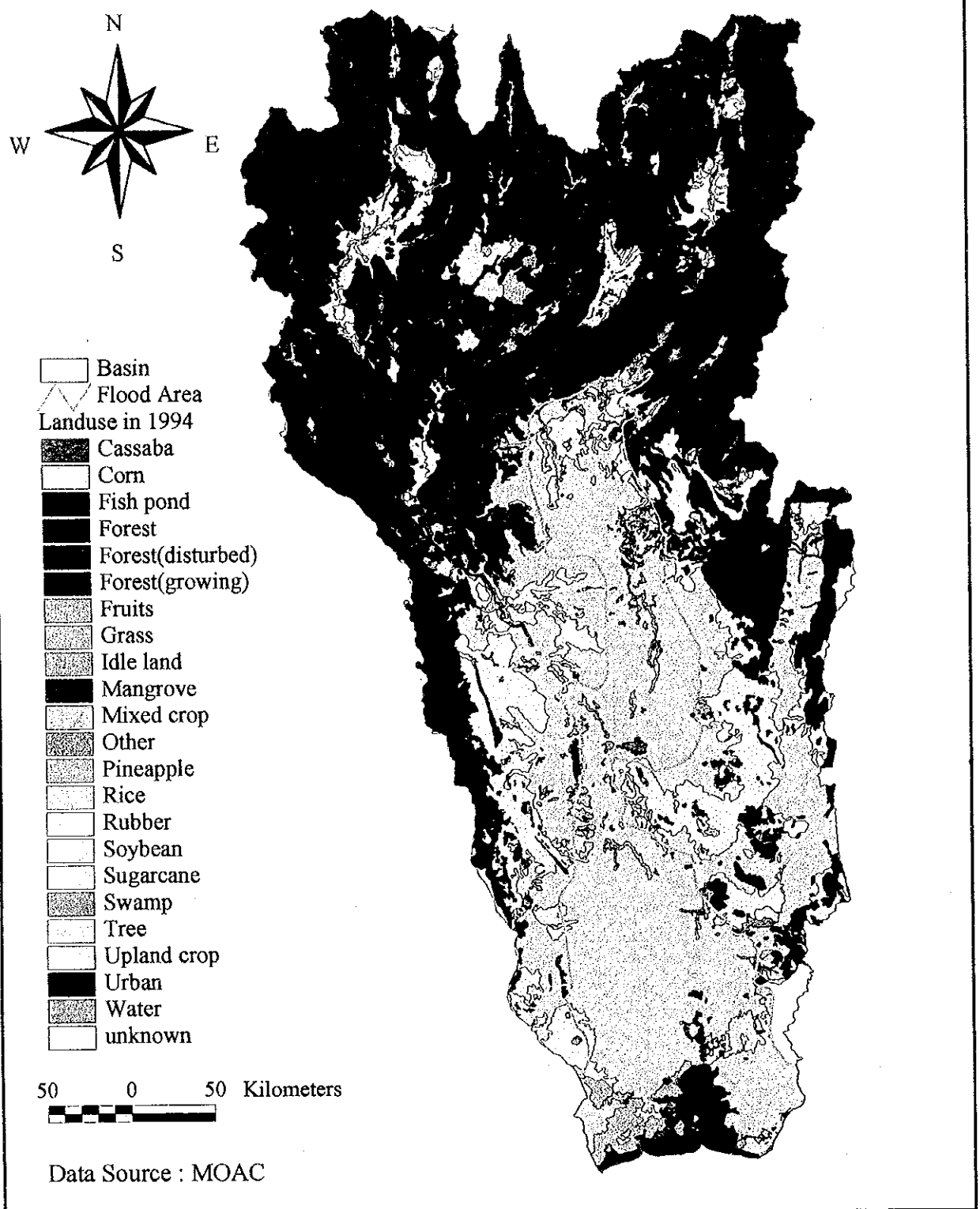
CTI ENGINEERING CO., LTD AND INA CORPORATION

Fig. 2.6.11

FLOW DIAGRAM OF THE WEST BANK



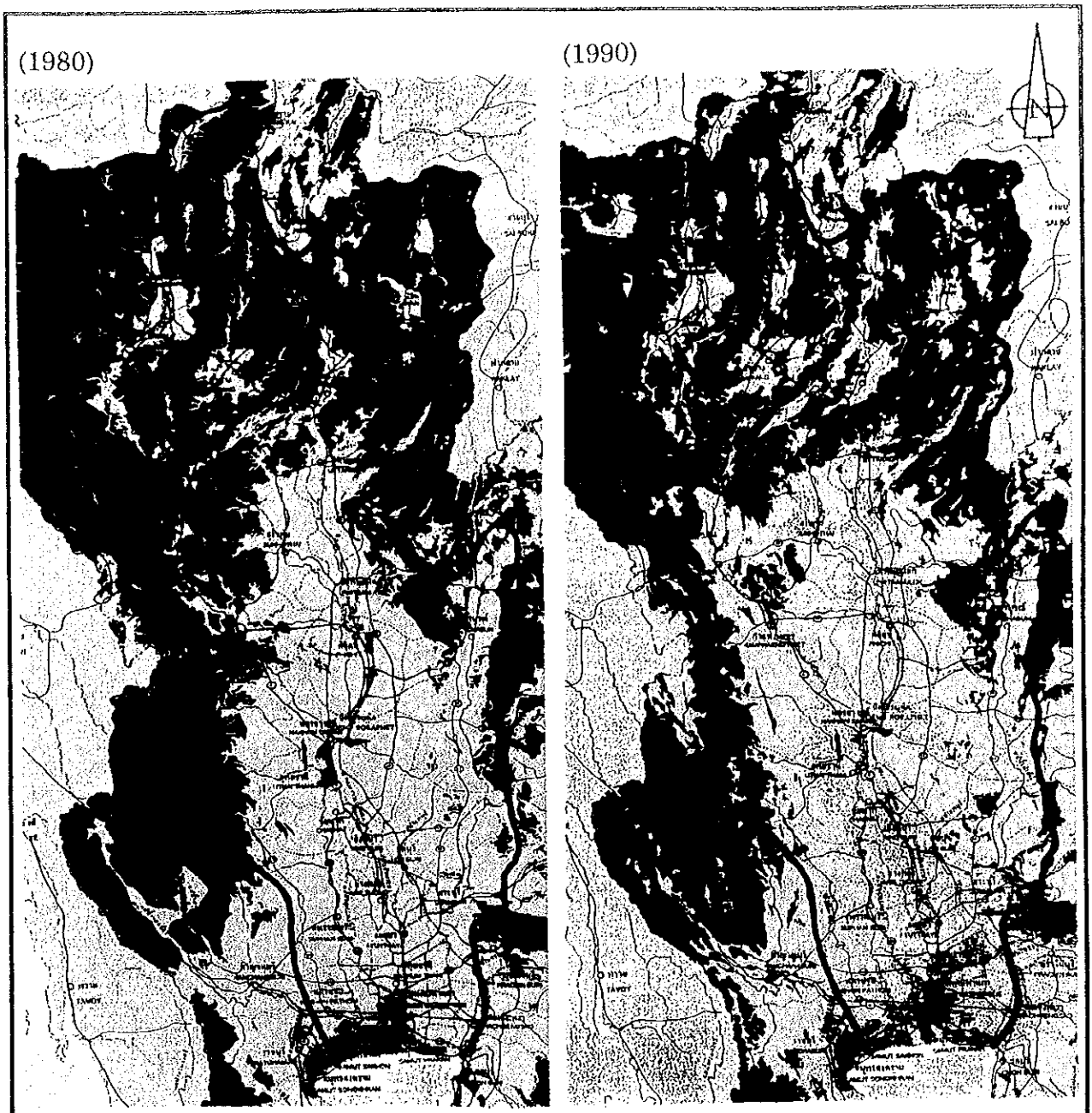
STUDY ON INTEGRATED PLAN FOR FLOOD MITIGATION IN CHAO PHRAYA RIVER BASIN	Fig. 2.6.12
CTI ENGINEERING CO., LTD AND INA CORPORATION	CHOLA HAN PHICHIT 2 PROJECT AREA



