

Table 2-5 Population Movement

District	1986	1987	1988	1989	1990	2000 (Presump- tion)
(Khammoune Province)						
Takhek					55,382	
Nongbok					43,195	
(Savannakhet Province)						
Saybouly	—	33,423	34,292	36,028	37,632	56,265
Outhompone	82,085	50,728	52,047	53,452	59,153	94,170
Khanthabouly	100,814	103,023	106,143	109,327	113,502	151,959
Champhone	79,467	81,079	83,078	84,449	85,383	103,128
Sonbouly	28,066	28,773	29,492	30,912	31,753	43,629
Songkhone	66,742	69,931	70,754	72,664	72,657	91,839
Atsaphanthong	72,836	74,842	76,522	78,588	82,047	108,521
Others District	127,191	130,332	133,081	126,532	129,334	154,961
Total in Savannakhet	557,201	571,131	585,409	591,952	611,461	804,472

Table 2-6 Presumption of Laborer 1990

District	Number of Sub-district	Village	Farmer's Household	Farmer's Population	Person per Household	Handicapped person	Soldier	Age of 15~60	Presumption of Laborer
(Khammoune Province)									
Nongbok	12	88	6,581						21,598
Takhek	14	141	10,188						27,691
(Savannakhet Province)									
Sayboly	10	79	6,072	37,080	6.1	4	65	18,540	18,471
Outhompone	13	98	9,865	50,812	5.2	12	71	25,406	25,323
Khanthabouly	13	127	17,315	105,951	6.1	149	20	52,975	52,806
Champhone	17	159	12,418	77,717	6.3	23	269	38,858	38,566
Sonboly	10	94	4,505	30,606	6.8	11	223	15,303	15,069
Songkhone	15	155	12,411	65,217	5.3	16	170	32,608	32,422
Atsaphanthong	15	217	12,728	77,976	6.1	20	463	38,988	38,505
Others	52	650	18,278	111,286	6.0	75	721	55,644	69,992
Total in Savannakhet	145	1,579	93,592	556,645	6.0	310	2,002	278,322	291,154

Table 2-7(I) Number of Schools, Students and Teachers 1990

District	Education System	Number	Student			Teacher
			Boy	Girl	Total	
Khanthabouly	Primary	101	10547	9036	19583	624
	Secondary	28	2526	2349	4875	449
	Higher Secondary	3	396	210	606	54
Champhon	Primary	127	6749	5716	12465	374
	Secondary	28	1388	1164	2552	277
	Higher Secondary	3	370	303	673	51
Songkhone	Primary	117	7050	5996	13046	452
	Secondary	18	1194	645	1839	224
	Higher Secondary	3	248	141	389	66
Sonbouly	Primary	78	2827	2264	5091	124
	Secondary	11	285	501	786	74
	Higher Secondary	1	137	45	182	15
Outhomphone	Primary	83	4755	4563	9318	291
	Secondary	12	1035	597	1632	119
	Higher Secondary	1	312	168	480	42
Saybouly	Primary	64	3611	3017	6628	263
	Secondary	9	627	461	1088	136
	Higher Secondary	1	130	120	250	27
Atsaphangthong	Primary	171	8005	4485	12490	263
	Secondary	17	886	629	1515	146
	Higher Secondary	2	171	78	249	43
Thapangthong	Primary	65	1803	1375	3178	146
	Secondary	5	160	55	215	22
	Higher Secondary	1	25	5	30	4
Phine	Primary	58	2243	1392	3635	117
	Secondary	3	191	111	302	36
	Higher Secondary	1	81	17	98	18

Table 2-7(2) (Cont.)

District	Education System	Number	Student			Teacher
			Boy	Girl	Total	
Sepon	Primary	65	2552	1088	3640	159
	Secondary	4	140	104	244	56
	Higher Secondary	1	61	40	101	17
Nong	Primary	22	500	274	774	21
	Secondary	1	27	15	42	14
	Higher Secondary	0	0	0	0	0
Nayon	Primary	43	1329	917	2246	81
	Secondary	2	42	11	53	9
	Higher Secondary	0	0	0	0	0
Nongbok	Primary	63	4218	3884	8102	260
	Secondary	13	1303	826	2129	124
	Higher Secondary	2	399	103	502	30
Teacher's Training School	Elementary	1	0	59	59	49
	Junior		107	73	180	21
	High		325	290	615	70
Kindergarten Teacher's Training School		1	0	59	59	15
Technical Education School	Machinery	1	36	40	76	46
	Civil Engineering		118	0	118	
	Management		154	40	194	
College Institute		1	324	294	618	91

Table 2-8 Medical Conditions

District	Hospital (Clinic)	Person per 1/1000	Doctor	Person per 1/1000	Nurse	Person per 1/1000	Bed	Person per 1/1000
(Khammoune Province)								
Nongbok	1 (0)	0.02	1	0.02	8	0.18	45	1.04
(Savannakhet Province)								
Sayboly	1 (1)	0.05	2	0.05	35	0.93	20	0.53
Outhompone	1 (4)	0.08	5	0.08	58	0.98	70	1.18
Khanthabouly	3 (5)	0.07	29	0.25	303	2.67	320	2.82
Champhone	1 (5)	0.07	4	0.05	86	1.01	80	0.93
Sonboly	1 (5)	0.19	3	0.09	52	1.64	35	1.10
Songkhone	1 (5)	0.08	3	0.04	70	0.96	80	1.10
Atsaphanthong	1 (6)	0.08	4	0.05	93	1.13	90	1.09
Other District	5 (6)	0.08	7	0.05	200	1.54	161	1.24
Total in Savannakhet	14(37)	0.08	57	0.09	897	1.46	856	1.40
Lao PDR	137(937)	0.26	1,173	0.28	8,605	2.06	10,364	2.49

Table 2-9 Rice Require Balance

Name of District	POPULATION	Total(t) Rice PRODUCTION	Total(t) SEED	Total(t) Pay TAX	Require(t) Rice	Rice Require(t) BALANCE
Khanthabouly	113,502	32,122	432	1,119	40,861	-10,340
Champhone	85,383	47,138	791	1,470	29,298	15,579
Atsaphanthong	82,047	31,011	574	1,146	29,537	-246
Songkhone	72,657	29,570	495	1,044	26,157	1,874
Outhomphone	59,133	26,015	408	904	21,295	3,408
Saybouly	37,632	19,646	379	693	13,548	5,026
Sombouly	31,753	13,220	243	452	11,431	1,094
Sub Total	482,127	198,722	3,372	6,828	172,127	16,395
Piynn	35,263	7,313	150	317	13,695	-6,849
Nayomu	15,019	5,579	93	223	5,407	-144
Xepong	49,194	8,370	294	345	15,089	-7,358
Noohg	15,539	2,693	81	72	5,594	-3,054
Tapantong	21,599	8,218	127	295	7,776	20
SUB Total	129,334	32,173	745	1,252	47,561	10
Takhek	55,382	19,225	352	515	19,937	-1,579
Nongbok	43,195	21,100	263	875	15,550	4,412
TOTAL	710,038	271,220	4,732	9,470	255,175	2,843

Source : 1990 Year Sbankhet Planing Section
Takhek Agriculture Section

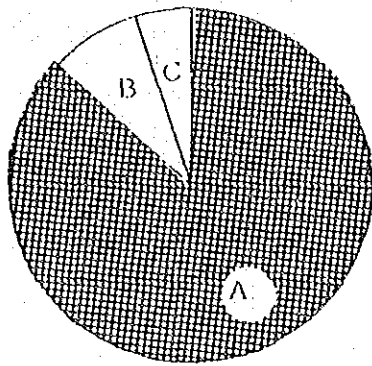
Meat Consumption (kg/man/year)

Abatter name	Buffalo (頭数)	Cattle (頭数)	Pig (頭数)	CarCass (kg)	Meat (kg)	Population	Consumption (kg/man)
Khanthabouly	335	1,560	3,048	580,430	323,974		
Savannakhet	1,640	3,349	8,854	1,557,140	182,308	113,505	4
Outhomphone	508	737	416	325,810		59,135	3
Atsaphansung	46	285	240	91,150	50,960	83,047	1
Champhone	456	630	2,250	350,250	195,353	85,347	2
Songkhone	290	483	1,760	254,850	142,100	37,632	4
S. U. E. TOTAL	3,275	7,044	16,568	3,159,630	1,077,003	480,127	2
PHIN	193	630	1,680	264,550	147,560	35,263	4
SEPONG	145	285	840	136,900	76,370	41,914	2
TOTAL	3,613	7,959	19,088	3,561,080	1,300,933	611,461	2

Source : Savannakhet Live Stock Section 1990

	Rate of stock	Rate of Meat Production
Buffalo	12%	25%
Cattle	26%	56%
Pig	62%	19%

Table 2 - 10 GDP Savannakhet 1990



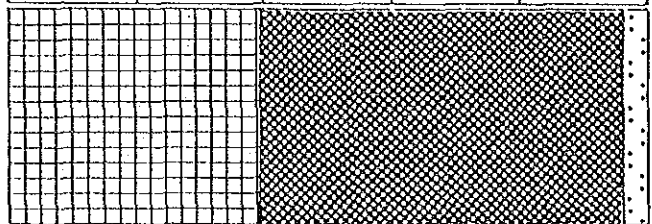
(Unit : 1000 KIPS)

A--AGRICULTURE	75,501,522	(87.0%)
B--INDUSTRY	7,052,826	(8.1%)
C--SERVICE	4,249,692	(4.9%)
Total	86,804,040	

AGRICULTURE SECTOR (1000kip)

0 20 40 60 80 100

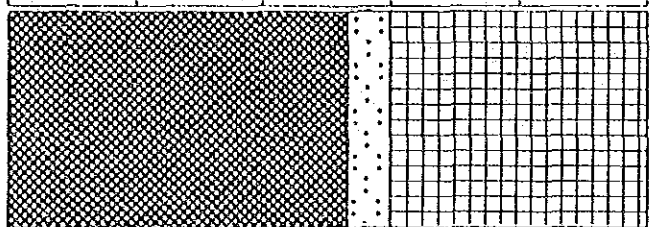
CULTIVATION	25,360,170	39.5%
LIVESTOCK	36,437,792	56.8%
FORESTRY	2,401,042	3.7%



INDUSTRY SECTOR (1000kip)

0 20 40 60 80 100

SALT	13,957	0.3%
MINERAL	2,256,274	53.1%
ELECTRICITY	270,454	6.4%
CONSTRUCTION	1,708,989	40.2%



SERVICE SECTOR (1000kip)

0 20 40 60 80 100

EXPORT, IMPORT	5,215,135	73.9%
HOTEL	659,277	9.3%
TRANSPORTATION	5,839	0.1%
OTHERS	1,172,575	16.6%

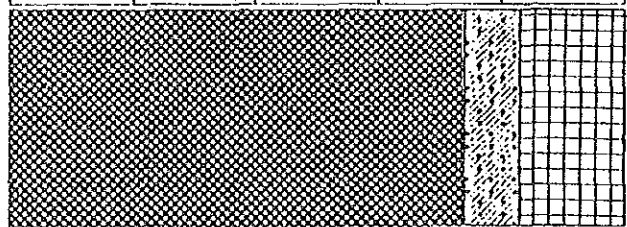


Table 2-11-(1) Income of Farm Household
(US\$ 換算)

Name of District	Paddy	Irrigation	Vegetables	Livestock	Other Paddy	Total
KHANTHA						
Farm Production	2,197,000	56,143	144,929	1,531,065	2,173	3,931,310
Family LaborCost	11,873,143	34,286	9,257	556,521	5,800	12,479,007
Sub Total	14,070,143	90,429	154,186	2,087,586	7,976	16,410,317
Seed Cost	54,925	1,497	3,443		480	60,345
C.FertilizerCost	7,375		1,071	30,967		39,413
Employment	148,406		3,086	37,093		188,585
Fuel Cost		22,457				22,457
Farm Tax	111,900					111,900
Sub Total	322,606	23,954	7,600	68,060	480	422,700
Gross Income	13,747,537	66,475	146,586	2,019,526	7,493	15,987,617
Net Income	1,874,394	32,189	137,329	1,463,005	1,693	3,508,610

Name of District	Paddy	Irrigation	Vegetables	Livestock	Other Paddy	Total
CHAMP						
Farm Production	3,482,400	273,429	49,586	2,045,170	0	5,850,585
Family LaborCost	8,515,200	90,857	12,343	478,929		9,097,329
Sub Total	11,997,600	364,286	61,929	2,524,099	0	14,947,914
Seed Cost	17,412	638	217			18,267
C.FertilizerCost	22,050		2,000	51,617		75,667
Employment	445,217		6,171		0	451,388
Fuel Cost		109,371				109,371
Farm Tax	147,000					147,000
Sub Total	631,679	110,009	8,388	51,617	0	801,693
Gross Income	11,365,921	254,277	53,541	2,472,482	0	14,146,221
Net Income	2,850,721	163,420	41,198	1,993,553	0	5,048,892

Name of District	Paddy	Irrigation	Vegetables	Livestock	Other Paddy	Total
ATSAPAN						
Farm Production	2,570,000	19,714	14,336	2,063,622	19,500	4,687,172
Family LaborCost	8,727,771	21,429	12,343	245,443	1,563	9,008,549
Sub Total	11,297,771	41,143	26,679	2,309,065	21,063	13,695,721
Seed Cost	64,250	526	521	42,514	320	108,131
C.FertilizerCost	14,700		286			14,986
Employment	222,609		2,057	2,571		227,237
Fuel Cost		7,886				7,886
Farm Tax	114,600					114,600
Sub Total	416,159	8,412	2,864	45,085	320	472,840
Gross Income	10,881,612	32,731	23,815	2,263,980	20,743	13,222,881
Net Income	2,153,841	11,302	11,472	2,018,537	19,180	4,214,332

Name of District	Paddy	Irrigation	Vegetables	Livestock	Other Paddy	Total
OUTHOMP						
Farm Production	1,860,000	0	20,536	1,490,593	0	3,371,129
Family LaborCost	41,636,657	0	3,086	239,143	0	41,878,886
Sub Total	43,496,657	0	23,622	1,729,736	0	45,250,015
Seed Cost	46,500	0	557			47,057
C.FertilizerCost	4,900			35,921		40,821
Employment	148,406		1,029	2,571		152,006
Fuel Cost						0
Farm Tax	90,400					90,400
Sub Total	290,206	0	1,586	38,492	0	330,284
Gross Income	43,206,451	0	22,036	1,691,244	0	44,919,731
Net Income	1,569,794	0	18,950	1,482,101	0	3,040,845

Table 2-11-(2) Income of Farm Household
(U S \$ 換算)

Name of District SONGKHO	Paddy	Irrigation	Vegetables	Livestock	Other Paddy	Total
Farm Production	2,292,000	60,000	198,643	1,855,679	0	4,406,322
Family LaborCost	8,510,400	51,429	20,571	329,143		8,911,543
Sub Total	11,802,400	111,429	219,214	2,184,822	0	13,317,865
Seed Cost	57,300	1,600	6,707			65,607
C.FertilizerCost	7,350		571	42,430		50,351
Employment	148,406		3,086	6,429		157,921
Fuel Cost		24,000				24,000
Farm Tax	104,400					104,400
Sub Total	317,456	25,600	10,364	48,859		422,279
Gross Income	10,484,944	85,829	208,850	2,135,963	0	12,915,586
Net Income						

Name of District SAYBOULY	Paddy	Irrigation	Vegetables	Livestock	Other Paddy	Total
Farm Production	1,667,200	82,714	45,214	969,930	0	2,765,058
Family LaborCost	4,163,657	61,714	6,171	117,064		4,348,606
Sub Total	5,830,857	144,428	51,385	1,086,994	0	7,113,664
Seed Cost	41,680	2,206	1,650			45,536
C.FertilizerCost	4,900		257	20,867		26,024
Employment	78,069			2,571		80,640
Fuel Cost		66,171				66,171
Farm Tax	69,300					69,300
Sub Total	193,949	68,377	1,907	23,438	0	287,671
Gross Income	5,636,908	76,051	49,478	1,063,556	0	6,825,993
Net Income	1,473,251	14,337	43,307	946,492	0	2,477,387

Name of District SONBULY	Paddy	Irrigation	Vegetables	Livestock	Other Paddy	Total
Farm Production	1,107,200	21,857	7,586	1,079,203	0	2,215,846
Family LaborCost	3,089,143	21,857	3,189	144,771		3,258,960
Sub Total	4,196,343	43,714	10,775	1,223,974	0	5,474,806
Seed Cost	27,680	582	286			28,548
C.FertilizerCost	2,450		214	22,223		24,887
Employment	34,740		386	2,143		37,269
Fuel Cost		8,742				8,742
Farm Tax	45,200					45,200
Sub Total	110,070	9,324	886	24,366	0	144,646
Gross Income	4,086,273	34,390	9,889	1,199,608	0	5,330,160
Net Income	997,130	12,533	6,700	1,054,837	0	2,071,200

Name of District NOXGBOK	Paddy	Irrigation	Vegetables	Livestock	Other Paddy	Total
Farm Production	2,344,400	205,714	27,679	613,793	22,500	3,214,086
Family LaborCost	3,089,143	61,714	6,171	144,771	2,056	3,303,855
Sub Total	5,433,543	267,428	33,850	758,564	24,556	6,517,941
Seed Cost	58,610	5,486	483		750	65,329
C.FertilizerCost	4,900		536			5,436
Employment	34,740		2,571	3,214		40,525
Fuel Cost		82,286				82,286
Farm Tax	87,500					87,500
Sub Total	185,750	87,772	3,590	3,214	750	281,076
Gross Income	5,247,793	179,656	30,260	755,350	23,806	6,236,865
Net Income	2,158,650	117,942	24,089	610,579	21,750	2,933,010