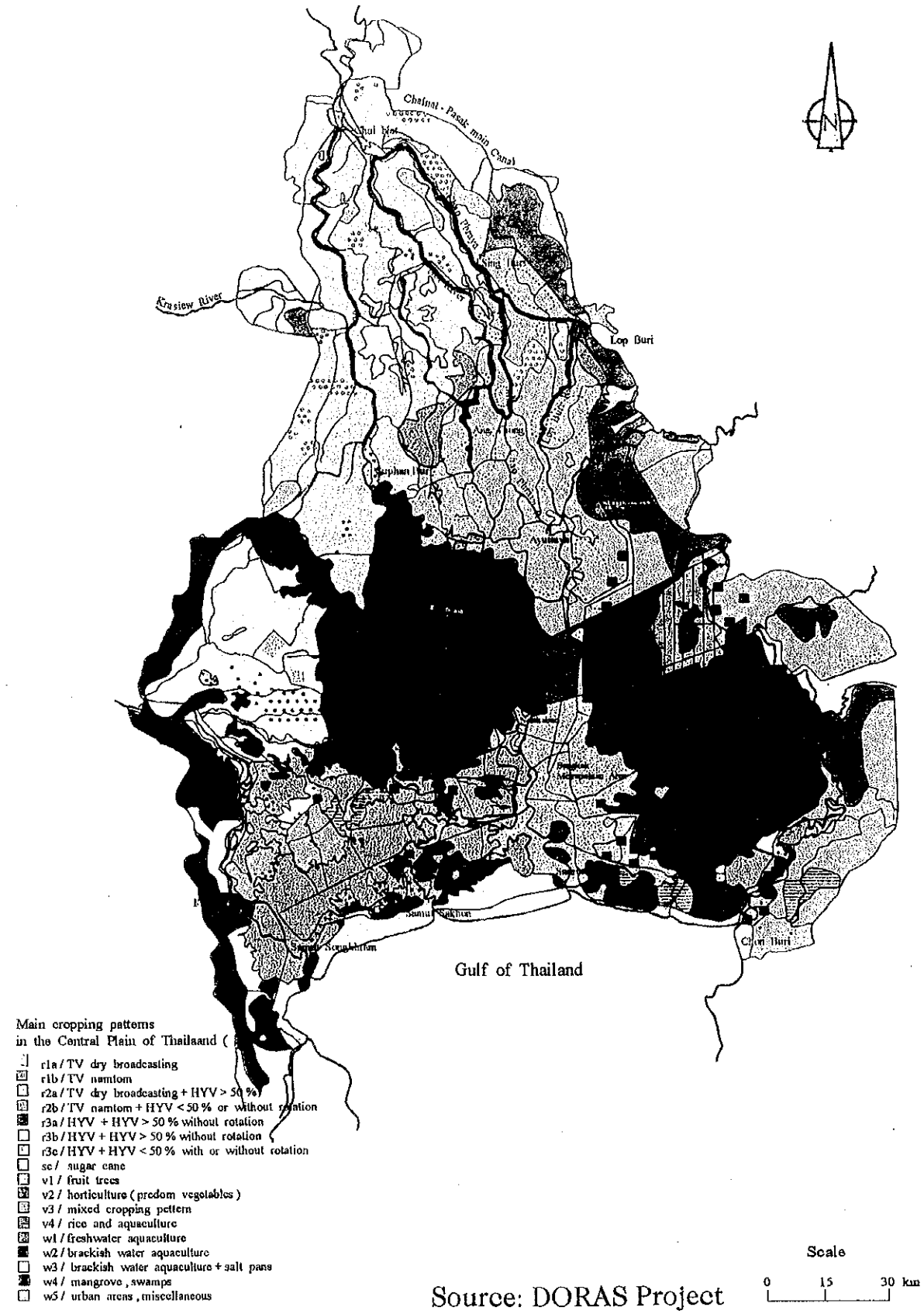
STUDY ON INTEGRATED PLAN FOR FLOOD MITIGATION IN CHAOPHRAYA RIVER BASIN	Fig.2.7.1 PRESENT(AGRICULTURAL)LAND USE OF THE BASIN
CTI ENGINEERING CO LTD., & INA CORPORATION	

(1980)

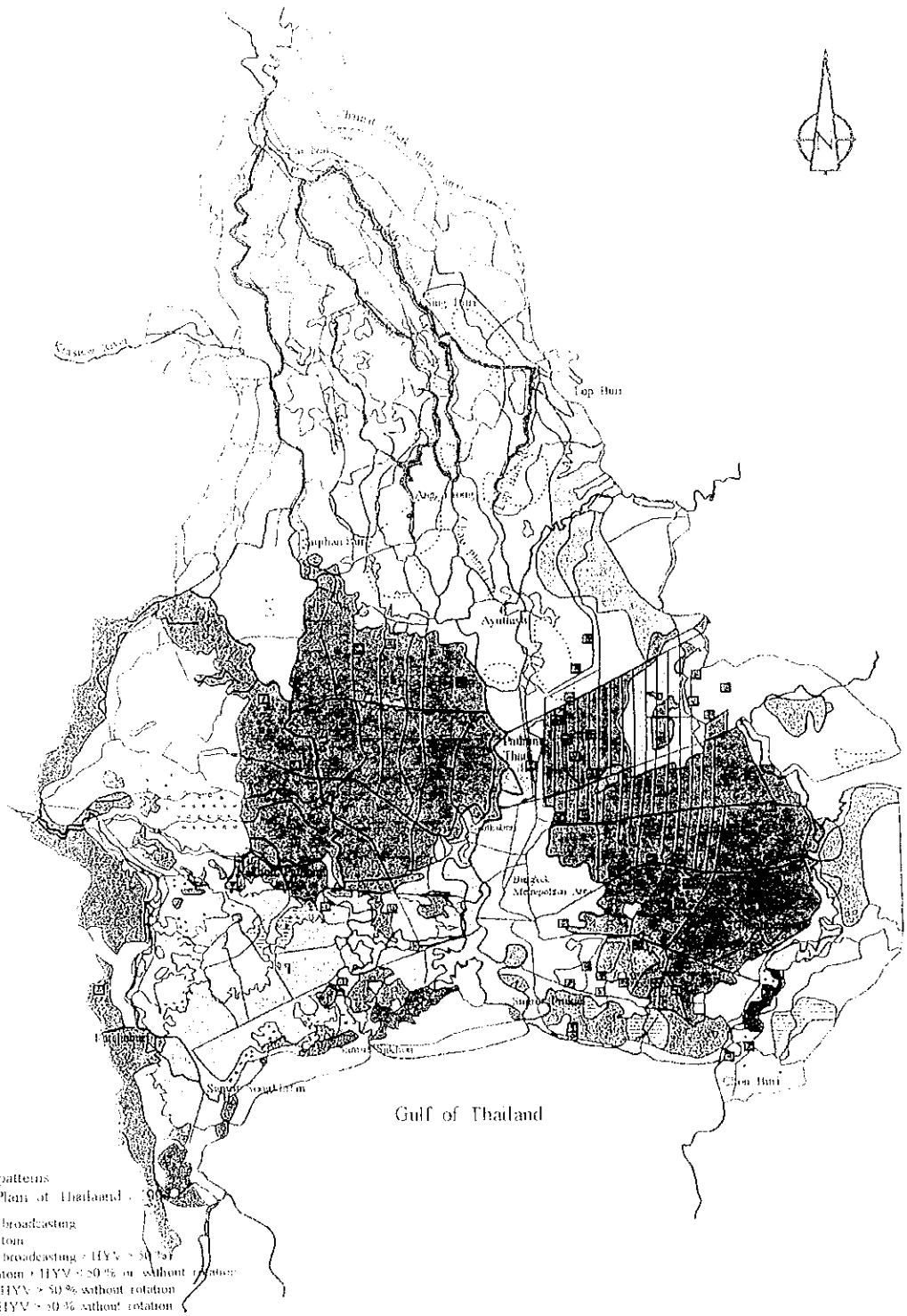
(1990)



STUDY ON INTEGRATED PLAN FOR FLOOD MITIGATION IN CHAO PHRAYA RIVER BASIN	Fig. 2.7.2
CTI ENGINEERING CO., LTD AND INA CORPORATION	CHANGE OF LAND USE IN THE BASIN

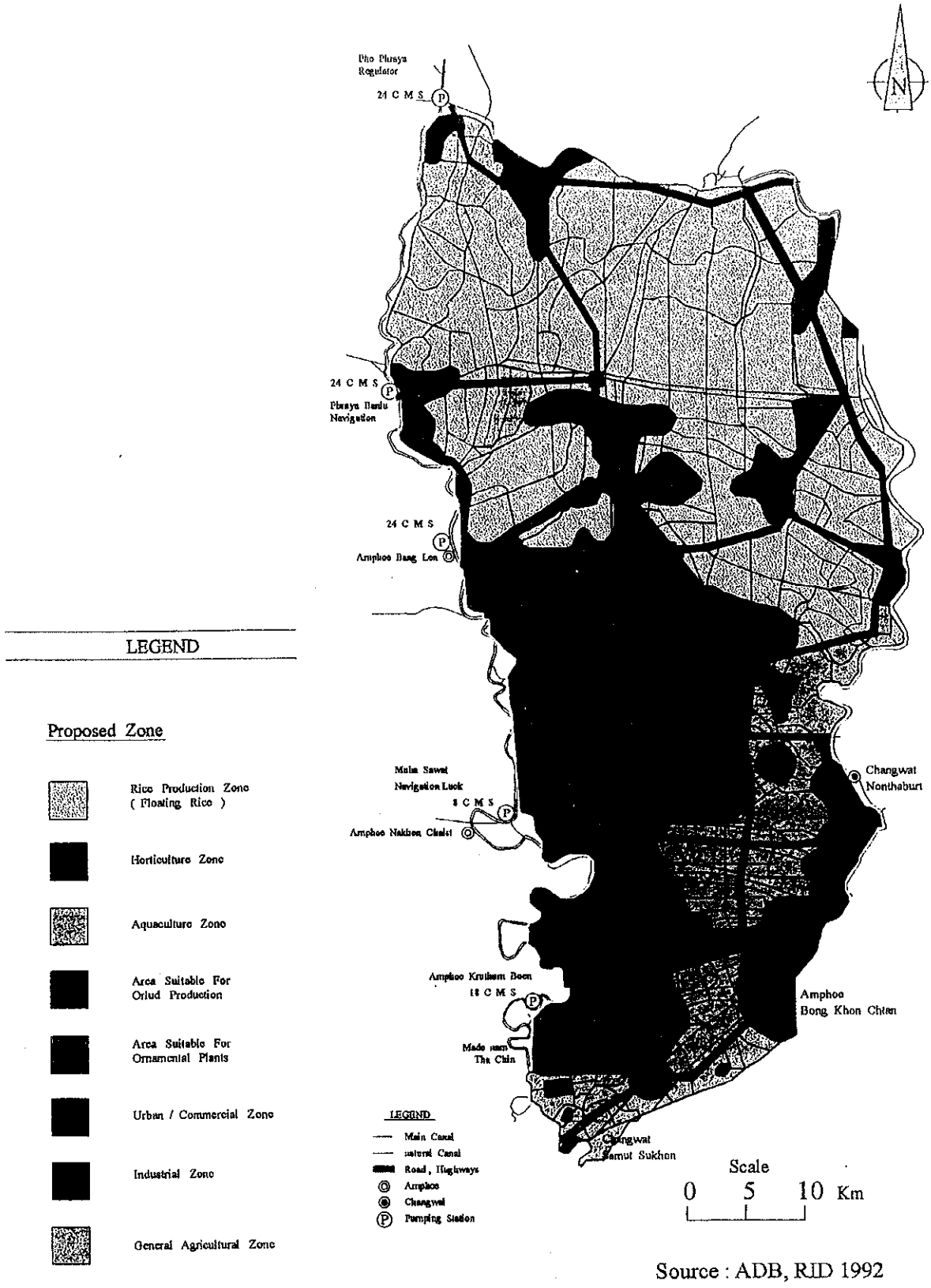


STUDY ON INTEGRATED PLAN FOR FLOOD MITIGATION IN CHAO PHRAYA RIVER BASIN	Fig. 2.7.3
CTI ENGINEERING CO., LTD AND INA CORPORATION	AGRICULTURAL LAND USE IN CENTRAL PLAIN



Source: DORAS Project

STUDY ON INTEGRATED PLAN FOR FLOOD MITIGATION IN CHAO PHRAYA RIVER BASIN	Fig. 2.7 3
CTI ENGINEERING CO., LTD AND JNA CORPORATION	AGRICULTURAL LAND USE IN CENTRAL PLAIN



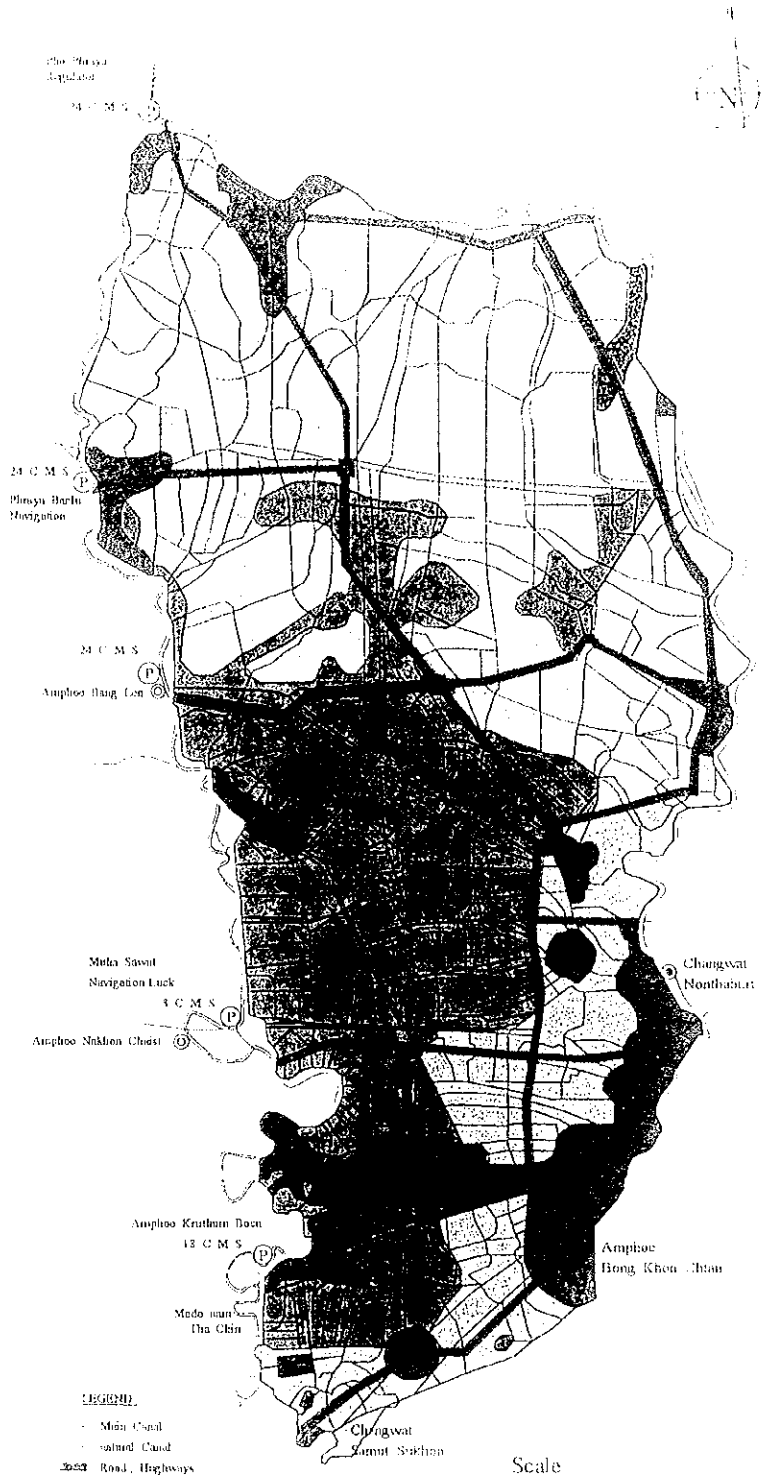
Source : ADB, RID 1992

STUDY ON INTEGRATED PLAN FOR FLOOD MITIGATION IN CHAO PHRAYA RIVER BASIN

CTI ENGINEERING CO , LTD AND INA CORPORATION

Fig. 2.7.4

FUTURE LAND USE PLAN IN WEST BANK OF LOWER CENTRAL PLAIN



LEGEND

Proposed Zone

- Rice Production Zone (Floating Rice)
- Horticulture Zone
- Aquaculture Zone
- Area Suitable For Orlud Production
- Area Suitable For Ornamental Plants
- Urban / Commercial Zone
- Industrial Zone
- General Agricultural Zone