Table 2-12 Suffer from Flood Damage

Name of District	1987 Year			1988 Year		
	Cultivation Area (ha)	Damage Area (ha)	Loss Amount Money (\$)	Cultivation Area (ha)	Damage Area (ha)	Loss Amount Money (\$)
Khantha	11,004	350	58,154	9,300	2,800	407,077
Camp	17,857	1,500	249,231	12,300	3,400	494,308
Atsapan	12,522	250	41,538	12,100	3,700	537,923
Songkhone	10,036	1,000	166,154	10,000	1,500	218,077
Outhomp	8,731	67	11,132	8,800	1,400	203,538
Sayboully	7,136	1,000	166,154	6,200	500	72,692
Sonboully	no data		0	5,553	2,053	298,475
Nongbok	7,215	290	48,185	7,513	4,132	600,729
Thakhek	10,291	3,163	525,545	11,760	4,055	589,535
Average Paddy Yield		1.8t/ha		Average Paddy Yield		1.5t/ha
Kip into \$		650kip/1\$		Kip into \$		650kip/1\$
Price of Paddy		60kip		Price of Paddy		63kip

Name of District	1989 Year			1990 Year		
	Cultivation Area (ha)	Damage Area (ha)	Loss Amount Money (\$)	Cultivation Area (ha)	Damage Area (ha)	Loss Amount Money (\$)
Khantha	10,573	350	60,221	10,573	444	79,920
Camp	16,285	1,500	258,088	16,931	1,857	334,260
Atsapan	12,625	250	43,015	12,857	300	54,000
Songkhone	10,995	1,000	172,059	10,851	1,111	199,980
Outhomp	8,964	67	11,528	9,061	90	16,200
Sayboully	8,240	1,000	172,059	8,240	1,235	222,300
Sonboully	5,500	1,100	189,265	5,536	905	162,900
Nongbok	11,750	no data	0	11,722	1,020	183,600
Thakhek	7,690	no data	0	7,382	118	21,240
Average Paddy Yield		1.8t/ha		Average Paddy Yield		1.8t/ha
Kip into \$		680kip/1\$		Kip into \$		700kip/1\$
Price of Paddy		65kip		Price of Paddy		70kip

Source : 1990 Year Agriculture Report

Make Rough Estimate of Farm Economy

Name of District	Farm Production	Productivity of Labor	Gross Farm Income	Net Farm Income	Number of Household	Net Return /Household	Average of PaddyYield
Khantha	3,931,310	12,479,007	16,410,317	3,931,310	17,315	227	1.8t/ha
Champh	5,850,585	9,097,329	14,947,914	5,850,585	12,418	471	3.6t/ha
Atsapan	4,687,172	9,008,549	13,695,721	4,687,172	12,728	368	2.4t/ha
Songkhone	4,406,322	8,911,543	13,317,865	4,406,322	12,411	355	2.3t/ha
Outhomp	3,371,129	41,878,886	45,250,015	3,371,129	9,865	342	2.6t/ha
Sayboully	2,765,058	4,348,606	7,113,664	2,765,058	6,072	455	3.1t/ha
Sonboully	2,215,846	3,258,960	5,474,806	2,215,846	4,505	492	2.8t/ha
Nongbok	3,214,086	3,303,855	6,517,941	3,214,086	6,781	474	3.1t/ha
TOTAL	30,441,508	92,286,735	122,728,243	30,441,508	82,095	3,184	2.7t/ha

Source : Interview Survey for District Office (1990)
Exchange Rate 1\$,703kip

Table 2-13 Date of Seed Delivery Tassano, Other

品 種 名	Total Production (kg)	Unhulled (kg)	Yield (%)	District	Buying (kg)	Price (kip)	Amount (\$)
RD-16	18,645	11,355	61	Khantha	72	164	16.86
RD-203	0	0	0	Chanphone	3,000	164	702.85
HOMMARY	2,625	2,025	77	Atsapsanth	2,750	164	644.28
SANPATON	1,747	1,603	92	Sayboully	5,074	164	1,188.76
CHAOKHAO	1,719	902	52	Total	10,896		2,552.75
TOTAL	24,736	15,885	64				

Source: Tasano Seed Plantation 1990

Live Stock Income

District	Buffalo U.B.T.	Cattle U.B.T.	Pig U.N.T.	Chicken U.N.T.	Capacity \$ Total	Selling Income 20%
Khanthaboully	15,236	21,276	6,670	18,065	7,655,325	1,531,065
Chanphone	19,456	28,432	13,180	19,092	10,225,852	2,045,170
Atsaphanthoung	25,360	22,395	8,544	12,184	10,381,109	2,063,622
Songkhone	20,122	23,936	6,777	22,077	9,278,397	1,855,679
Outhompone	15,155	20,910	4,250	19,790	7,452,965	1,490,593
Sayboully	9,917	13,453	3,074	11,181	4,849,651	969,930
Sonboully	10,647	13,983	8,721	10,895	5,396,015	1,079,203
Nongbok	6,668	7,667	3,046	7,959	3,068,964	613,793
TOTAL	122,561	152,052	54,262	121,243	58,245,278	11,649,056

Selling Price/Head Buffalo 235\$ Cattle 175\$ Pig 50\$ Chicken 1\$

Feed Demand of Buffalo & Cattle

District	Buffalo bull	Buffalo female	Buffalo Junir	Unit 0.3 UBT	Total 250.UBT	Rate of Female %	Water (kg) M.M. Demand	Feed(kg) M.M. Demand
Khanth	6,480	7,020	5,786	1,736	15,236	52	609,440	106,651
Chanphone	5,435	10,548	11,575	3,473	19,456	66	778,240	136,189
Atsaphan	9,584	11,250	15,088	4,526	25,360	54	1,014,400	177,523
Songkhone	8,151	9,961	6,700	2,010	20,122	55	804,880	140,854
Outhompone	5,871	7,177	7,024	2,107	15,155	55	606,200	106,086
Sayboully	4,175	4,706	3,454	1,036	9,917	53	396,680	69,420
Sonboully	4,291	5,039	4,391	1,317	10,647	54	425,880	74,531
Nongbok	2,727	3,335	2,021	606	6,668	55	266,720	46,678
TOTAL	46,714	59,036	56,039	16,811	122,561	56	4,902,440	857,932

District	Cattle bull	Cattle female	Cattle Junir	Unit 0.3 UBT	Total 250.UBT	Rate of Female %	Water (kg) M.M. Demand	Feed(kg) M.M. Demand
Khanth	4,419	11,947	16,366	4,910	21,276	73	638,280	127,655
Chanphone	5,118	16,330	23,279	6,984	28,432	76	852,960	170,590
Atsaphan	4,652	12,575	17,227	5,168	22,395	73	671,850	134,371
Songkhone	4,523	14,847	15,220	4,566	23,936	77	718,080	143,616
Outhompone	4,231	12,690	13,296	3,989	20,910	75	627,300	12,559
Sayboully	3,476	8,508	4,896	1,469	13,453	71	403,590	80,717
Sonboully	4,383	8,139	4,870	1,461	13,983	65	419,490	83,898
Nongbok	2,004	4,676	3,290	987	7,667	70	230,010	46,002
TOTAL	32,806	89,712	98,444	29,534	15,052	73	4,561,560	799,408

Source: Interview Examination of District Livestock Office 1991

M.M. : Minimum Feed Demand

Table 2-14 Cropping System Standard
Growing Area

郡名	Seeding Area (ha)	Harvest Area (ha)	Cultivated (%)	Rain Fed paddy (%)	Irrigation (%)	Crop/Farm (ha)
Kanthaboly	10,129	10,985	9.3	95.8	1.1	0.6
Champhone	17,412	15,074	14.2	98.8	3.6	1.4
Atsaphanthong	12,850	12,287	4.3	98.5	0.3	1
Songkhone	11,460	9,740	8.9	92.9	1.1	0.9
Outhomphone	9,300	8,970	8.4	99.1	0	0.9
Sayboly	8,336	7,004	8.6	97.4	2.2	1.3
Sonboly	5,536	4,442	4.6	97.7	0.9	1.1
Nongbok	11,722	10,702	9.4	94.9	3.8	1.7
TOTAL	86,745	79,204	67.7	775.1	1.8	1.1

Source: Svannakhet & Nongbok Agriculture Section 1990

Cropping System Standard

	Planting Season	Intarowd (cm)	Row (cm)	Seeding Rate (kg)	Seed Cost (kip/kg)	Yield (kg/ha)	Growing Period Day
Riy Rice	Rainy	25	25	35~50	85	1,500~ 3,000	90~ 180
Irrig Rice	Dry	20	20	40~45	164	2,000~ 6,000	90~ 140
Sweet Corn	FULL	50	100	20~60	450	1,850~ 2,000	55~ 75
Corn	FULL	50	80	35~60	350	2,800~ 3,500	120~ 130
Manton	Rainy	150	150	4,500	450	12,000~18,000	240~ 300
Sweet Potato	Rainy	30	70	500pick	60/pk	12,500~15,000	90~ 120
Taro	Rainy	40	80	150	450	5,000~ 8,000	120~ 150
Potato	Rainy	40	60	100	550	4,000~ 6,000	110~ 130
Soy bean	Rainy	25	40	20	580	950~ 1,000	100~ 120
Green Bean	Rainy	30	50	25~30	600	800~ 1,000	110~ 120
Peanut	Rainy	20	40	50~60	650	900~ 1,200	100~ 120
Sugar Cane	FULL	50	120	19,000pk	150	50,000~60,000	280~ 360
Tea	Rainy	100	100	10,000pk	55/pk	no data	1,095~1,460
Coffee	Rainy	300	350	1,100pk	60/pk	600~ 700	1,095~1,460
Tobacco	Rainy	70	80~100	18,000pk	80/pk	5,800~ 6,000	110~ 130
Red Tea	Rainy	250	300	12pk	100/pk	1,000	365
Pepper	Rainy	100	700	2,500pk	350/pk	2,500~ 3,500	365

Source: Savannakhet Agriculture Section 1990

Table 2-15 Capacity of Fishly

	Type of Reservoir	P l a c e	Water Capacity(ha)		Deep (m)	Capacity	Catch fish 300g/1fish
			D r y	Rainy			
Khanthabouly	DAM	Ponesin	150	200	5	21,000	2,700
"	"	Bung Van	50	100	3	7,000	900
Champhon	"	Lao Uat	50	No Data	2	7,000	900
"	"	Bak	200	"	3	28,000	3,600
"	"	Keng Kok	No Data	"	2	0	0
"	"	Taleao	"	"	2	0	0
"	"	Lambong	"	"	No Data	0	0
"	"	Donengeng	600	"	3	84,000	10,800
"	"	Kenkok Dong	100	"	2	14,000	1,800
"	"	MayVangSung	30	100	8	4,200	540
"	"	May	30	80	10	4,200	540
"	"	Nongphum	50	No Data	3	7,000	900
Outhomphone	"	B Nachan	15	"	4	2,100	270
"	"	B Nakhano	25	"	15	3,500	450
Say bouly	"	Bung Ho	50	"	10	7,000	900
"	"	B Donggnay	20	"	5	2,800	360
Nongbok	GATE	Koutchap	30	60	3	4,200	540
TOTAL			1,400	540	80	196,000	25,200

Source : Savafnnakhte & Thakhek Irrigation Section 1990

Fishing Capacity : 0.3kg/Fish *Twice A Year, 1 ha About 30 Fish

Fish Farm Capacity : Dry Sesaon Pond ha *70 Fish 2* Year,

number of Livestock data (1986~1990Year)

District	B u f f a l o					C a t t l e				
	1986	1987	1988	1989	1990	1986	1987	1988	1989	1990
Khanth	20,915	21,581	17,616	17,968	19,286	24,049	23,145	20,092	20,493	24,069
Champhone	34,809	35,109	24,387	24,874	27,558	39,786	40,086	42,441	43,289	44,767
Atsaphan	40,098	40,494	40,195	40,998	35,922	20,344	21,106	22,927	23,385	23,599
Songkhone	26,349	25,312	23,360	24,083	24,812	36,497	36,245	35,850	36,567	34,590
Outhomphone	27,487	18,828	17,665	22,474	20,074	37,344	25,440	25,442	25,840	30,217
Saybouly	480	11,392	9,308	11,593	12,335	407	15,363	13,248	16,357	16,880
Sonbouly	17,898	17,878	11,413	13,090	13,721	12,544	17,279	13,496	16,257	17,392
Nongbok	NO DATA	0	0	0	8,083	NO DATA	0	0	0	9,970
TOTAL	168,036	170,594	143,944	155,080	161,791	170,971	178,664	173,496	182,188	201,484

District	P i g					C h i c k e n				
	1986	1987	1988	1989	1990	1986	1987	1988	1989	1990
Khanth	13,319	15,316	10,530	10,530	19,063	76,461	88,577	63,754	63,786	68,949
Champhone	28,992	29,992	13,123	13,686	19,617	177,043	178,043	77,745	78,745	111,466
Atsaphan	28,925	31,355	24,338	14,648	22,657	70,305	72,886	67,522	55,463	77,550
Songkhone	15,905	13,138	7,603	8,703	9,565	33,657	32,678	22,313	40,758	48,959
Outhomphone	11,603	18,140	6,323	7,224	6,526	35,720	67,175	35,081	46,364	51,006
Saybouly	5,110	6,026	5,089	6,823	7,687	NO DATA		NO	NO	26,369
Sonbouly	12,399	12,339	5,300	8,989	9,393	NO	no dater	NO	NO	37,699
Nongbok	NO	NO	NO	NO	5,670	NO		NO	NO	28,422
TOTAL	116,253	126,306	72,306	70,603	100,178	393,186	439,359	266,415	285,116	450,420

Source : Savannakhet & Nongbok Livestock Office 1991

Table 2-16 Existing Irrigation Facilities

No.	Project	Type	Water Source	Village	District	Survey Design	Compl. Year	Res.2) (ha)	Wet 3) (ha)	Dry 4) (ha)	Remark
1	H. Hakmi	Dam	H. Hakmi	Laonai	Champhon	80	80	100	-	50	inundation in rainy season
2	Khamsenkhek	Dam	Khamsenkhek	Bak	Champhon	79	83	2	3	-	for the use of daily life
3	Nongdeun	Dam	Nongdeun	Kengkong Dong	Champhon	82	82	100	100	30	
4	Koutkhene	Dam	Koutkhene	Taleao	Champhon	81	82	90	-	50	inundation in rainy season
5	Nongkan	Dam	Nongkan	Kengkong	Champhon	77	78	2	-	-	for the use of daily life
6	Lambong	Dam	H. Lambong	Lambong	Champhon	77	78	1	-	-	for the use of daily life
7	H. Sangkhao	Dam	H. Sangkhao	Pakxong	Songkhone	84	85	10	-	-	for the use of daily life
8	H. Tamleum	Gate	H. Tamleum	Sabusai	Songkhone	77	78	-	-	-	damaged, no use
9	H. Bo	Gate	H. Bo	Nake	Khanthabouly	76	77	-	-	-	damaged, no use
10	H. Sompoy I	Gate	H. Sompoy	Naseng	Khanthabouly	81	82	-	50	20	
11	H. Sompoy II	Gate	H. Sompoy	Naseng	Khanthabouly	82	84	-	-	-	damaged, no use
12	Bungva	Dam	H. Bungva	Bungva	Khanthabouly	84	84	100	100	50	
13	Naseng	Pump	H. Sompoy	Naseng	Khanthabouly	84	84	-	-	-	damaged, no use
14	Nake	Pump	Mekong	Nake	Khanthabouly	79	87	-	100	50	
15	Tasano	Pump	Mekong	Tasano	Khanthabouly	78	89	-	60	60	
16	H. Chane	Gate	H. Chane	Nuangphoum	Khanthabouly	77	78	-	-	-	damaged, no use
17	H. Papak	Gate	H. Papak	Dongphao	Saybouly	78	78	-	100	50	
18	H. Saleung	Gate	H. Saleung	Phonthon	Saybouly	78	79	-	100	50	
19	H. Ke	Gate	H. Ke	Phakpheua	Saybouly	76	77	-	100	50	
20	H. Phinh	Gate	H. Phinh	Tahbo	Saybouly	76	77	-	100	50	
21	H. Kangpa	Gate	H. Kangpa	Kangpa	Saybouly	77	78	-	100	50	
22	H. Souy	Dam	H. Souy	Donengeng	Champhon	86	87/90	1,600	-	600	inundation in rainy season
23	H. Bak	Dam	H. Bak	Houamong	Champhon	77/78	89/1-2	400	-	200	inundation in rainy season
24	Nong Lath	Dam	Nong Lath	Kengkong Done	Champhon	87	89/2-3	200	-	100	inundation in rainy season
25	H. Po	Dam	H. Po	Mayvangsung	Champhon	86	86/87	50	30	10	
26	H. Makngao	Dam	H. Makngao	May	Champhon	85	87/2-6	100	80	30	
27	H. Nokkok	Weir	H. Nokkok	Nokkok	Champhon	88	89/1-3	-	50	20	
28	H. Sala	Gate	H. Sala	Songkhone	Songkhone	88	89/4-5	-	100	30	
29	H. Ngang	Weir	H. Ngang	Pakxong	Songkhone	85	86/1-5	-	10	2 (5ha) 5)	
30	H. Kok	Weir	H. Kok	Nongbayatha	Songkhone	87	87/3-88	-	20	3 (10ha) 5)	
31	H. Mong	Weir	H. Mong	Sisavang	Songkhone	88	89/3-7	-	50	6 (20ha) 5)	
32	H. Lahang	Weir	H. Lahang	Nahangnoy	Atsaphanthong	87	87/12-8	-	70	7	
33	Kengkong Bok	Weir	H. Chelamong	Nanokkhiane	Atsaphanthong	88	88/5-6	-	50	3 (10ha) 5)	
34	H. Chelamong	Weir	H. Chelamong	Chelamong	Atsaphanthong	88	89/2-3	-	70	6 (20ha) 5)	
35	H. Phung	Weir	H. Phung	Hineciau	Atsaphanthong	89	90/3-4	-	30	3 (10ha) 5)	
36	Nong Sim	Dam	Nong Sim	Nongphum	Sombouly	86	87/2-4	100	-	50	inundation in rainy season
37	H. Xom	Weir	H. Xom	Nongsavang	Sombouly	89	89/4-7	-	20	2 (5ha) 5)	
38	H. Bong	Weir	H. Bong	Ponetume	Outhomphone	90	90/5-6	-	30	4 (15ha) 5)	
39	Xe Bangfai	Pump	Xe Bangfai	Tonheng	Saybouly	86/87	89/90	-	550	550	
40	H. Sikhai	Weir	H. Sikhai	Sikhai	Saybouly	86	87/12-8	-	100	50	
41	Nongtao	Dam	Nongtao	Ponesim	Khanthabouly	86	87/1-4	100	200	150	
42	H. Hauasang	Weir	H. Hauasang	Thahouasang	Khanthabouly	90	90/6-7	-	10	2 (5ha) 5)	
43	Kouthapo	Dam	H. Thong	Phonthan	Khanthabouly	87	88	50	50	30	
44	Nabo	Pump	Mekong	Nabo	Thakhek 1)	85	86	-	-	-	out of order, no use
45	Choumcheng	Pump	Mekong	Choumcheng	Thakhek 1)	85	86	-	-	-	out of order, no use
46	Kouangkhaio	Pump	Mekong	Kouangkhaio	Thakhek 1)	86	87	-	600	340	
47	Koutchap	Dam	Nongkout	Koutchap	Thakhek 1)	82	82	30	-	60	for the use of daily life
48	H. Phou	Gate	H. Phou	Songmuang	Thakhek 1)	86	87	-	150	50	
49	H. Khe	Gate	H. Khe	Sokbo	Thakhek 1)	86	87	-	200	70	
(Total)								3,035	3,383	2,938	

Source : Department of Agriculture & Forestry in Savannakhet and Khammouane Province

Note 1) District of Khammouane Province

2) Reservoir Area

3) Irrigable Area in Wet Season for Paddy

4) Irrigable Area in Dry Season for Paddy

5) Irrigable Area in Dry Season for Vegetable by Manual Watering

Table 2-17-(1) Water Quality Analysis

Item	Chemical Analysis	Unit	Standard	Sample	Sample	Sample	Sample	Sample
			In Lao	No.1	No.2	No.3	No.4	No.5
1	Temperature Atmosphere	°C		28	28	28	28	28
2	Temperature Water	°C		24	24	24	24	24
3	Turbidity		<2	6	5	7	5	5
4	Color		<5	0	0	0	0	7
5	Odor			normal	normal	normal	normal	normal
6	Taste			normal	normal	normal	normal	normal
7	P.H.		6.6-8.5	5.9	6.9	5.5	6.8	6.5
8	Alkanality	ppm		18.0	340	20	320	176
9	Ammonia nitrogen	ppm		0	0	0	0	0
10	Nitrite nitrogen	ppm		0	0	0	0	0
11	Nitrate nitrogen	ppm	<10	0	0	0	0	0
12	Chlorine (cl)	ppm	<200	11.3	17.5	29.7	329.6	141.8
13	Sulfate (SO4)	ppm		0	0	0	0	0
14	KMnO4 consumed	ppm	<10	6.32	6.6	6.95	7.58	19.59
15	Residual Chlorine	ppm		0	0	0	0	0
16	Total hardness	ppm	<300	65	415	55	437	270
17	Iron (Fe)	ppm	<0.3	0.3	0.05	0.02	0.06	Unditected
18	Manganese (Mn)	ppm		0	0	0	0	0
19	Aluminium (Al)	ppm		-	-	-	-	-
20	Bacteria (plate count)		<100	-	-	-	-	-
21	Colliform	ppm		0	0	0	0	0
22	Colony			2	5	3	6	8
23	EC			90	1,075	200	1,500	980

Note : Sampling Village

No. 1 : B. Dongkhamkhon

No. 4 : B. Kasek

No. 2 : B. Lak 35

No. 5 : B. Kengkok

No. 3 : B. Nadeng

Table 2-17-(2)(Continued)

Item	Chemical Analysis	Sample	Sample	Sample	Sample	Sample	Sample
		No.6	No.7	No.8	No.9	No.10	No.11
1	Temperature Atmosphere	23	23	23	23	23	23
2	Temperature Water	22	22	22	22	22	22
3	Turbidity	2	1	4	2	2	1
4	Color	1	0	1	1	2	0
5	Odor	normal	normal	normal	normal	normal	normal
6	Taste	normal	normal	normal	normal	normal	normal
7	P.H.	6.7	6.5	5.9	6.2	6.4	6.5
8	Alkanality	38.0	68.0	62.0	50.0	55.0	57.0
9	Ammonia nitrogen	0	0	0	0	0	0
10	Nitrite nitrogen	0	0	0	0	0	0
11	Nitrate nitrogen	0	0	0	0	0	0
12	Chlorine (cl)	1.00	0.58	0.32	0.97	0.85	0.53
13	Sulfate (SO4)	0	0	0	0	0	0
14	KMnO4 consumed	2.00	1.57	1.68	1.48	1.84	1.97
15	Residual Chlorine	0	0	0	0	0	0
16	Total hardness	68.3	72.5	53.9	62.0	65.0	68.2
17	Iron (Fe)	0.20	0.18	0.25	0.28	0.13	0.17
18	Manganese (Mn)	0	0	0	0	0	0
19	Aluminium (Al)	0.08	0.03	0.07	0.1	0.07	0.05
20	Bacteria (plate count)	-	-	-	-	-	-
21	Colliform	0	0	0	0	0	0
22	Colony	3	2	4	3	2	3
23	EC	-	-	-	-	-	-

Note : Sampling Village

No. 6 : B. Namphou-Tai

No. 9 : B. Houahin

No. 7 : B. Xok

No.10 : B. Xeno

No. 8 : B. Tasano

Table 2-18 Annual transportation volumes of the Savannakhet River Port

Item	1987	1988	1989	1990
1 Passenger Transport				
– Savannakhet to Vientiane (person)	6,165	6,240	6,600	7,920
(times)	114	116	124	126
– Vientiane to Savannakhet (person)	6,546	6,552	6,820	7,920
(times)	114	116	124	126
– between Savannakhet and Mukdahan (person)	6,200	18,200	30,900	33,000
(times)	880	1,050	1,180	1,220
2 Material Transport				
– Savannakhet to Vientiane (tons)	7,126	6,410	8,525	9,400
– Vientiane to Savannakhet (tons)	2,448	2,514	1,553	5,832
3 Export				
– Total Volume (tons)	47,546	54,455	54,164	68,650
– Transportaiton Charge	237,730 B	276,275 B	19,350 \$	27,450 \$
4 Import				
– Total Volume (tons)	13,793	17,152	20,703	11,000
– Transportaiton Charge	68,965 B	85,760 B	9,480 \$	1,40 \$

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Table 3-2-(1) Irrigation Planning

No.	Project	Type	Water Source	Village	District	Survey Design	Compl. Year	Res.2) (ha)	Wet 3) (ha)	Dry 4) (ha)	Remark *(construction by E. or F.)
Small to Medium Scale Project											
1	H. Sakhen	Res.	H. Sakhen	Phummachedy	Khanthabouly	88/-	92	40	40	20	= H. Chane, *(E)
2	Koutapo (2)	Res.	H. Thong	Phongthang	Khanthabouly	88/-	91	150	200	100	*(F)
3	H. Nambo	Res.	H. Nambo	Chomcheng	Khanthabouly	88/-	95	360	650	330	*(F)
4	H. Kasen	Res.	H. Kasen	Khaokat	Khanthabouly	88/-	94	220	420	210	*(E)
5	Sopchiang	Weir	H. Phakkha	Phakkha	Khanthabouly	88/-	95	-	10	5	*(F)
6	H. Thapho	Weir	H. Thapho	Thapho	Khanthabouly	88/-	94	-	10	5	*(F)
7	Namphou	Res.	H. Xay, Namphu	Phummachedy	Khanthabouly	88/-	92	-	600	150	*(E), Reservoir & 5 Weirs
8	Phakkha	Pump	Mekong	Phakkha	Khanthabouly	89/90	91	-	250	250	*(E)
9	Thapho	Pump	Mekong	Thapho	Khanthabouly	89/90	91	-	200	200	*(E)
10	Phummachedy P.	Res.	H. Khangong	1)	Khanthabouly	91/-	94	1,650	1,030	540	survey plan, P.= Plain, *(E)
11	H. Cheao	Res.	H. Cheao	Houy Xay	Champhon	88/-	91	550	0	440	*(E)
12	H. Kamsyda	Res.	H. Kamsyda	Kamsyda	Champhon	88/-	94	110	210	110	= H. Makmi, *(F)
13	Sokkhambalay	Res.	Sokkhambalay	Nonging	Champhon	88/-	92	90	210	110	= H. Thapiao, *(F)
14	H. Kadane	Weir	H. Kadane	Kadane	Champhon	88/-	93	-	50	20	*(F)
15	H. Xiangxoum	Weir	H. Xiangxoum	Xiangxoum	Champhon	88/90	95	-	25	10	*(F)
16	H. Takiang	Weir	H. Takiang	Taleo	Champhon	88/90	94	-	25	10	= H. Kateng, *(F)
17	H. Taleo	Weir	H. Taleo	Taleo	Champhon	88/90	94	-	70	30	*(F)
18	H. Bong	Res.	H. Bong	Lao Soulinga	Champhon	88/-	95	120	50	30	branch of H. Khao, *(E)
19	H. Kalang (1)	Weir	K. Kalang	Donedeng	Champhon	88/90	95	-	50	20	no intake, *(F)
20	H. Phangvu	Res.	H. Phangvu	Houangkhai	Champhon	88/-	91	130	210	110	*(E)
21	Nhyod H. Bak	Res.	H. Bak	Khamthao	Champhon	88/82	94	570	1,000	500	*(E)
22	Thongxakun	Pump	H. Souy	Xakhun	Champhon	89/90	92	1,200	300	300	*(E)
23	Thongbak	Pump	H. Bak	Kengkokdong	Champhon	89/90	91	400	210	210	*(E) *(E)
24	H. Louang	Res.	H. Louang	1)	Champhon	91/-	95	160	320	160	= H. Khanoun, survey Plan
25	H. Thouat	Res.	H. Thouat	1)	Champhon	91/-	94	500	460	230	survey plan, *(E)
26	H. Phaleng	Res.	H. Phaleng	1)	Champhon	91/-	94	500	790	400	survey plan, *(E)
27	H. Kalang (2)	Weir	H. Kalang	Kalang	Champhon	-	-	-	50	20	5), *(F)
28	H. Toumpang	Res.	H. Toumpang	Nongboua	Atsaphanthong	88/-	95	110	160	80	*(F)
29	H. Khambou	Res.	H. Khambou	Phonebok	Atsaphanthong	89/90	91	380	500	250	dam, spillway only, *(E)
30	H. Nga	Res.	H. Nga	Cheiamong	Atsaphanthong	89/-	92	100	70	40	*(E)
31	H. Ka	Res.	H. Ka	Donepalay	Atsaphanthong	89/-	95	80	130	70	*(E)
32	H. Tabonghak	Res.	H. Tabonghak	Nongpaksong	Atsaphanthong	89/-	93	430	400	200	*(E)
33	H. Nalai	Res.	H. Nalai	Nalaikhok	Atsaphanthong	89/-	93	270	230	120	*(E)
34	H. Pongdeng	Res.	H. Pongdeng	Kalong	Atsaphanthong	89/-	94	290	570	290	*(E)
35	H. Sokkathoum	Res.	H. Sokkathoum	Phoxay	Atsaphanthong	89/-	94	50	120	60	branch of H. Hloy, *(E)
36	H. Klong	Res.	H. Klong	Klong	Atsaphanthong	89/-	95	290	690	350	*(E)
37	H. Ngut	Res.	H. Ngut	Nalaidong	Atsaphanthong	89/-	95	270	310	160	*(E)
38	Vang. Khonh	Pump	Xe Champon	Donghen	Atsaphanthong	90/-	91	-	50	30	Vanghouang Khonh, *(F)
39	H. Khene	Res.	H. Khene	Laykatha	Atsaphanthong	90/-	92	110	190	100	*(E)
40	H. Na	Weir	H. Na	Phonbok	Atsaphanthong	88/90	95	-	50	10	*(F)
41	H. Kasine	Weir	H. Kasine	Phon-ngam	Atsaphanthong	88/90	92	-	50	20	no intake, *(F)
42	H. Kok (2)	Weir	H. Kok	Nongbouatha	Songkhone	88/90	93	-	50	20	*(F)
43	H. Vay	Weir	H. Vay	Nabo	Songkhone	88/90	94	-	20	10	= H. Khop, H. Nong, *(F)
44	H. Nonghy	Weir	H. Nonghy	Kouthy	Songkhone	88/90	95	-	60	20	= H. Sapheng, *(F)
45	H. Tamleum	Res.	H. Tamleum	Sabouxai	Songkhone	88/-	93	310	720	360	*(E)
46	H. Xay (1)	Weir	H. Xay	Gnangkham	Saybouly	89/90	91	-	50	10	under construction, *(F)
47	H. Xay (2)	Gate	H. Xay	Gnangkham	Saybouly	89/-	91	-	50	20	= H. Nakoktan, *(F)
48	H. Phe	Gate	H. Phe	Somsoat	Saybouly	89/-	93	-	70	30	*(F)
49	H. Salung	Gate	H. Salung	Phonthan	Saybouly	89/-	93	-	100	50	rehabilitation, *(F)
50	H. Sikhai (2)	Gate	H. Sikhai	1)	Saybouly	89/-	91	-	100	50	*(F)

(Continued)

Source : Department of Agriculture & Forestry in Savannakhet and Khammouane Province

Note 1) Not yet identified

2) Res. = Reservoir

3) Irrigable Area in Wet Season for Paddy

4) Irrigable Area in Dry Season for Paddy

5) Proposed by Mekong Committee

*(E) : Enterprise, *(F) : Farmers

Table 3-2-(2) Irrigation Planning

No.	Project	Type	Water Source	Village	District	Survey Design	Compl. Year	Res. 2) (ha)	Wet 3) (ha)	Dry 4) (ha)	Remark
51	H. Thamhiang	Gate	H. Thamhiang	1)	Sayboully	89/-	91	-	100	50	*(E)
52	H. Phiphut	Gate	H. Phiphut	Xiangkhai	Sayboully	89/90	91	-	100	70	under construction, *(E)
53	Pumping St.	Pump	Xe Bangfai	1)	Sayboully	90/91	91	-	3,500	3,500	P. Stations, 6), 7), *(E)
54	H. Hinelat	Res.	H. Hinelat	Xaya N. Khoun	Outhomphone	88/-	92	90	100	50	*(E)
55	H. Kipma	Res.	H. Kipma	Kipma	Outhomphone	88/-	91	60	140	70	*(E)
56	H. Xay	Res.	H. Xay	Dongtha	Outhomphone	88/-	95	160	400	200	*(E)
57	H. Xeno	Res.	H. Xeno	Nong Khanhet	Outhomphone	88/-	94	460	480	240	*(E)
58	H. Phanome	Res.	H. Phanome	Phonphang	Outhomphone	88/-	94	570	690	350	*(E)
59	H. Thahao (1)	Res.	H. Thahao	Nakham	Outhomphone	88/-	95	200	350	180	*(E)
60	H. Thahao (2)	Weir	H. Thahao	Phondua	Outhomphone	88/90	92	-	50	10	no intake, *(F)
61	H. Patdeng	Res.	H. Patdeng	Nouang Phong	Soneboully	88/-	92	10	60	30	*(E)
62	H. Khe	Weir	H. Khe	Dongbone	Soneboully	88/-	91	-	60	20	= Nong Kout Khe, *(F)
63	H. Xom	Res.	H. Xom	Houy Xonkok	Soneboully	88/-	92	40	90	50	*(E)
64	H. Gngang	Res.	H. Gngang	Gngang-gnai	Thakhek	-	-	60	100	50	*(E)
65	H. Xeng	Res.	H. Xeng	Nakhomkao	Thakhek	-	-	40	90	50	*(E)
66	H. Sadu	Gate	H. Sadu	Phonsace	Nongbok	89/90	91	-	100	50	under construction, *(E)
67	H. Bangkok	Gate	H. Bangkok	Phakpao	Nongbok	89/90	91	-	100	50	under construction, *(E)
68	H. Tung	Res.	H. Tung	Tung	Nongbok	-	-	160	180	90	*(E)
69	Dangtai	Pump	Xe Bangfai	Dangtai	Nongbok	-	-	-	600	600	*(E)
70	Naphoktha	Pump	Xe Bangfai	Naphoktha	Nongbok	-	-	-	1,100	1,100	*(E)
71	Gangkham	Pump	Xe Bangfai	Gangkham	Nongbok	-	-	-	450	450	*(E)
72	Nanphou	Pump	Xe Bangfai	Nanphou	Nongbok	89/90	91	-	300	300	under construction, 6), *(E)
73	Dongkasin	Pump	Xe Bangfai	Dongkasin	Nongbok	89/-	91	-	400	400	*(E)
74	Hatxiandi	Pump	Xe Bangfai	Hatxiandi	Nongbok	89/90	91	-	300	300	under construction, 6), *(E)
75	Dongsangam	Pump	Xe Bangfai	Dongsangam	Nongbok	-	-	-	500	500	*(E)
76	Phakitou	Pump	Xe Bangfai	Phakitou	Nongbok	-	-	-	850	850	*(E)
77	Sokbo	Gate	H. Sokbo	Sokbo	Nongbok	89/90	91	-	100	50	under construction, *(E)
78	H. Vay	Gate	H. Vay	Dongkasin	Nongbok	-	-	-	100	50	*(E)
79	H. Sayphay	Gate	H. Sayphay	Dongthai	Nongbok	-	-	-	100	50	*(E)
80	H. Lo	Gate	H. Lo	Dongsangan	Nongbok	-	-	-	100	50	*(E)
81	H. Naemang	Gate	H. Naemang	Hatxayfong	Nongbok	-	-	-	100	50	*(E)
82	H. Naphok	Gate	H. Naphok	Naphok	Nongbok	-	-	-	100	50	*(E)
83	H. Boun	Gate	H. Boun	Hatxiandi	Nongbok	-	-	-	100	50	*(E)
Total (Small to Medium Scale Project)									24,120	16,830	
Large Scale Project											
L.1	H. Sompoy	Res.	H. Sompoy	1)	Khanthaboully	91/-	94	2,200	3,350	1,680	survey plan, *(E)
L.2	H. Xevan	Res.	H. Xevan	Xevan	Champhon	-	-	1,440	2,550	1,280	5), *(E)
L.3	Xe Champhon(1)	Res.	Xe Champhon	1)	Atsaphangthon	91/-	94	1,950	4,780	2,390	survey plan, *(E)
L.4	Xe Xangxoy (1)	Res.	Xe Xangxoy	1)	Atsaphangthon	91/-	94	1,330	5,600	2,800	survey plan, *(E)
L.5	Xe Champhon(2)	Res.	Xe Champhon	1)	Atsaphangthon	-	-	9,600	11,780	5,890	Xe Banhieng No.6, 5), *(E)
L.6	H. Sikhai	Res.	H. Sikhai	Nadeng	Sayboully	89/90	95	740	2,200	1,150	*(E)
L.7	Xe Bangfai P.	Weir	Xe Bangfai	1)	S. boully/N. bok	91/-	94	12,400	11,400	11,400	survey plan, P. = Plain, *(E)
L.8	Xe Xangxoy (2)	Res.	Xe Xangxoy	1)	Soneboully	-	-	5,100	9,020	4,510	Xe Banhieng No.5, 5), *(E)
Total (Large Scale Project)									50,770	31,100	8)