Source ADB, RID 1992

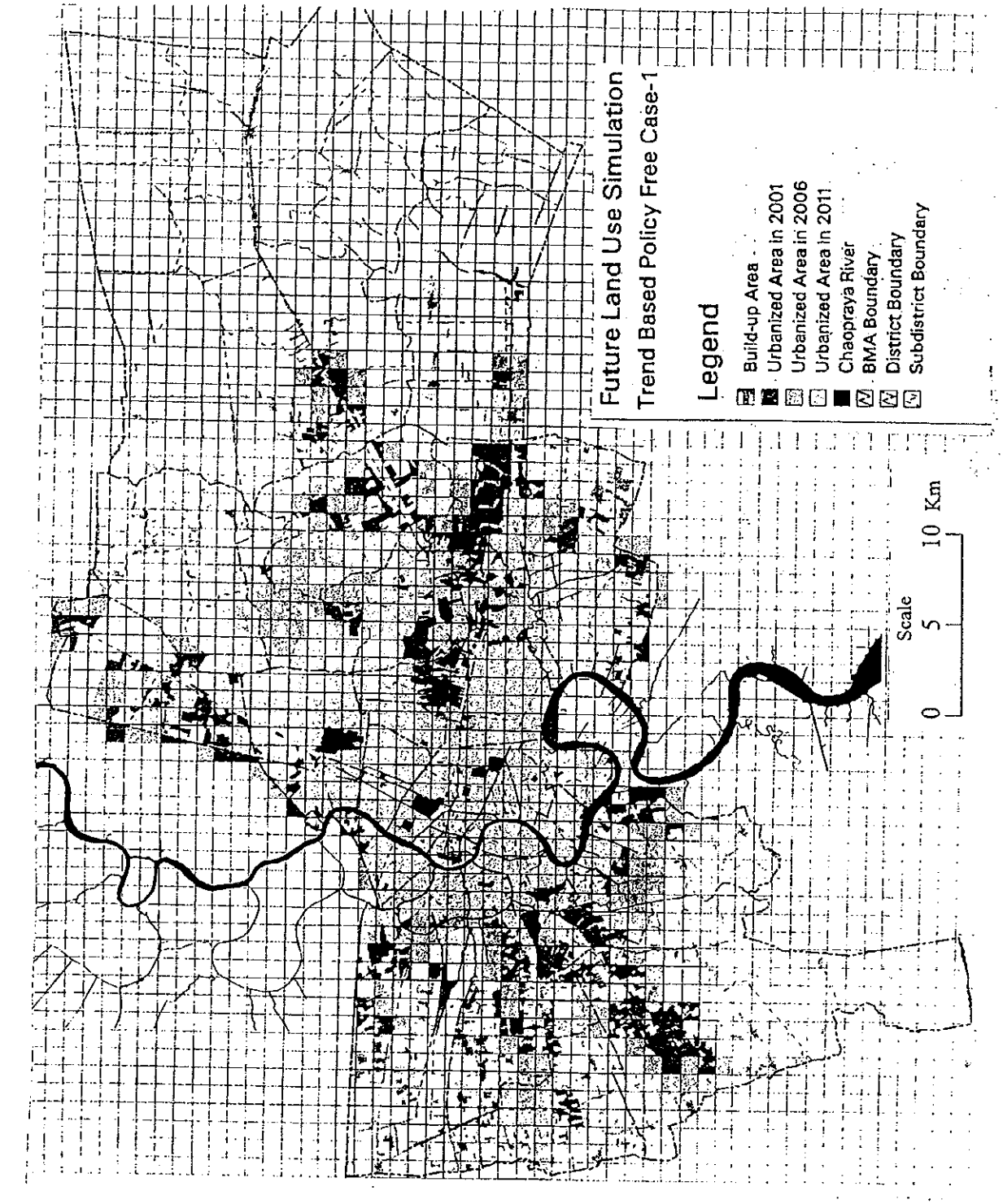
STUDY ON INTEGRATED PLAN FOR FLOOD MITIGATION IN CHAO PHRAYA RIVER BASIN

CTI ENGINEERING CO , LTD AND INA CORPORATION

Fig. 2.7.4

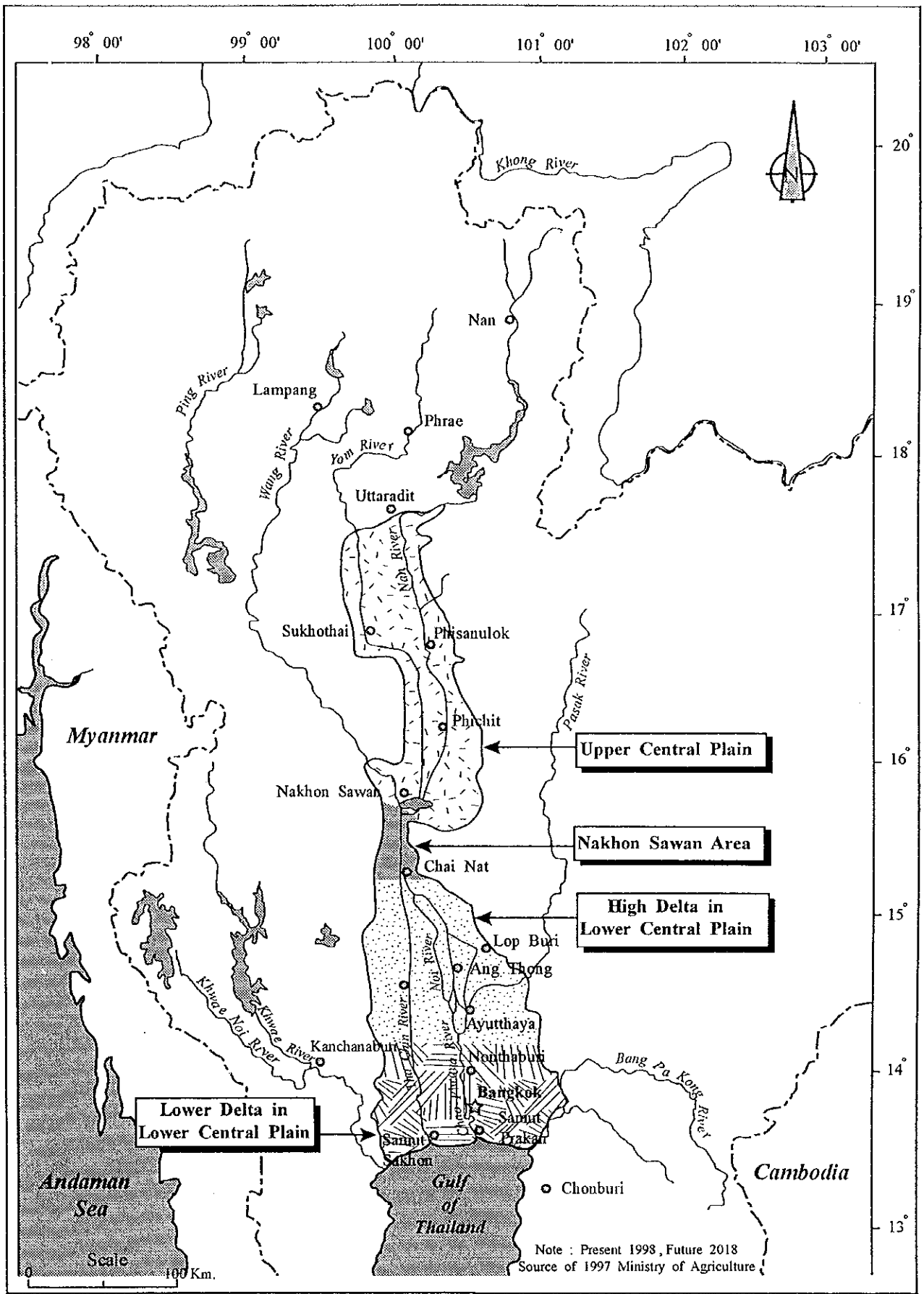
FUTURE LAND USE PLAN IN WEST BANK OF LOWER CENTRAL PLAIN

STUDY ON INTEGRATED PLAN FOR FLOOD MITIGATION IN CHAO PHRAYA RIVER BASIN	Fig. 2.7.5
CTI ENGINEERING CO., LTD AND INA CORPORATION	FUTURE LAND USE PLAN IN 2010 FOR SBIA



STUDY ON INTEGRATED PLAN FOR FLOOD MITIGATION IN CHAO PHRAYA RIVER BASIN	Fig. 2.7.6 FUTURE LAND USE IN BMA.
CTI ENGINEERING CO., LTD AND INA CORPORATION	

STUDY ON INTEGRATED PLAN FOR FLOOD MITIGATION IN CHAO PHRAYA RIVER BASIN	Fig. 2.7.7 LAND USE OF RIVERINE BELT
CTI ENGINEERING CO., LTD AND INA CORPORATION	



STUDY ON INTEGRATED PLAN FOR FLOOD MITIGATION IN CHAO PHRAYA RIVER BASIN

CTI ENGINEERING CO., LTD AND INA CORPORATION

Fig . 2.7.8
PROJECTION OF LAND USE IN THE FLOODPLAIN

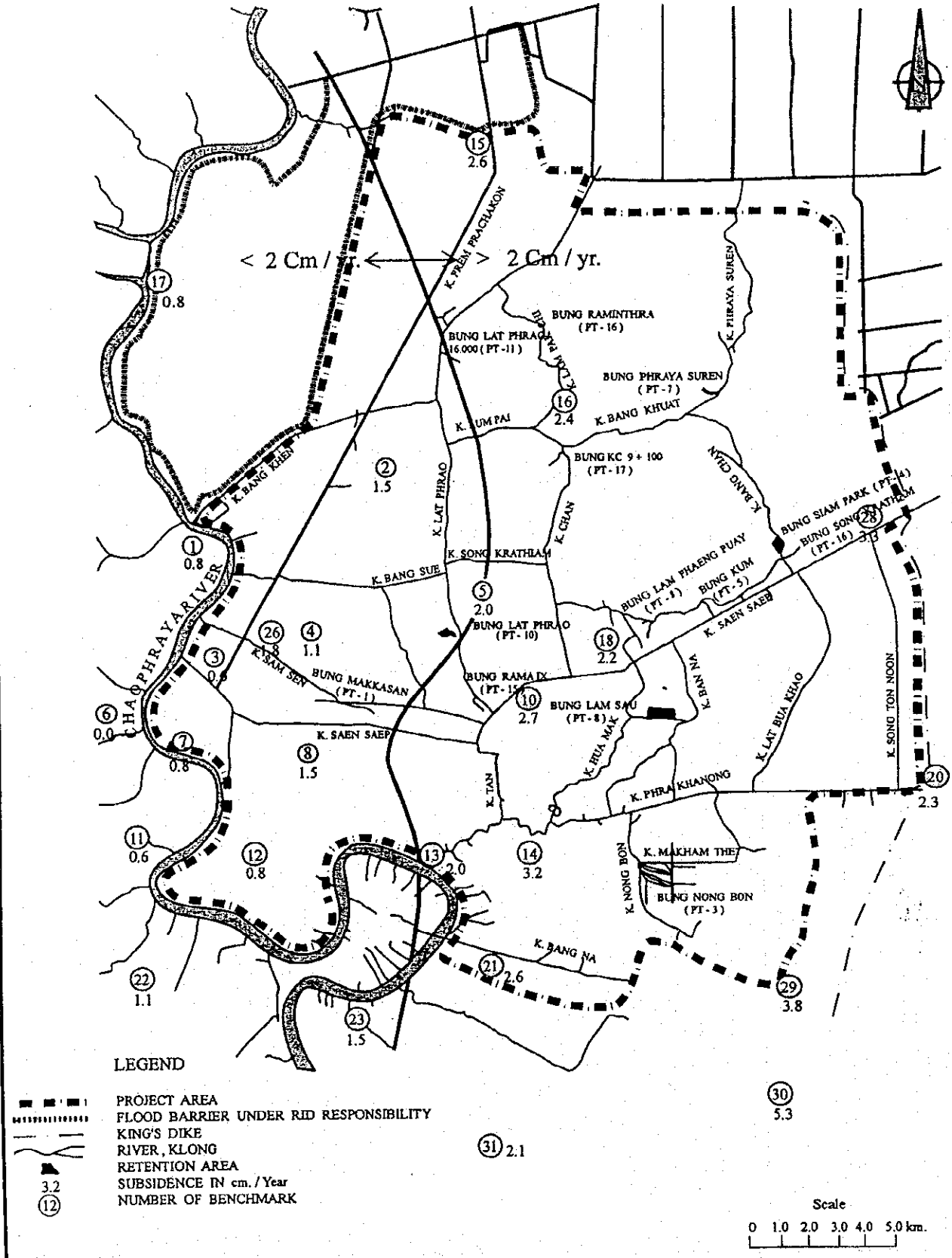
STUDY ON INTEGRATED PLAN FOR FLOOD MITIGATION IN CHAO PHRAYA RIVER BASIN	Fig. 2.7.9 PROJECTED FUTURE LANDUSE
CTI ENGINEERING CO.,LTD AND INA CORPORATION	

STUDY ON INTEGRATED PLAN FOR FLOOD MITIGATION IN CHAO PHRAYA RIVER BASIN

CTI ENGINEERING CO., LTD AND INA CORPORATION

Fig. 2.8.1

LAND SUBSIDENCE OF GROUND SURFACE IN 1995 AND 1996



STUDY ON INTEGRATED PLAN FOR FLOOD MITIGATION IN CHAO PHRAYA RIVER BASIN

CTI ENGINEERING CO, LTD AND INA CORPORATION

Fig. 2.8.2

SUBSIDENCE AND FLOOD PROTECTION IN EASTERN SUB - URBAN BANGKOK

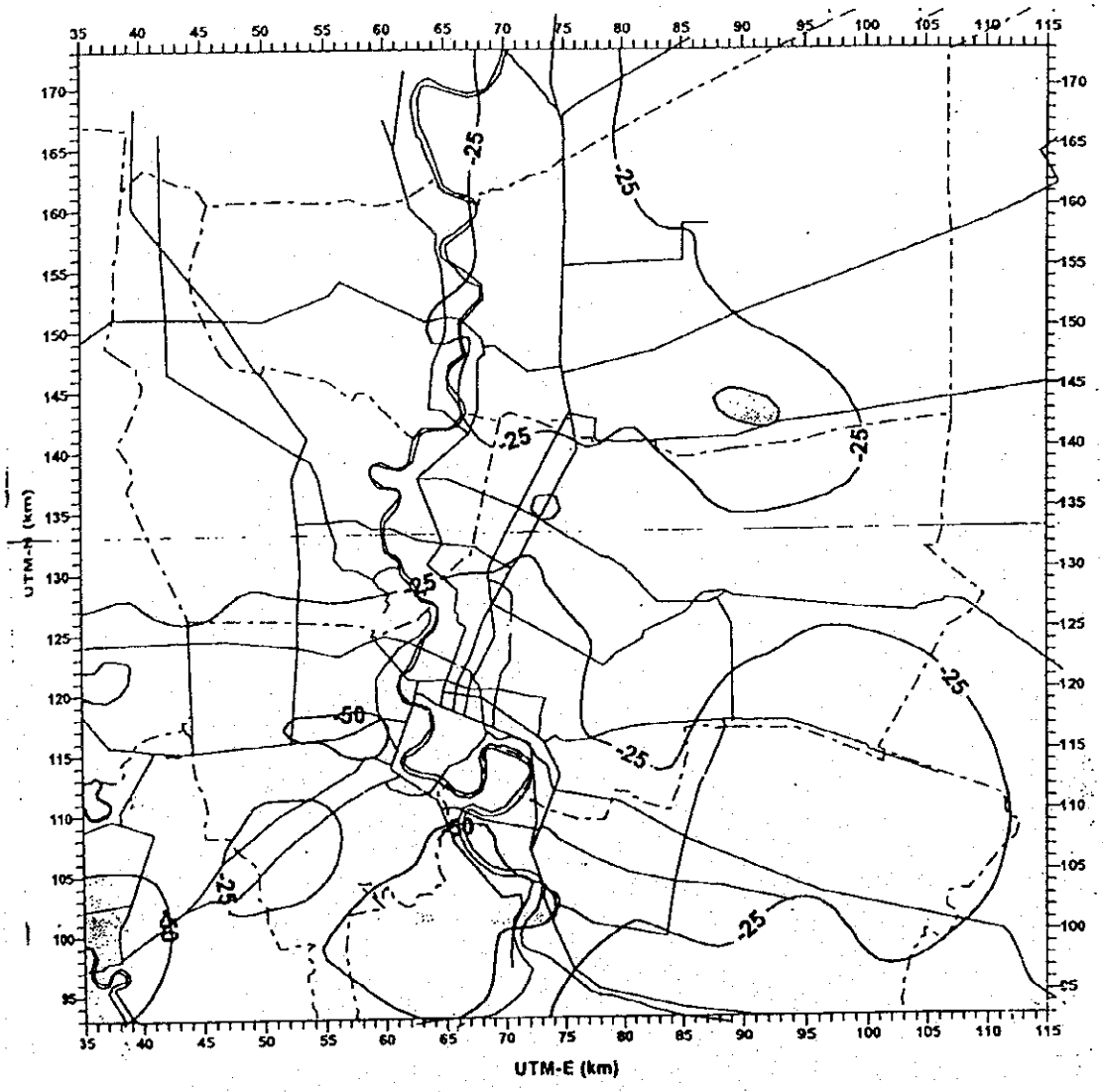
STUDY ON INTEGRATED PLAN FOR FLOOD MITIGATION IN CHAO PHRAYA RIVER BASIN

CTI ENGINEERING CO., LTD AND INA CORPORATION

Fig. 2.8.3(1/2)

SIMULATED LAND SUBSIDENCE BY FUTURE SCENARIO

STUDY ON INTEGRATED PLAN FOR FLOOD MITIGATION IN CHAO PHRAYA RIVER BASIN	Fig. 2.8.3(1/2)
CTI ENGINEERING CO., LTD AND INA CORPORATION	SIMULATED LAND SUBSIDENCE BY FUTURE SCENARIO