Source : Department of Agriculture & Forestry in Savannakhet and Khammouane Province

Note 1) Not yet identified

2) Res. = Reservoir

3) Irrigable Area in Wet Season for Paddy

4) Irrigable Area in Dry Season for Paddy

5) Proposed by Mekong Committee

6) Financed by the Ministry of Agriculture and Forestry

7) Under construction for Bungxe (500ha), Kengphousi (300ha)

8) Double counted, 9,420ha for wet season and 8,720ha for dry season

*(E) : Enterprise, *(F) : Farmers

Table 4-1 Proposed Land Use (Study area and Zone areas)

(Unit : ha ♪)

No.	Kind of Land use	Study area total		Xe Bangfai Zone		Xe No Zone		Savanakhet Zone		S. Lak 35 Zone		Paxong Zone		Donghen Zone	
		Present	Proposed	Present	Proposed	Present	Proposed	Present	Proposed	Present	Proposed	Present	Proposed	Present	Proposed
1	Rainfed paddy field	33,948	85,645	19,455	5,998	9,250	7,060	7,196	1,913	25,741	8,547	11,200	10,430	12,803	0
2	Irrigated paddy field	2,106	66,853	753	14,210	50	2,240	127	5,410	859	18,063	260	1,030	47	25,900
2-1	Rainy paddy field	0	23,465	0	982	0	1,061	0	2,173	0	6,681	0	504	0	12,064
2-2	Paddy, double cropping field	1,679	33,388	673	11,757	0	879	87	2,337	733	8,182	140	226	46	10,007
2-3	Rainy paddy, dry upland Crops field	427	10,000	80	1,471	50	300	40	900	136	3,200	120	300	1	3,829
3	total paddy field	87,751	100,801	20,208	20,208	9,300	9,300	7,323	7,323	26,610	26,610	11,460	11,460	12,850	25,900
4	Rais field	143	0	0	0	6	0	7	0	0	0	0	0	130	0
5	Normal upland field	1,750	3,893	269	500	28	100	191	400	371	800	819	1,300	72	793
6	Land under permanent crops field	600	3,600	100	300	100	700	75	300	225	800	50	300	50	500
7	Total upland field	2,493	7,493	369	800	128	800	272	700	603	1,600	869	2,300	252	1,293
8	Total cultivated land	90,244	108,294	20,577	21,008	9,428	10,100	7,595	8,023	27,213	28,210	12,329	13,760	13,102	27,193
9	Forest and other lands	1,109,856	1,091,806	219,123	218,692	101,972	101,300	62,905	62,477	279,187	278,190	152,321	150,940	294,298	289,207
10	General total	1,200,100	239,700	239,700		111,400		70,500		306,400		164,700		307,400	
11	Ratio 3/8 (%)	97.2	93.1	98.2	96.2	98.6	92.1	96.4	91.3	97.8	94.3	93.0	83.3	98.9	95.2
12	7/8 (%)	2.8	6.9	1.8	3.8	1.4	7.9	3.6	8.7	2.2	5.7	7.0	16.7	1.9	4.8
13	2/3 (%)	2.4	66.3	3.7	70.3	0.5	24.1	14.2	73.9	0.5	67.9	2.3	9.0	0.4	100.0
14	8/10 (%)	7.6	9.0	6.6	8.8	8.5	9.1	10.1	11.4	8.9	9.2	7.5	8.4	4.3	8.8

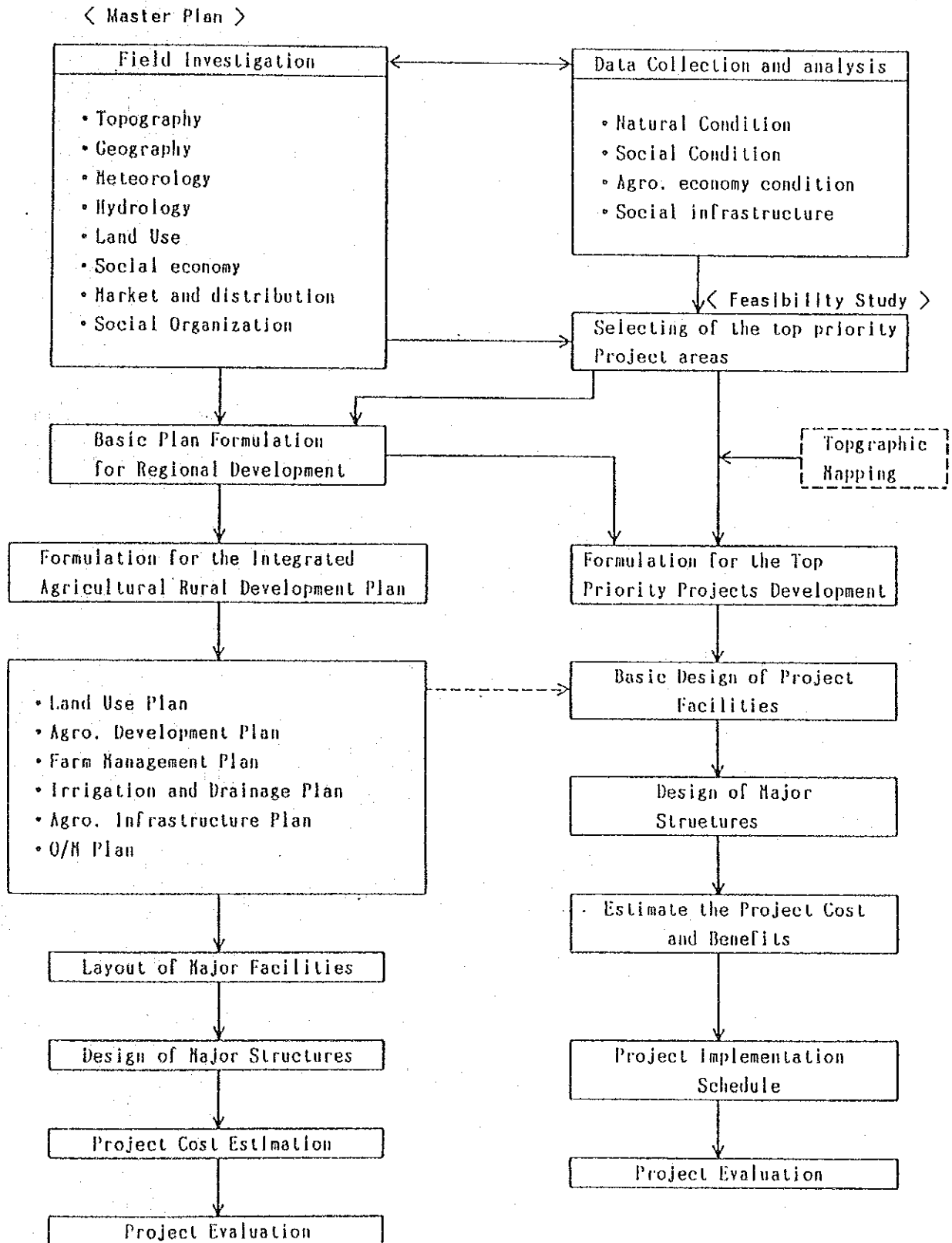
Table 4-2 Agricultural Output

(Unit: Million kips)

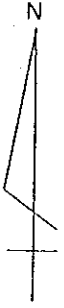
	Study area		Xe Bangfai Zone		Xeno Zone		Savannakhet Zone		B. Lak 35 Zone		Pakxong Zone		Donghen Zone	
	Present	Plan	Present	Plan	Present	Plan	Present	Plan	Present	Plan	Present	Plan	Present	Plan
Rice	12,848	43,388	3,031	10,999	1,302	2,681	1,052	3,163	3,989	11,213	1,646	2,771	1,828	12,562
Field crop	350	934	54	138	6	28	38	110	74	220	164	358	14	218
Vegetables	85	2,700	17	397	10	81	8	243	27	864	24	81	0	1,034
Fruit	180	1,386	30	116	30	270	23	116	68	308	15	385	15	193
Water buffalo	6,048	15,121	818	3,780	748	756	376	756	1,861	4,536	993	2,268	1,252	3,024
Cattle	5,588	13,970	776	2,794	768	698	391	698	1,950	4,191	880	2,095	823	3,492
Pig	570	1,424	64	285	45	142	35	71	265	356	71	285	90	285
Chicken	10	48	1	11	1	5	1	2	4	11	1	10	1	10
Fish		2,737		920		40		154		722				902
Total	25,679	81,708	4,791	19,438	2,910	4,701	1,923	5,313	8,238	22,421	3,794	8,252	4,023	21,719
10 ³ \$	36,685	116,726	6,844	27,769	4,156	671	2,748	7,591	11,769	32,029	5,420	11,789	5,748	31,027
\$/person	70	166	85	230	70	71	33	69	79	170	75	128	70	286

Fig. 1-1






Work Chart



SOIL MAP



LEGEND

-  ORTHIC ACRISOLS
-  FERRIC ACRISOLS
-  DISTRIC GLEYSOLS
-  LOWLAND SOILS
-  MOUNTAINOUS DISTRICT



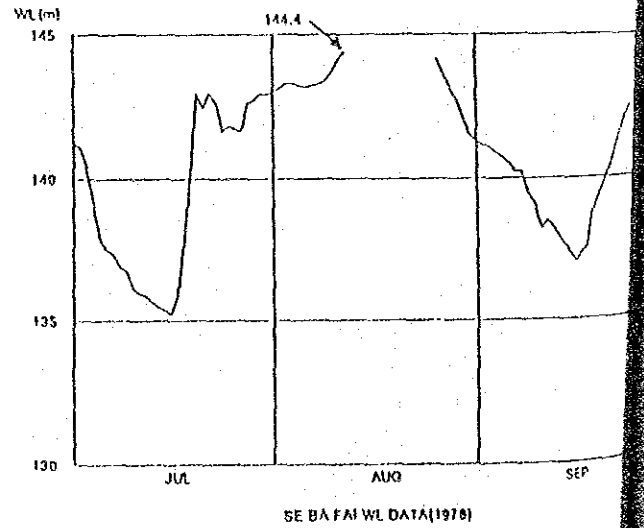
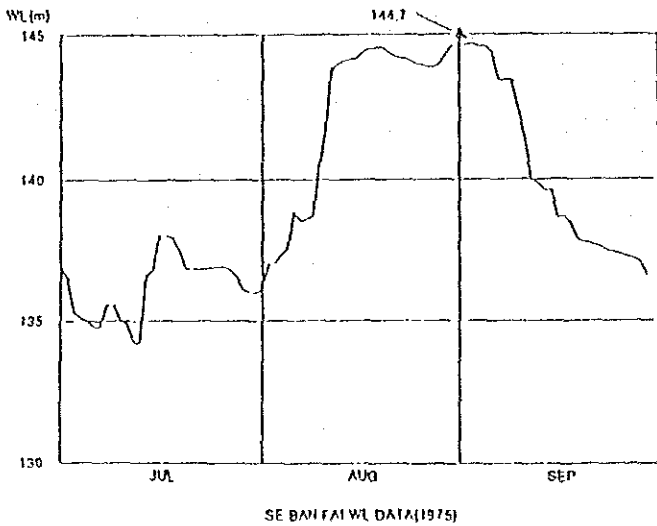
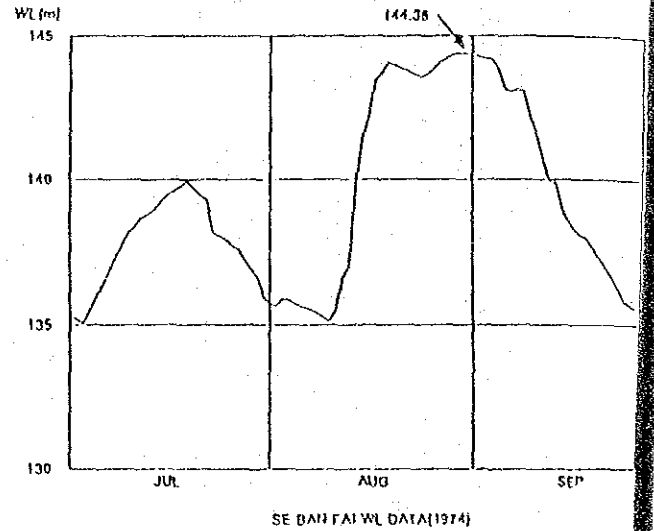
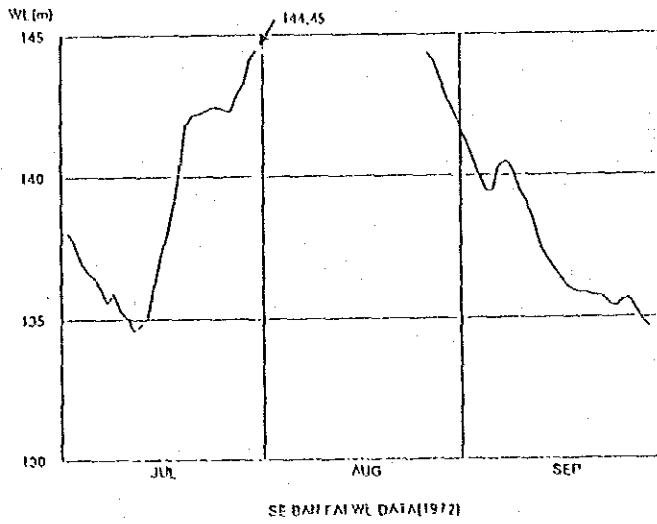
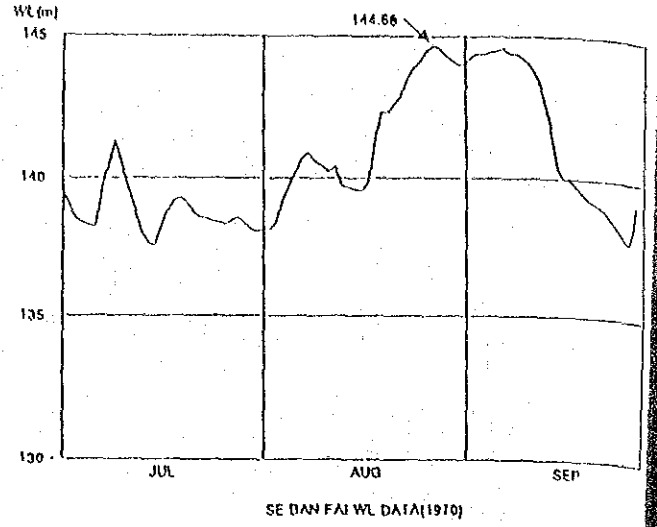
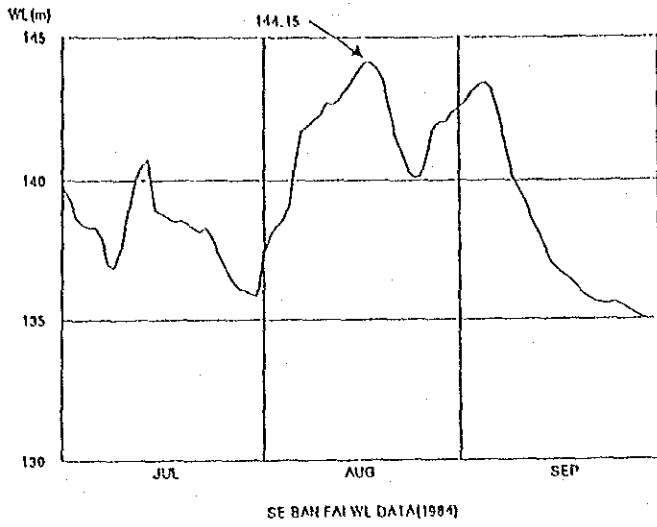
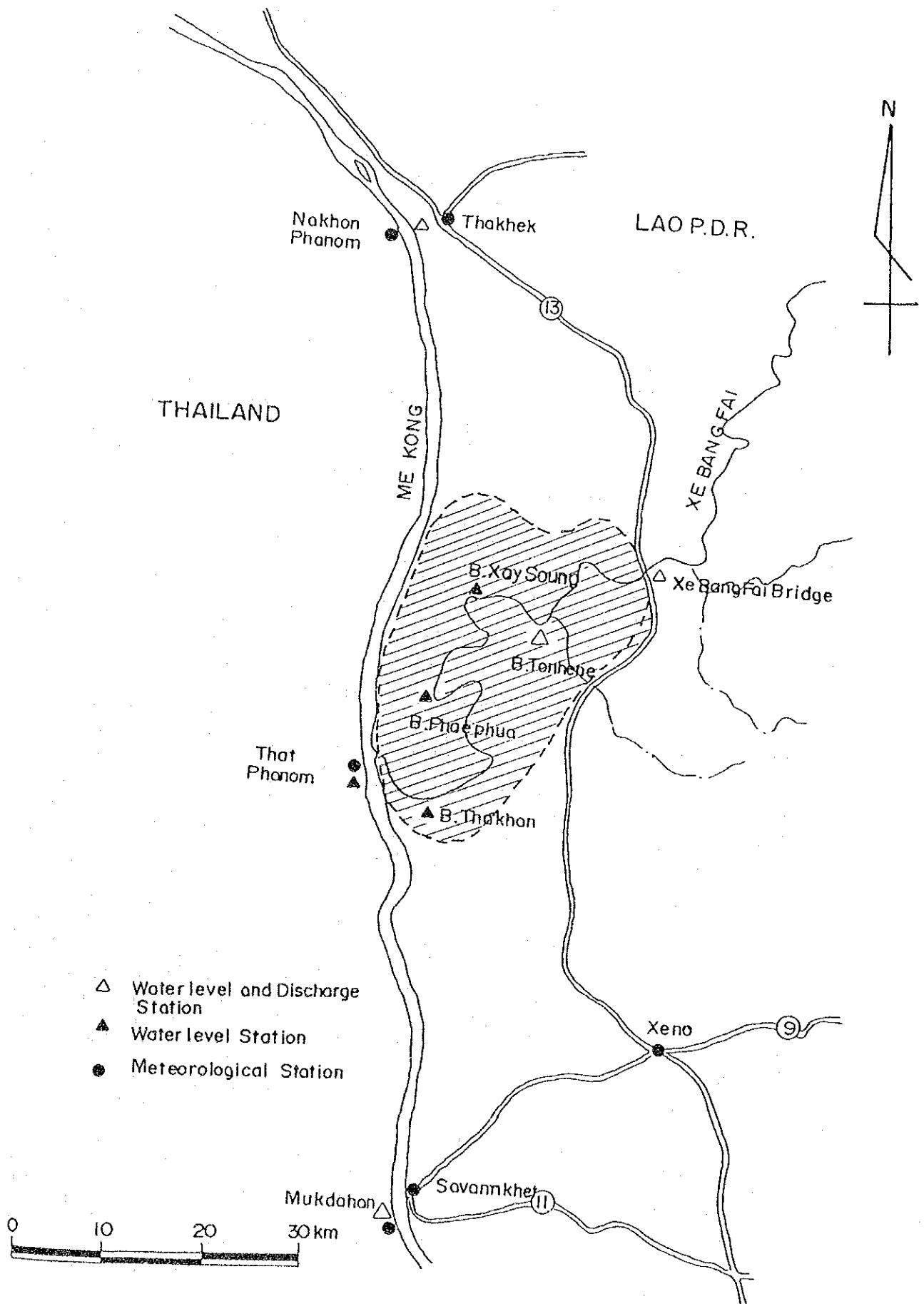