SIMULATED LAND SUBSIDENCE (cm)
FROM 1993 TO 2017 (25 years)
BY FUTURE SCENARIO 5B

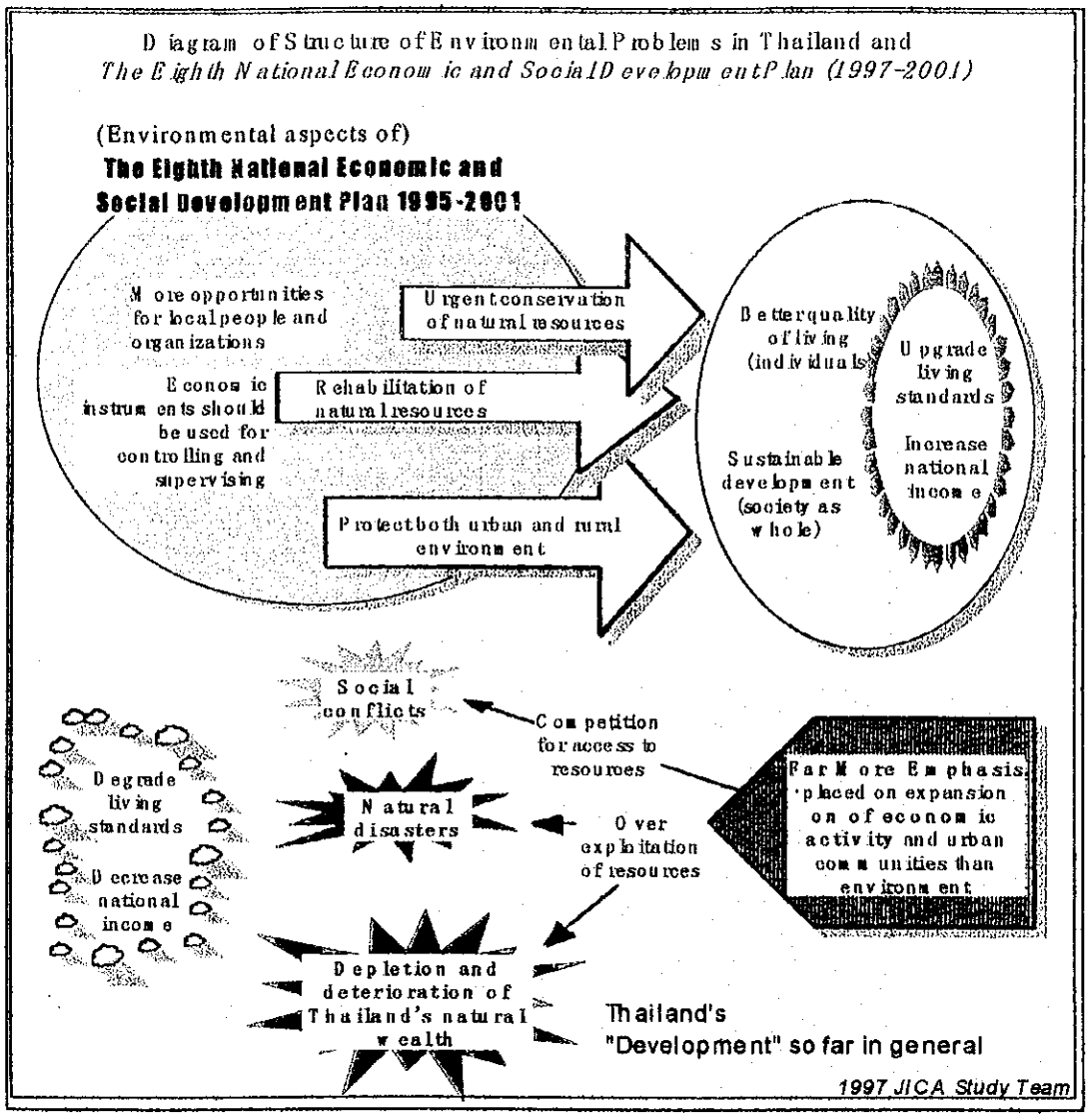
(UNDER MODERATE CONTROL IN 2017)

Source : KOKUSAI, Jica (1995)

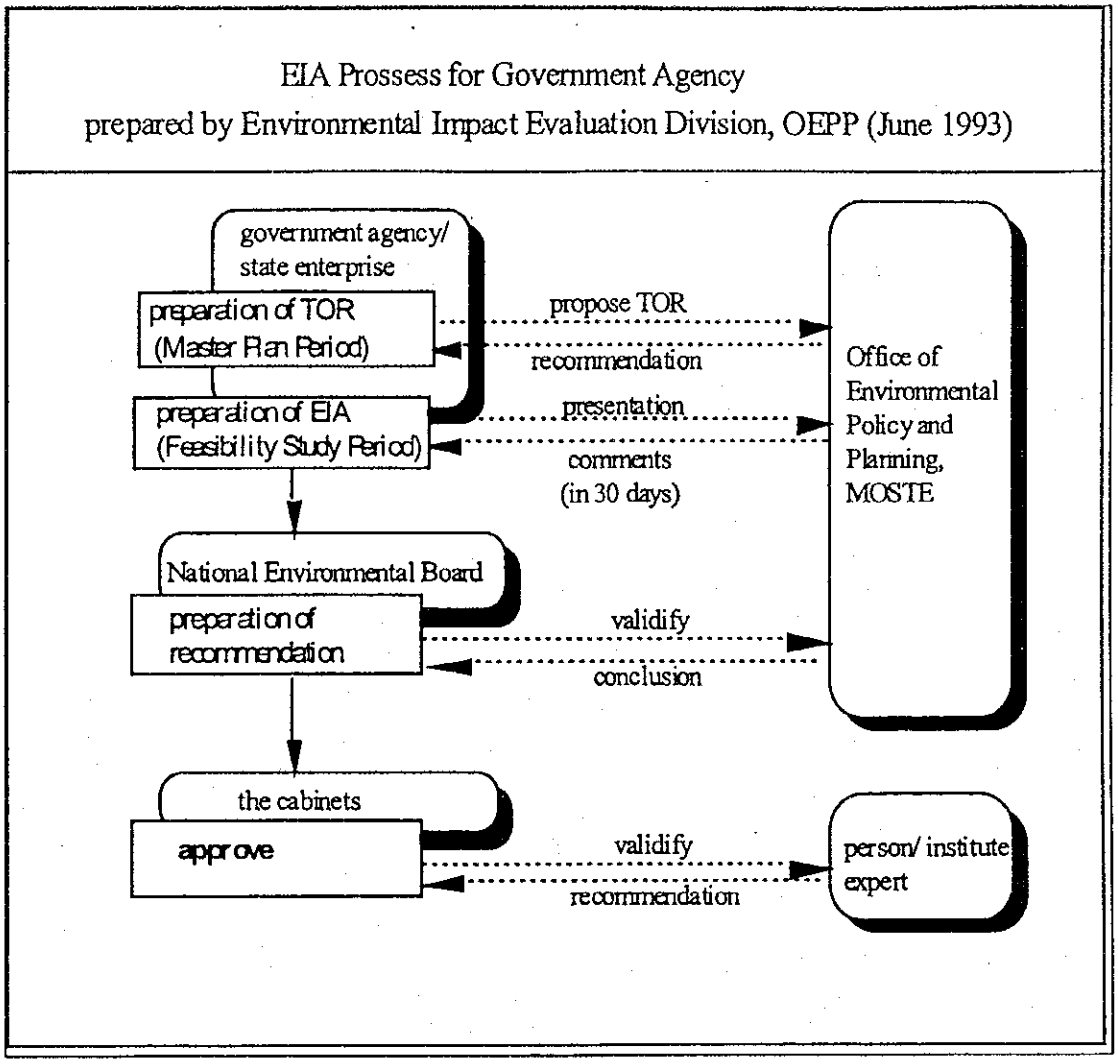
STUDY ON INTEGRATED PLAN FOR FLOOD MITIGATION IN CHAO PHRAYA RIVER BASIN	Fig. 2.8.3(2/2)
CTI ENGINEERING CO., LTD AND INA CORPORATION	SIMULATED LAND SUBSIDENCE BY FEATURE SCENARIO

Source: JICA / Kokusai, 1995
BMA / NEDECO, 1996

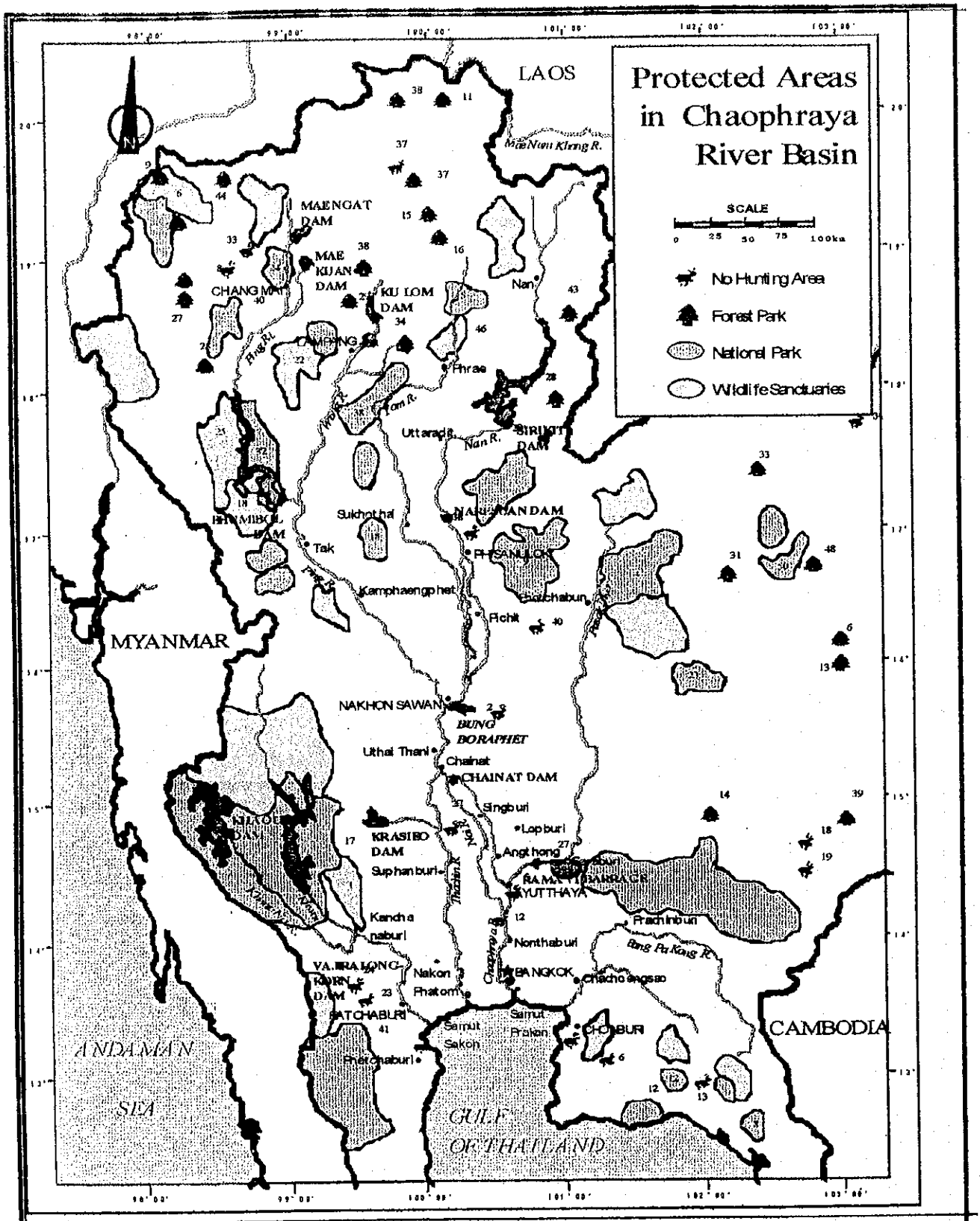
STUDY ON INTEGRATED PLAN FOR FLOOD MITIGATION IN CHAO PHRAYA RIVER BASIN	Fig. 2.8.4 ESTIMATED LAND SUBSIDENCE IN 2017 ALONG CHAO PHRAYA RIVER
CTI ENGINEERING CO., LTD AND INA CORPORATION	



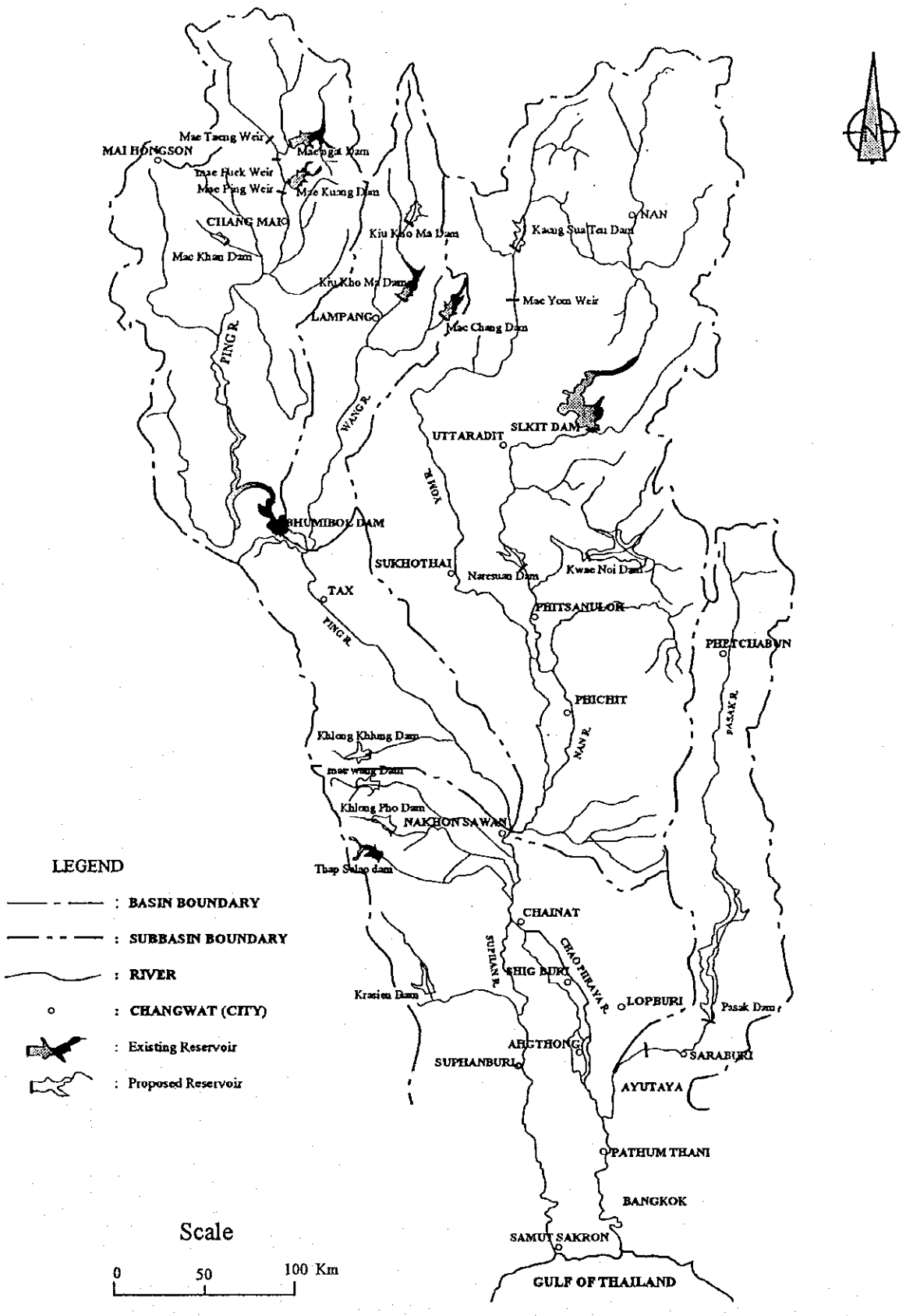
STUDY ON INTEGRATED PLAN FOR FLOOD MITIGATION IN CHAO PHRAYA RIVER BASIN	Fig. 2.10.1 DIAGRAM OF GENARAL IDEA OF THE EIGHTH NATIONAL ECONOMIC AND DEVELOPMENT PLAN
CTI ENGINEERING CO., LTD AND INA CORPORATION	