FIG. 2 - 3 XE BANGFAI FLOOD HYDROGRAPH



- △ Water level and Discharge Station
- ▲ Water level Station
- Meteorological Station

FIG. 2 - 4 XE BANG FAI FLOODING AREA

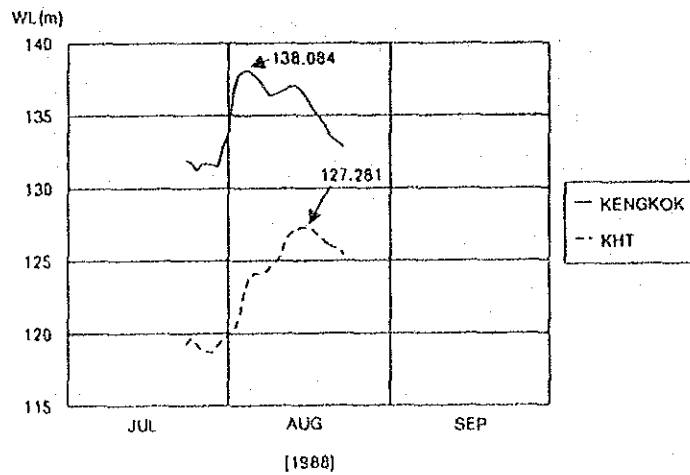
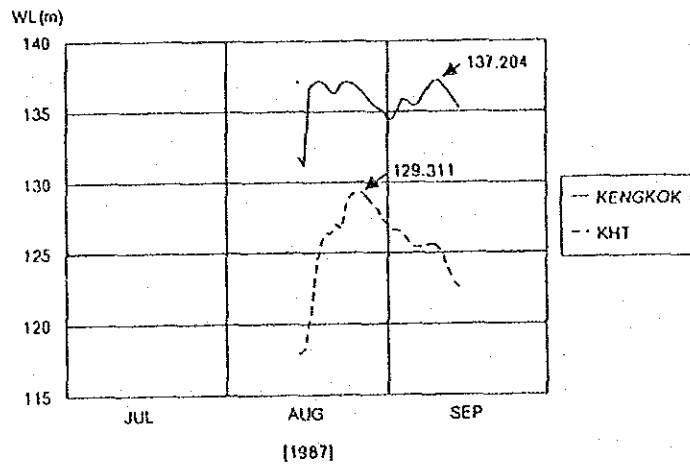
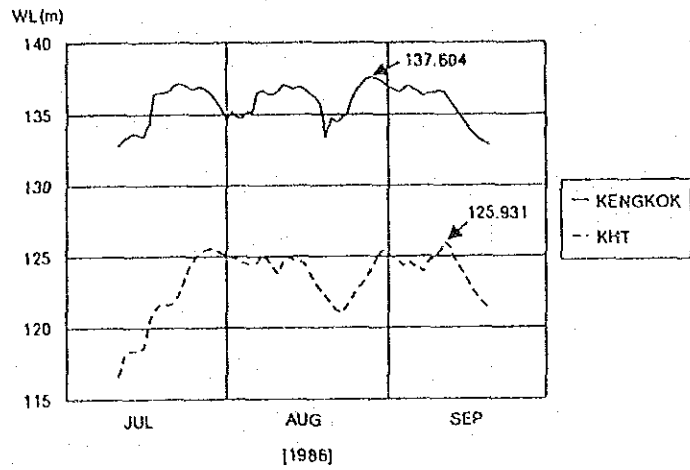
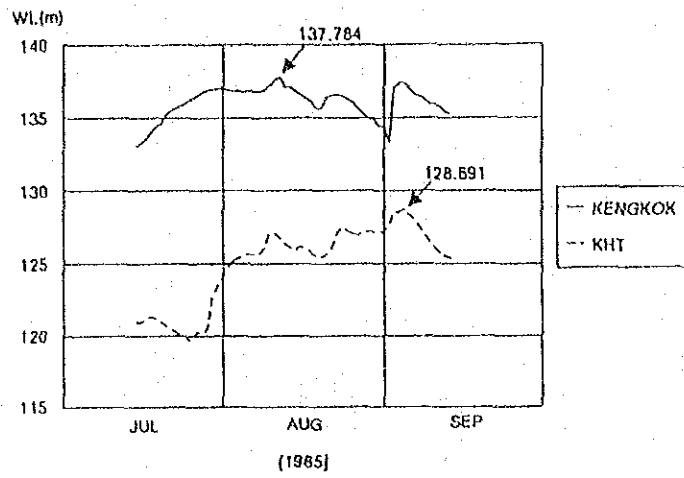
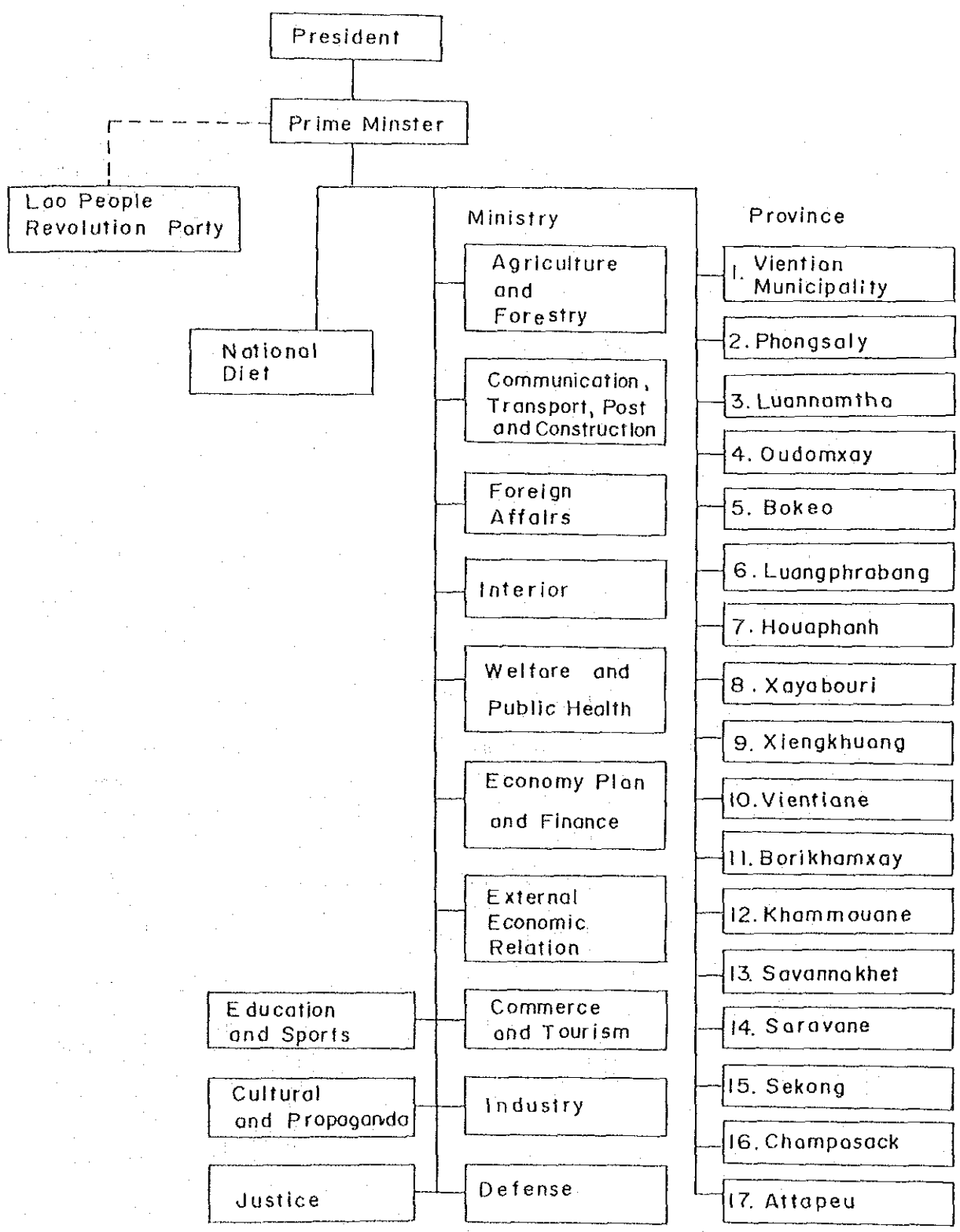
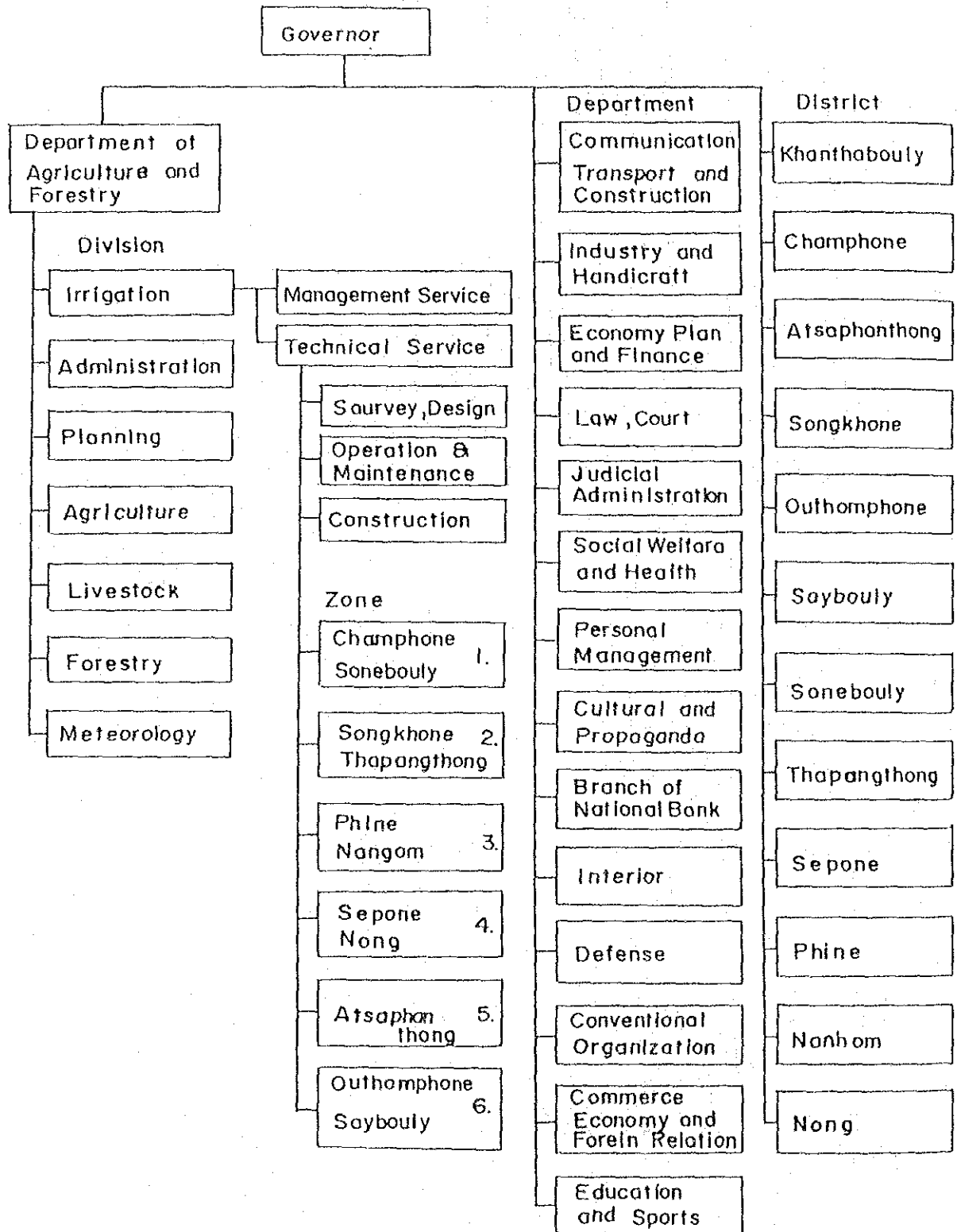


FIG.2-5
XE CHAMPON FLOOD
HYDROGRAPH

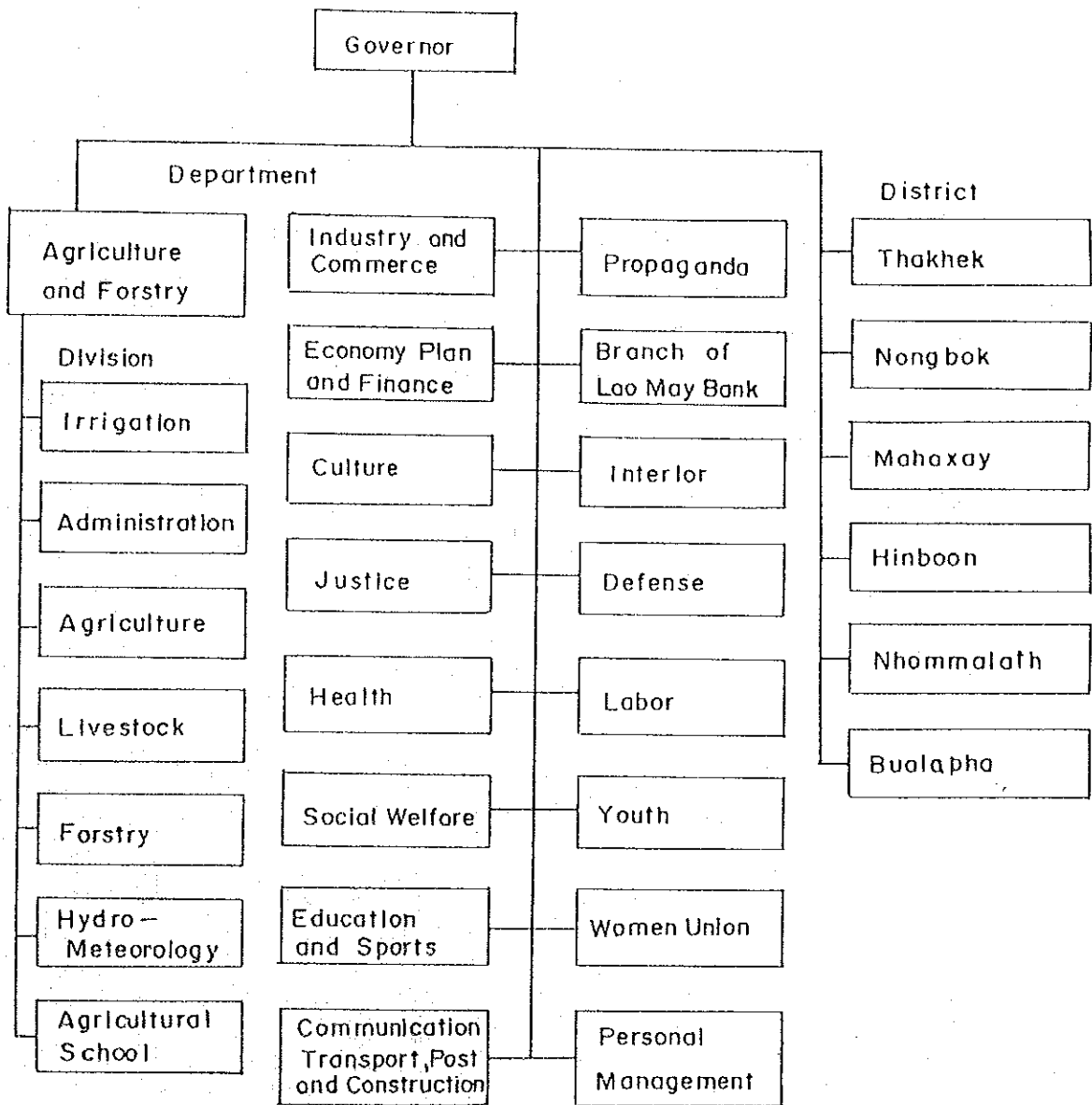
LAO P.D.R. GOVERNMENT ADMINISTRATIVE ORGANIZATION

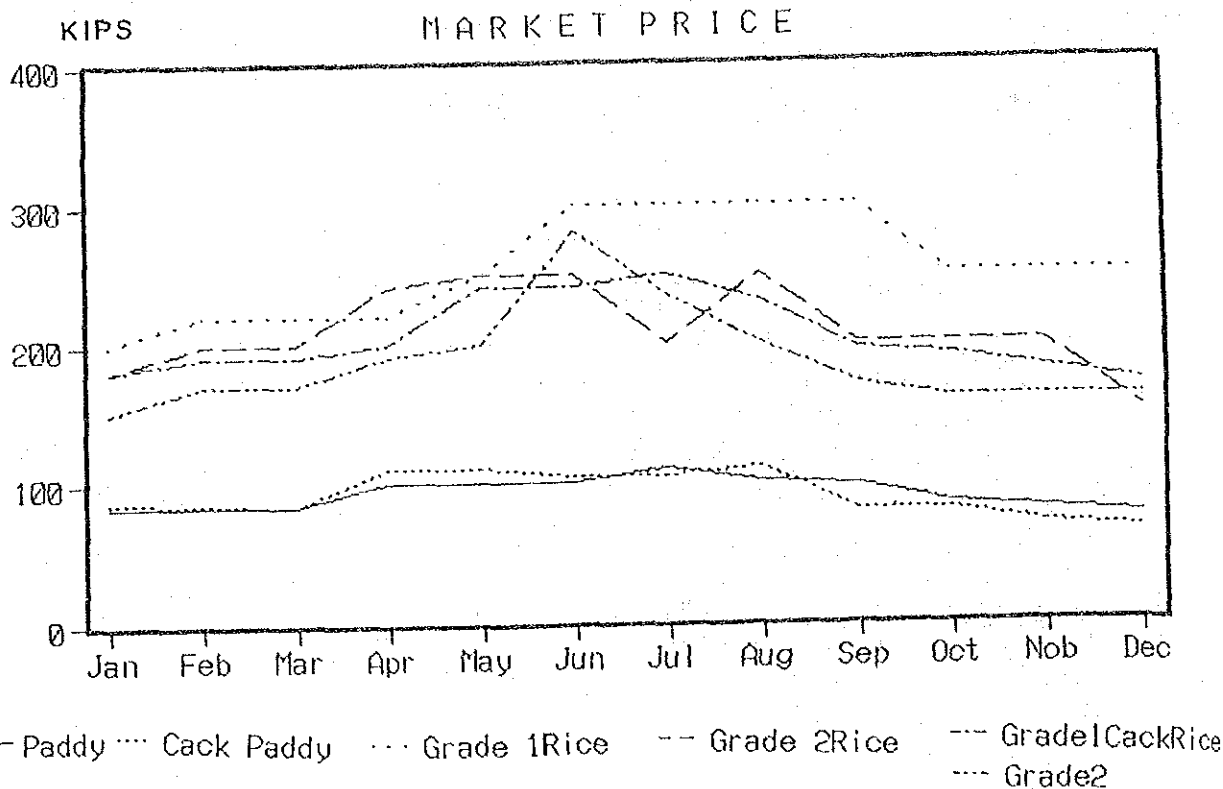


SAVANNAKHET PROVINCIAL GOVERNMENT ORGANIZATION



KHAMMOUNE PROVINCIAL GOVERNMENT ORGANIZATION



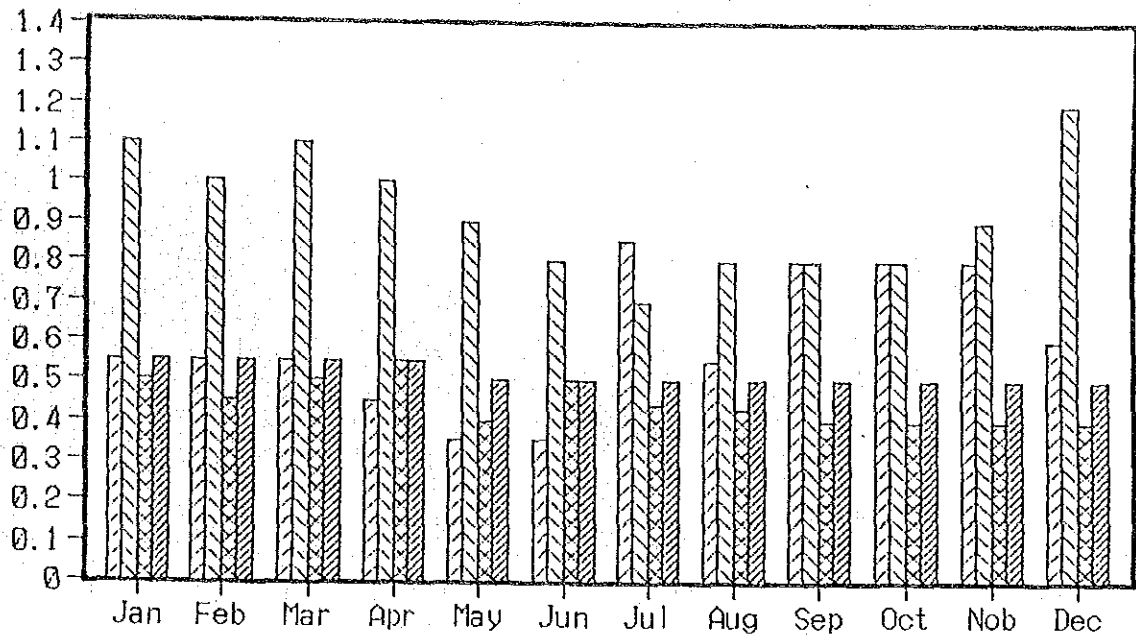


KIPS

market ITEM	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average Price 89	Average Price 90
PADDY	84	85	85	100	100	101	110	100	98	84	80	75	86	92
Cack. Paddy*	88	86	84	110	110	105	105	110	80	80	70	65	64	91
total	86	85	84	105	105	103	108	105	89	82	75	70	75	91
Grade 1 Rice	200	220	220	220	250	300	300	300	300	250	250	250	250	255
Grade 2 Rice	180	200	200	240	250	250	200	250	200	200	200	150	202	210
total	190	210	210	230	250	275	250	275	250	225	225	200	226	233
Grade 1 Rice*	180	190	190	200	240	240	250	230	195	190	180	170	180	205
Grade 2 Rice*	150	170	170	190	200	280	235	200	170	160	160	160	180	187
total	165	180	180	195	220	260	243	215	183	175	170	165	180	196
Onion	1100	1000	1000	900	1000	900	800	700	700	900	800	450	405	854
Grade 2	500	500	500	550	450	450	450	450	450	500	450	450	400	475
Garlic	600	650	600	650	600	650	600	600	600	550	550	600	450	604
Grade 2	450	450	450	450	450	450	450	400	400	400	450	450	256	438
Vegetable	0	0	0	180	160	150	170	170	150	150	150	160	158	120
Banana (5)	100	120	120	110	200	180	150	150	150	150	150	120	174	142
Chili (green)	550	550	550	450	350	350	850	550	800	800	800	600	495	600
Chili (dry)	1100	1000	1100	1000	900	800	700	800	800	800	900	1200	1200	925
Water. V G	80	80	100	80	90	60	50	70	70	60	60	100	155	75
	200	220	300	350	300	400	400	450	400	400	400	350	300	345
Tomato (3)	210	0	0	0	0	0	0	200	220	200	220	220	180	165
total														
Kongo	500	450	500	550	400	500	440	430	400	400	400	400	350	445
Bean	550	550	550	550	500	500	500	500	500	500	500	500	400	517
total	525	500	525	550	450	500	470	465	450	450	450	450	375	482
Sugar	440	400	380	400	420	400	450	400	450	430	440	440	329	421
Milk	380	370	390	400	420	400	400	400	420	420	420	430	321	404
Salt	100	75	75	100	100	100	110	110	110	110	110	110	90	101
total														

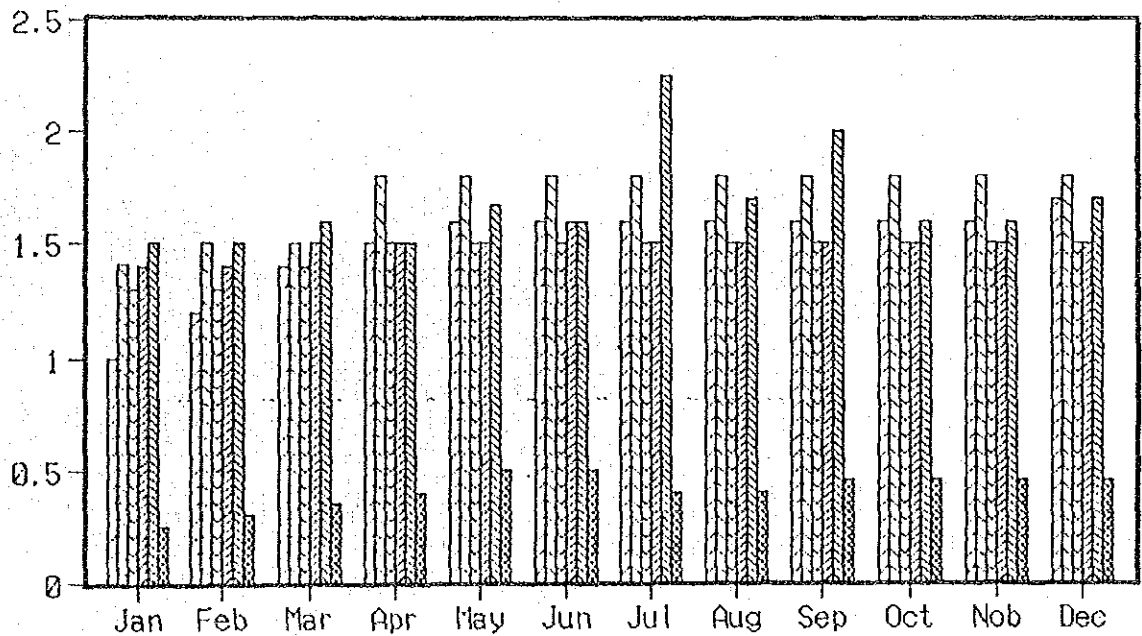
Fig. 2-9-(11) Price Flutuation

UNIT : 1000 kips



Chili (green)
 Chili (dry)
 Mongo Bdan
 Bean

UNIT : 1000 kips

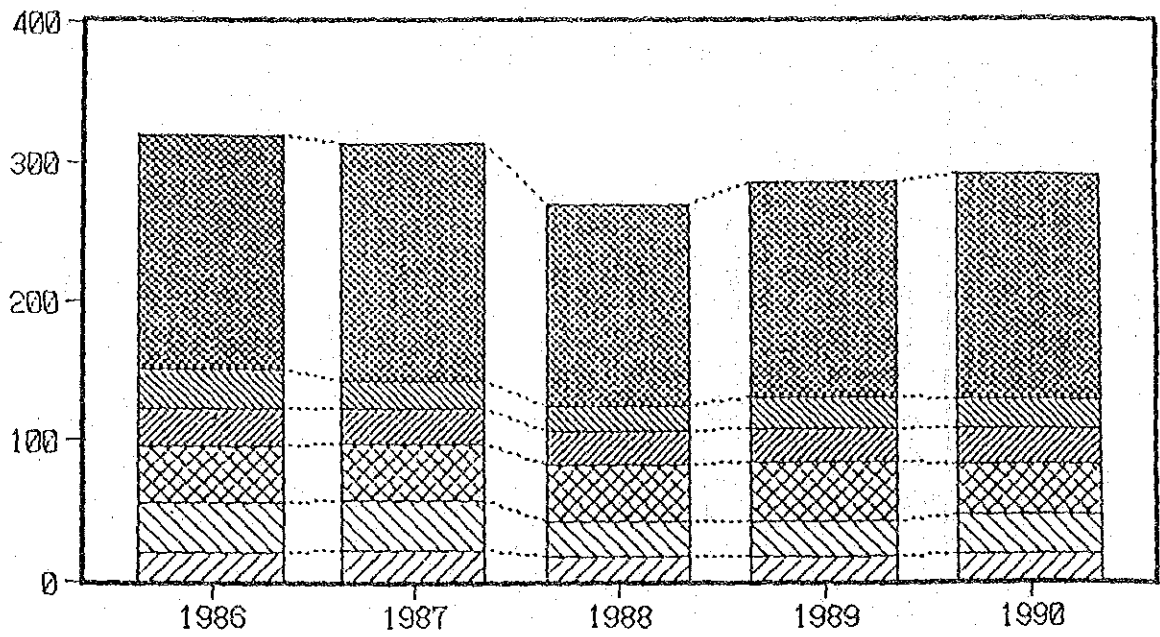


Buffalo Meate
 Beef
 Pork
 Chichen
 Duck
 Big Fish

Fig. 2 -9 -(2) Price Fluctuation

UNIT : 1000

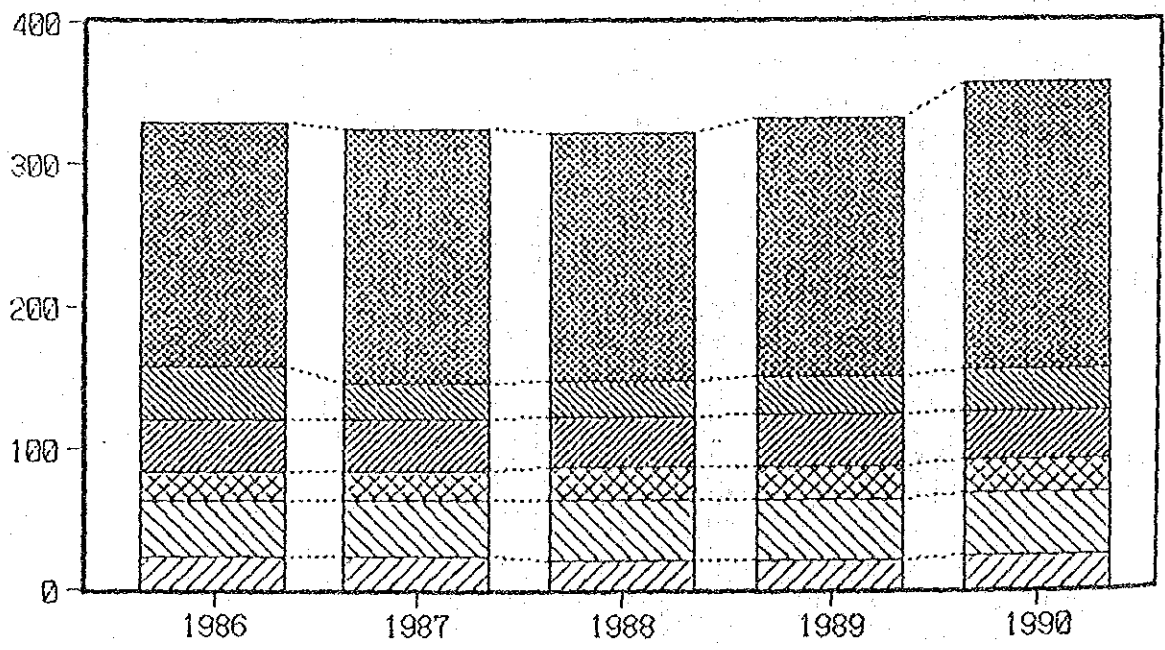
BUFFLO



Legend: Khan (diagonal lines), Cham (diagonal lines), Atsa (cross-hatch), Song (diagonal lines), Outh (diagonal lines), TOTAL (stippled)