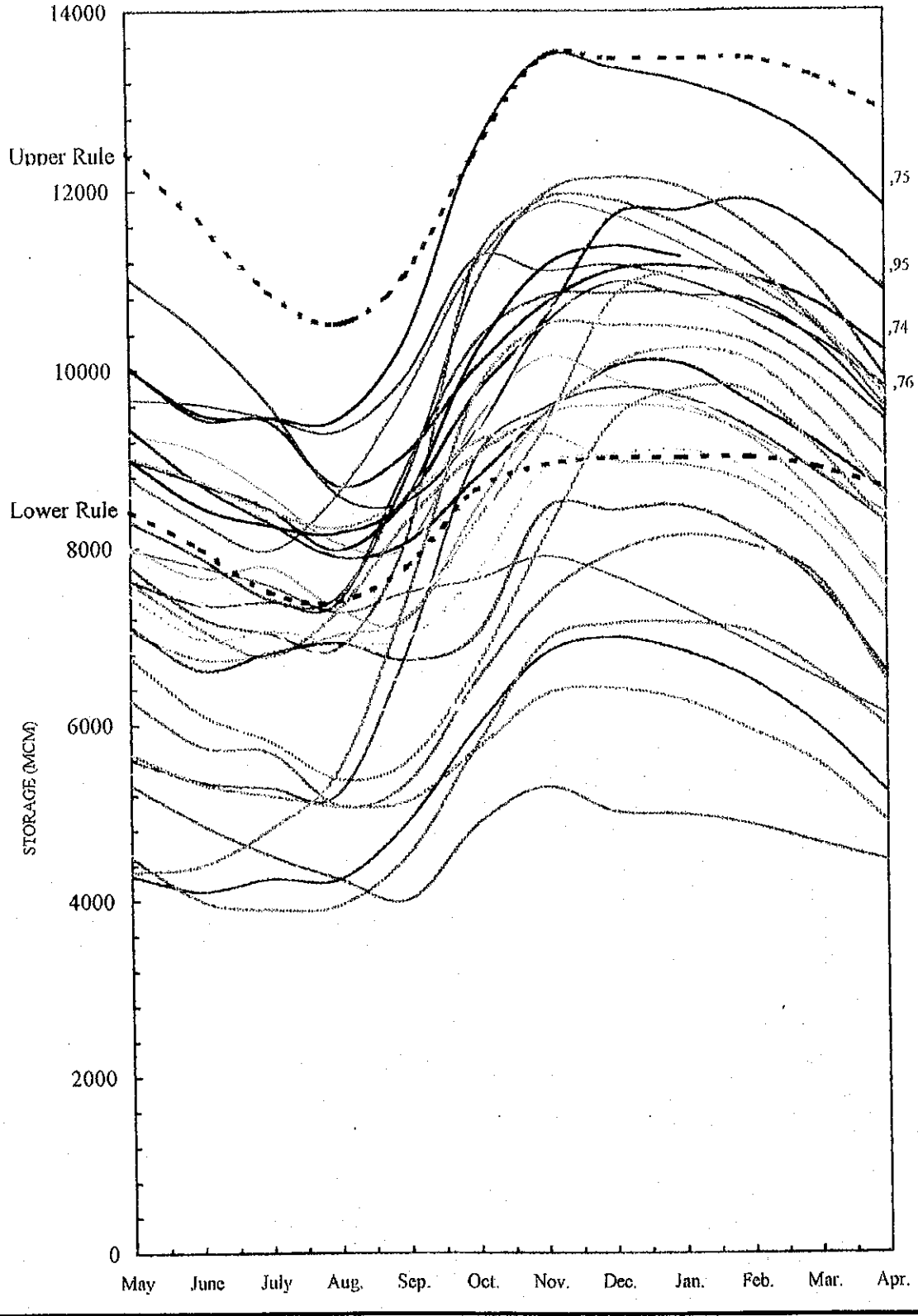
STUDY ON INTEGRATED PLAN FOR FLOOD MITIGATION IN CHAO PHRAYA RIVER BASIN	Fig. 2.10.2 OUTLINE OF EIA
CTI ENGINEERING CO., LTD AND INA CORPORATION	



STUDY ON INTEGRATED PLAN FOR FLOOD MITIGATION IN CHAO PHRAYA RIVER BASIN	Fig. 2.10.3 PROTECTED AREAS FOR BIOLOGOCAL PURPOSES IN THE BASIN
CTI ENGINEERING CO., LTD AND INA CORPORATION	

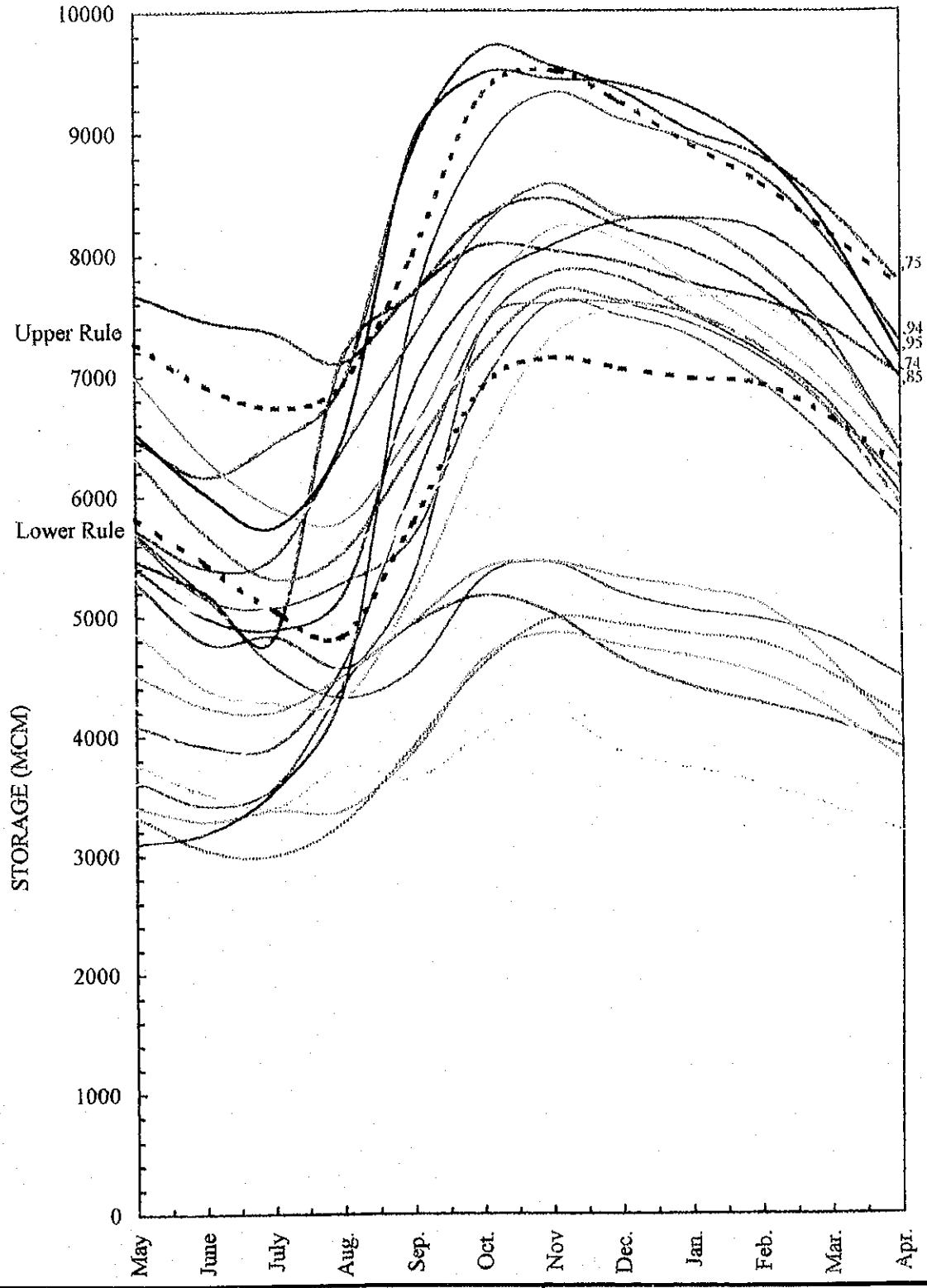


STUDY ON INTEGRATED PLAN FOR FLOOD MITIGATION IN CHAO PHRAYA RIVER BASIN	Fig. 2.11.1 LOCATION OF EXISTING/ PROPOSED DAMS IN THE CHAO PHRAYA BASIN
CTI ENGINEERING CO., LTD AND INA CORPORATION	



STUDY ON INTEGRATED PLAN FOR FLOOD MITIGATION IN CHAO PHRAYA RIVER BASIN	Fig. 2.11.2 BHUMIBOL RESERVOIR OPERATION
CTI ENGINEERING CO., LTD AND INA CORPORATION	

SIRIKIT RESERVOIR OPERATION



STUDY ON INTEGRATED PLAN FOR FLOOD MITIGATION IN CHAO PHRAYA RIVER BASIN	Fig. 2.11.3 SIRIKIT RESERVOIR OPERATION
CTI ENGINEERING CO., LTD AND INA CORPORATION	