UNIT : 1000

CATTAL

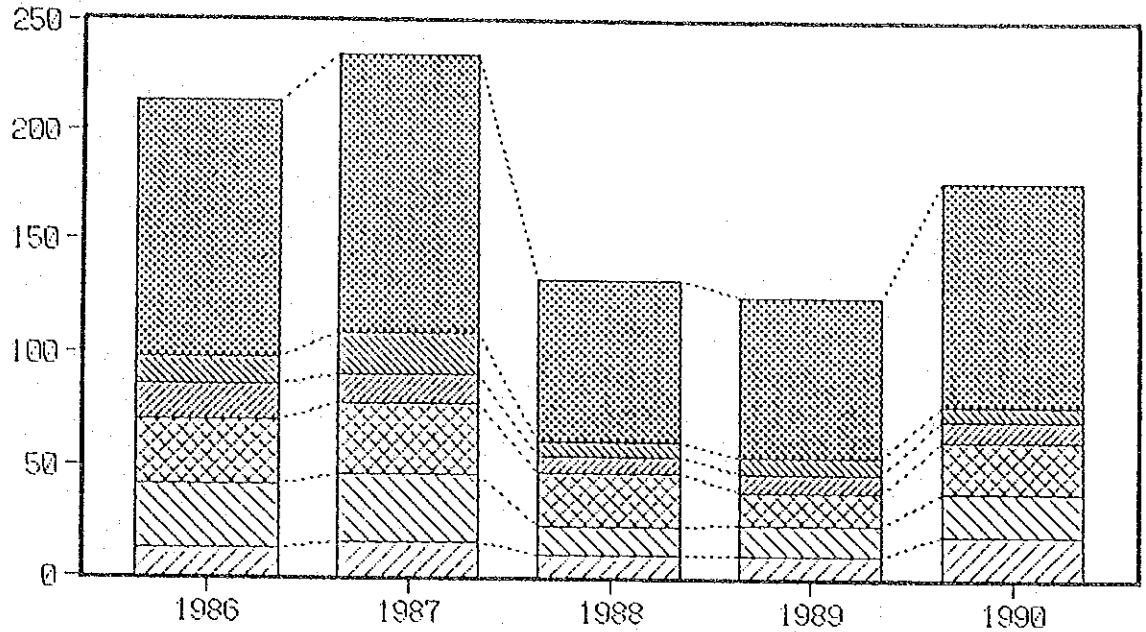


Legend: Khan (diagonal lines), Cham (diagonal lines), Atsa (cross-hatch), Song (diagonal lines), Outh (diagonal lines), TOTAL (stippled)

Fig. 2-10-(1) Number Livestock

UNIT : 1000

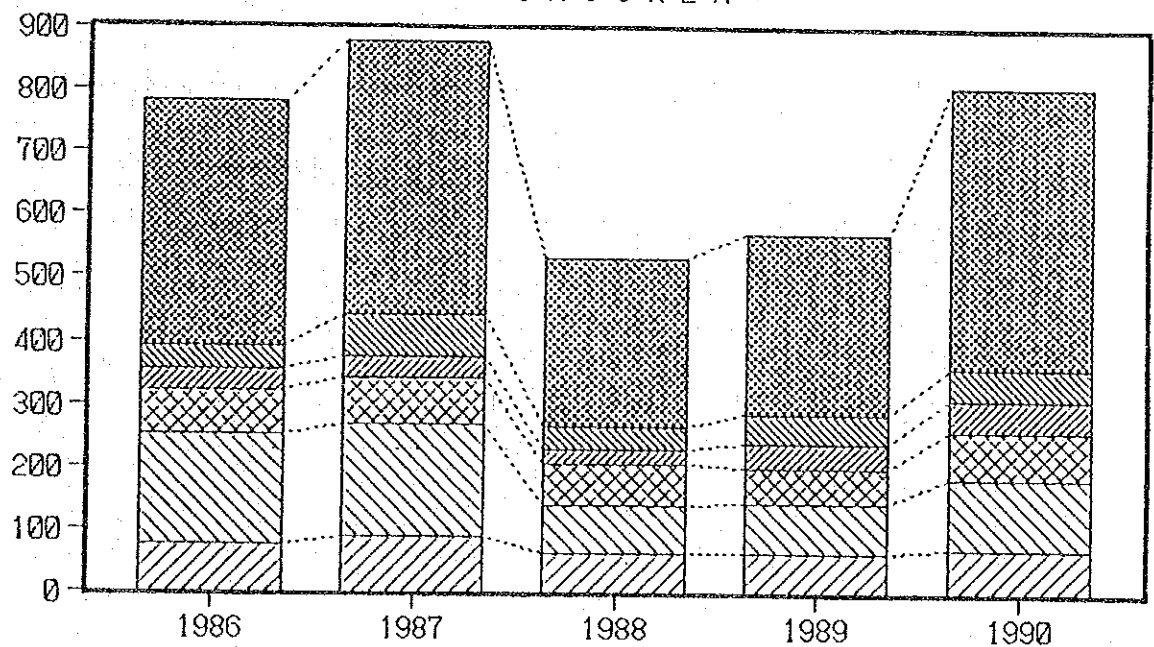
P I G



Legend: Khan Cham Atsa Song Outh TOTAL

UNIT : 1000

C H I C K E N



Legend: Khan Cham Atsa Song Outh TOTAL

Fig. 2-10-(2) Number of Livestock

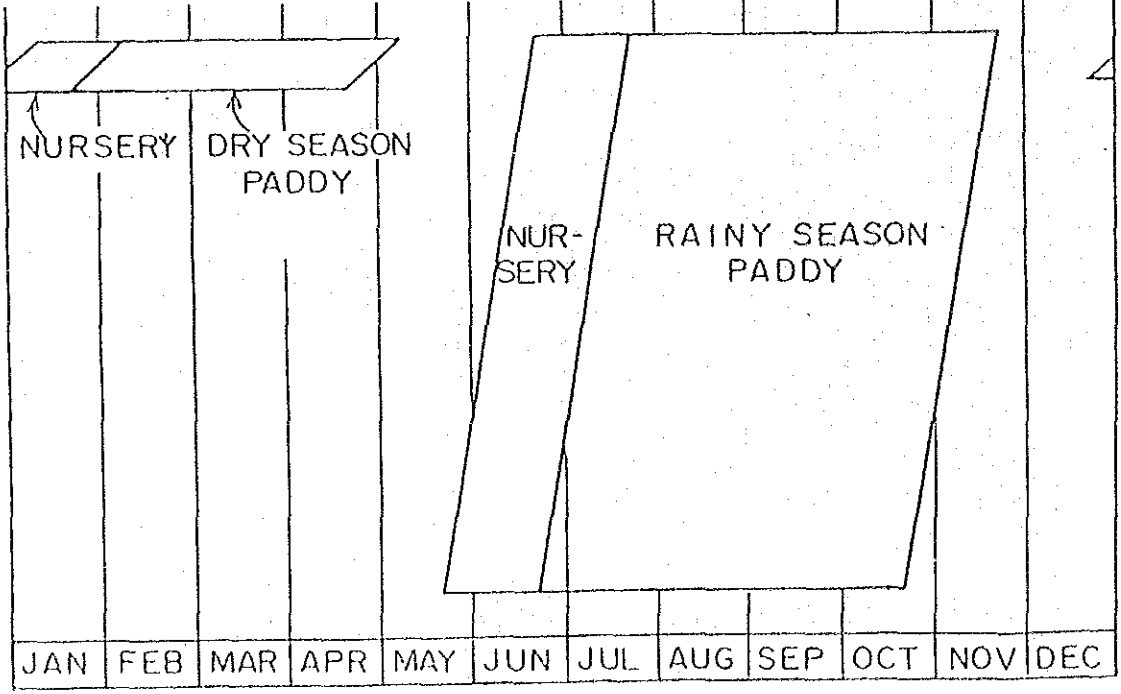
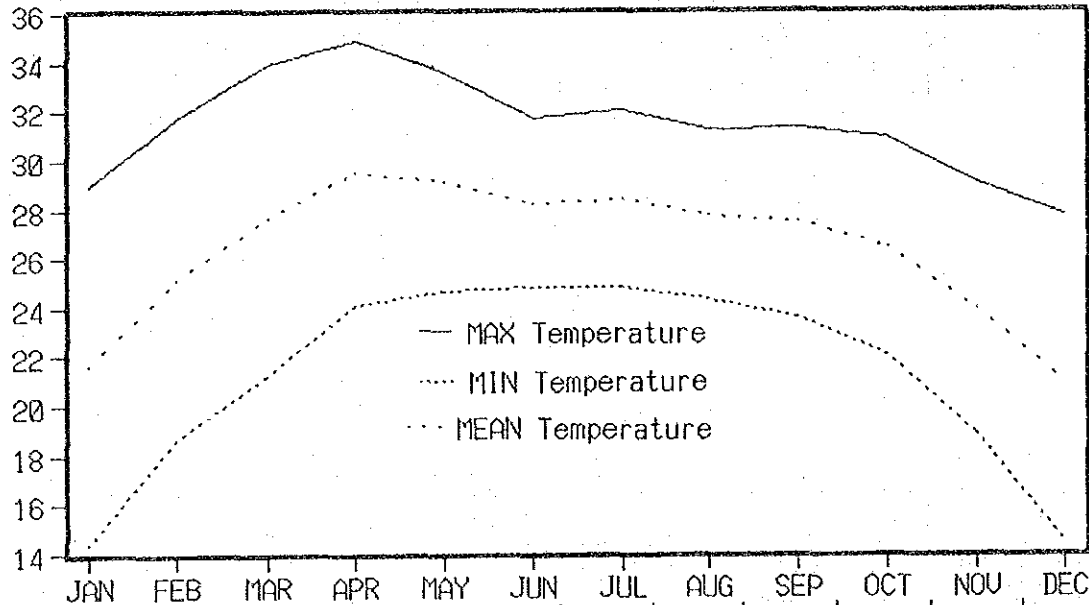
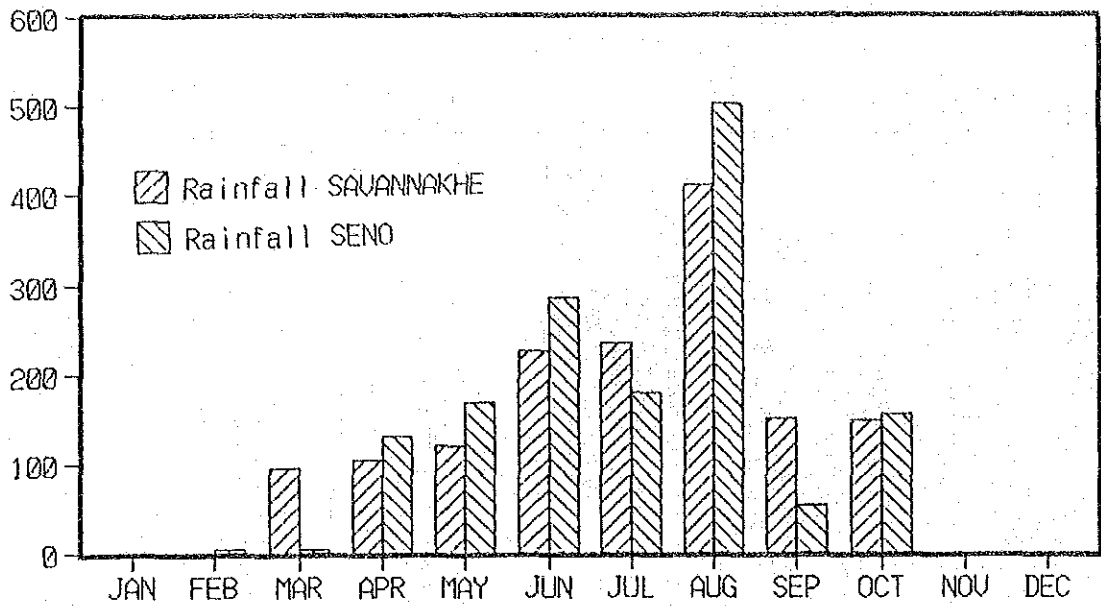
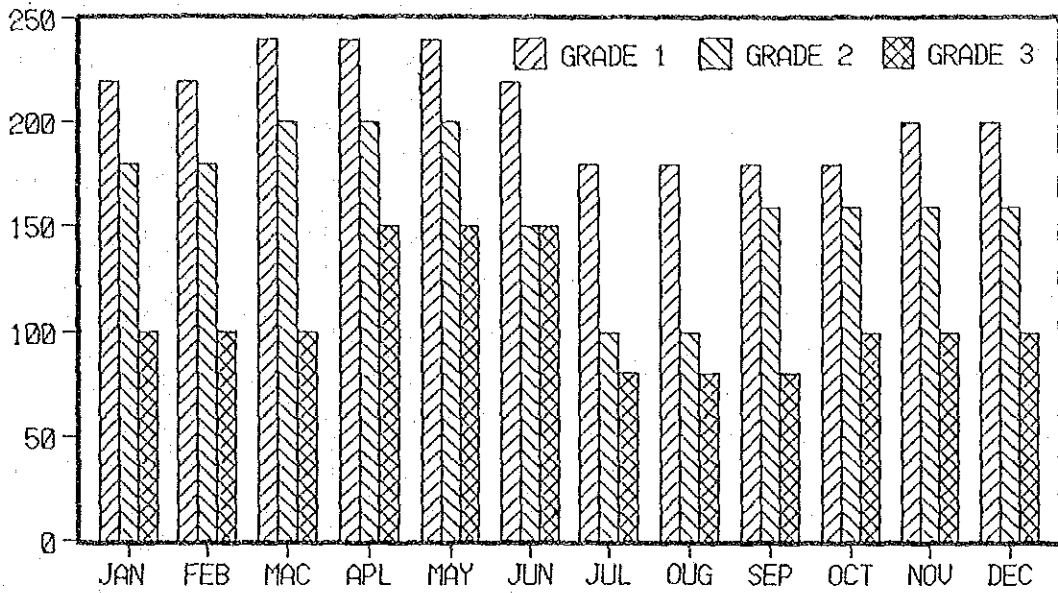
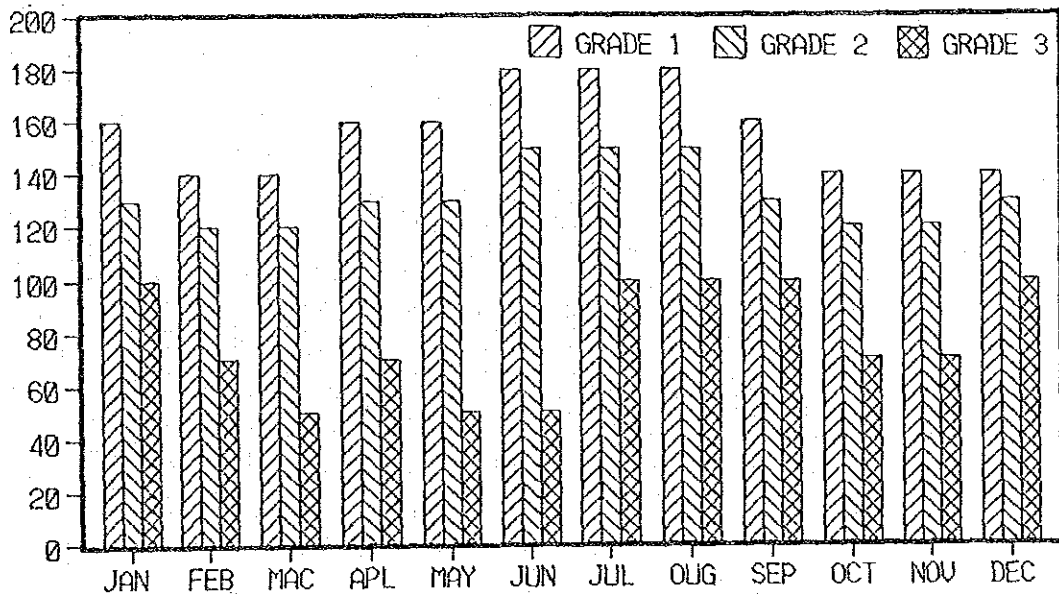


Fig. 2 - II Cropping Pattern

SESONAL PRICE OF BUFFALO



SESONAL PRICE OF CATTLE



SESONAL PRICE OF PIG & FOWL

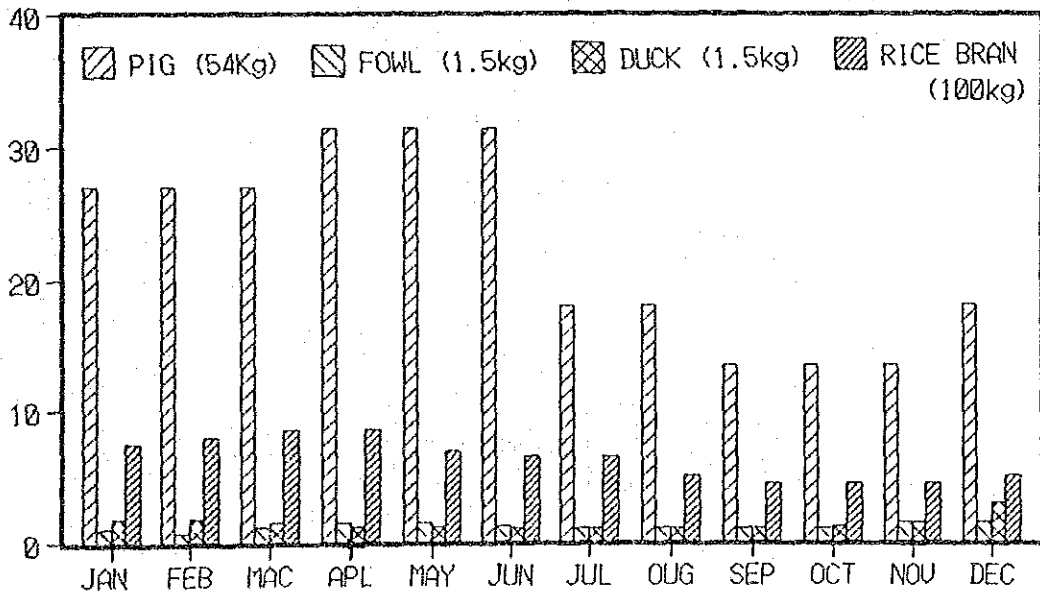
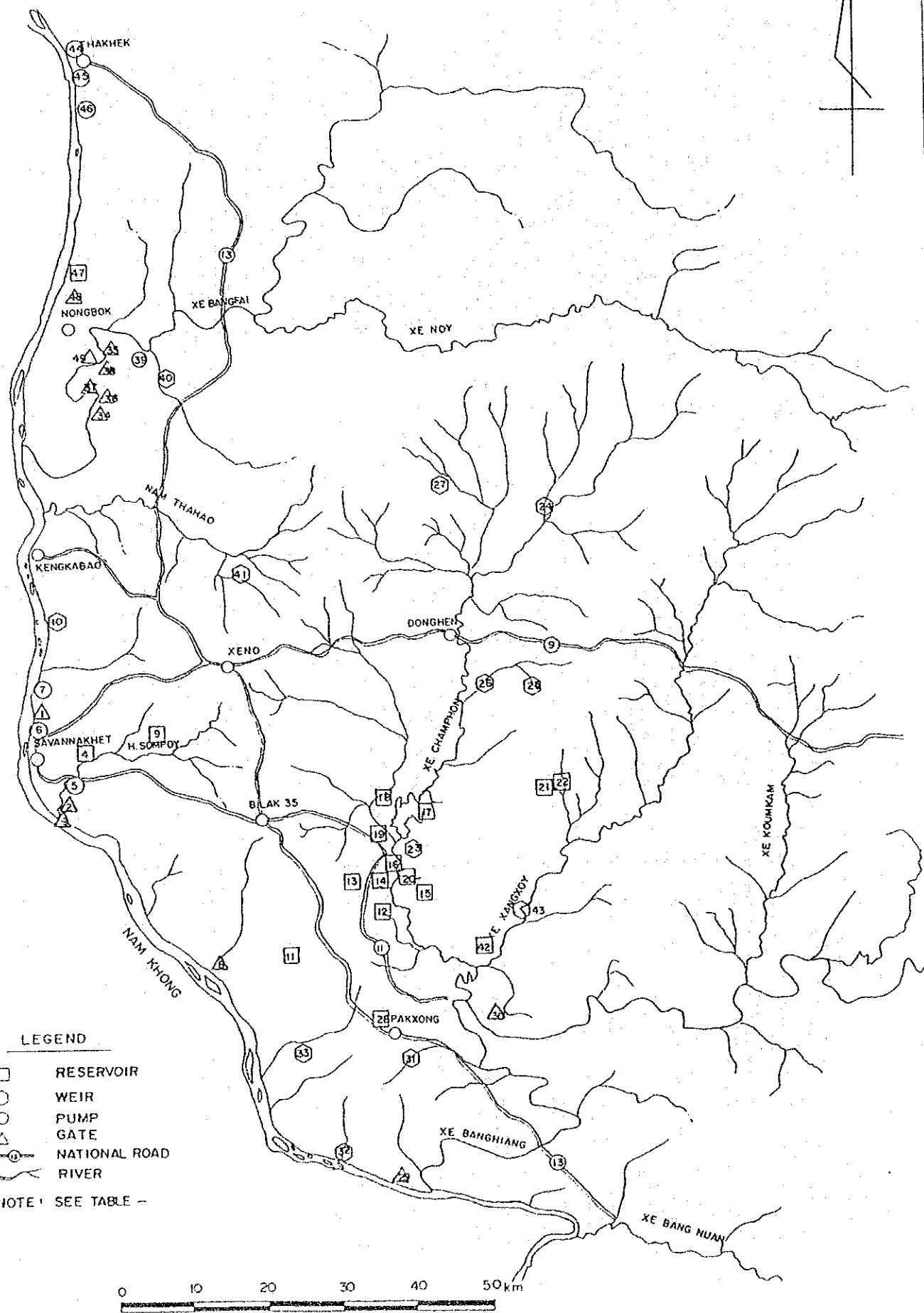


Fig.2-12 Livestock Selling Price

LOCATION OF EXISTING IRRIGATION FACILITIES



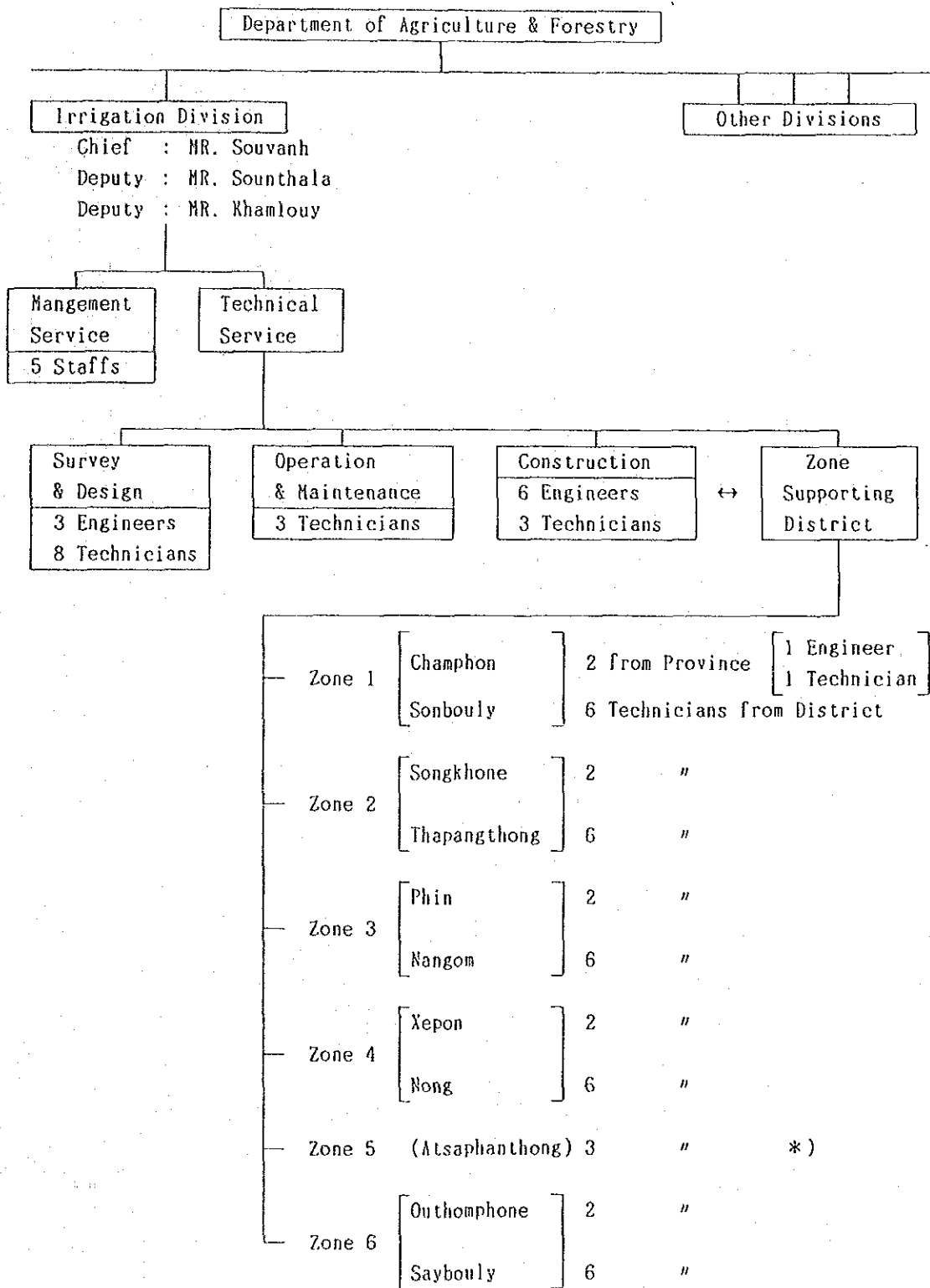
LEGEND

- RESERVOIR
- WEIR
- PUMP
- △ GATE
- (N) NATIONAL ROAD
- RIVER

NOTE: SEE TABLE --



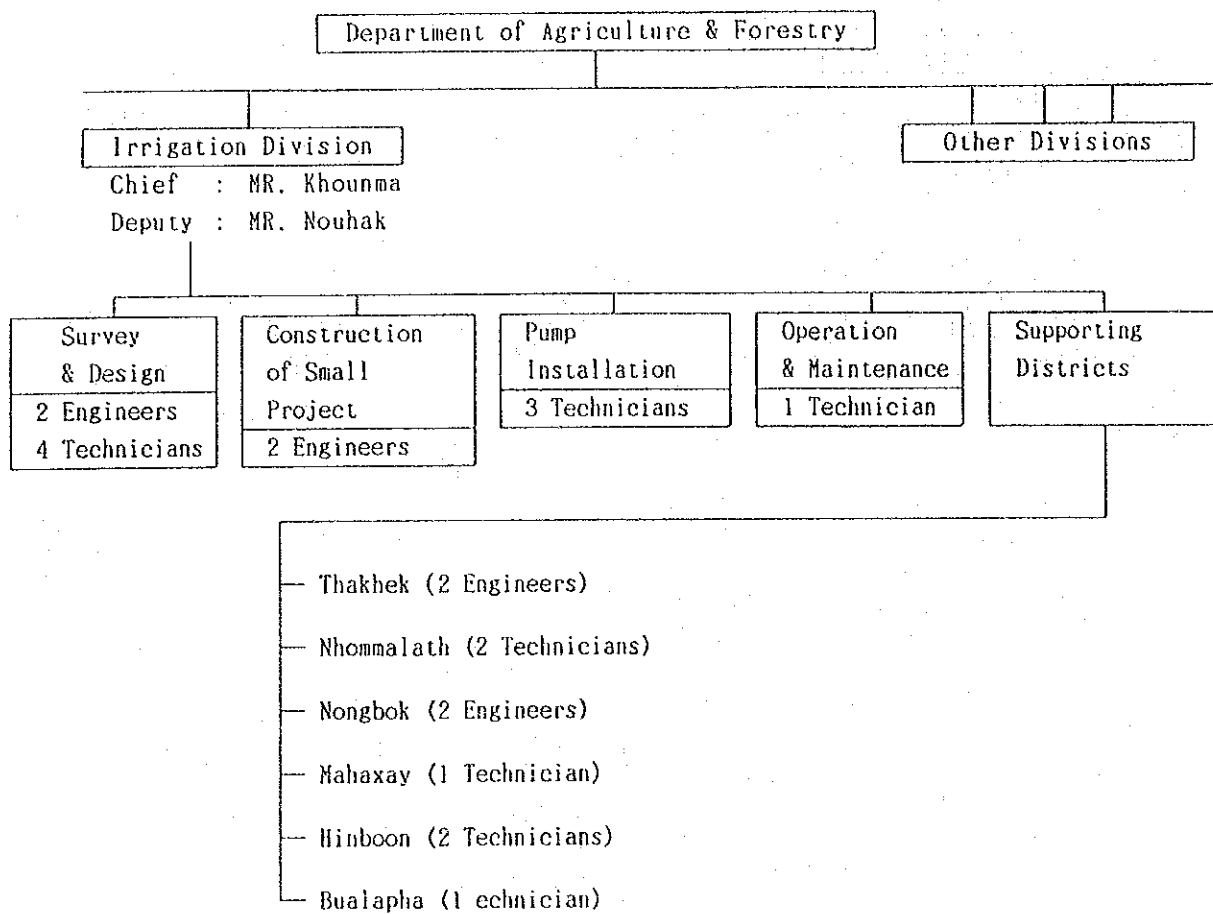
FIG. 2-14 Organization Chart of Irrigation Division in Savannakhet Province



Note *) Khanthabouly District is supported by the Province staffs

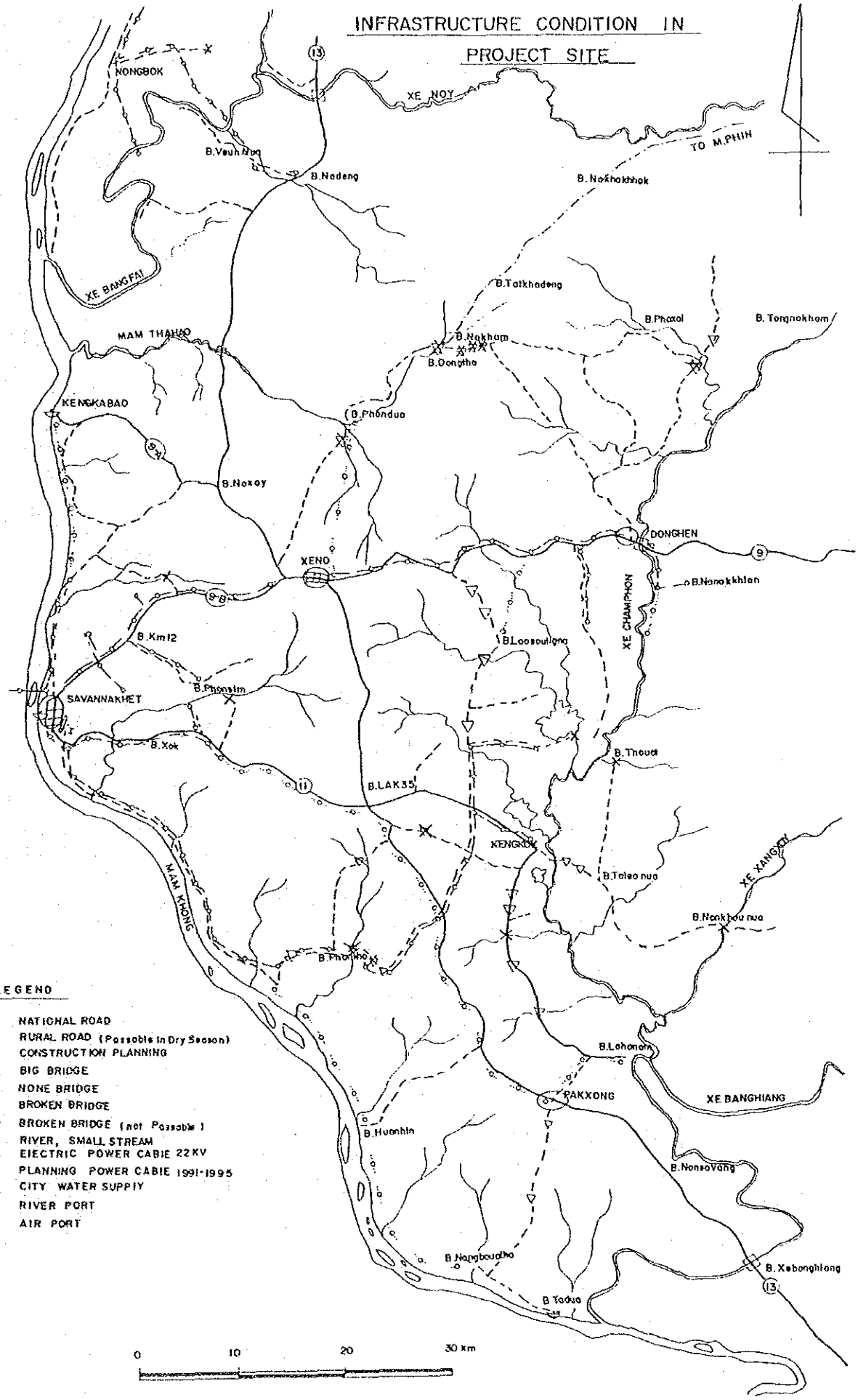
Source : Irrigation Division of Agriculture and Forestry Department in Savannakhet Province, 1991

FIG.2 -15 Organization Chart of Irrigation Division
in Khammouane Province



Source : Irrigation Division of Agriculture and Forestry Department in
Khammouane Province, 1991

INFRASTRUCTURE CONDITION IN PROJECT SITE



LEGEND

- NATIONAL ROAD
- RURAL ROAD (Possible in Dry Season)
- CONSTRUCTION PLANNING
- BIG BRIDGE
- NONE BRIDGE
- BROKEN BRIDGE
- BROKEN BRIDGE (not Possible)
- RIVER, SMALL STREAM
- ELECTRIC POWER CABLE 22KV
- PLANNING POWER CABLE 1991-1995
- CITY WATER SUPPLY
- RIVER PORT
- AIR PORT



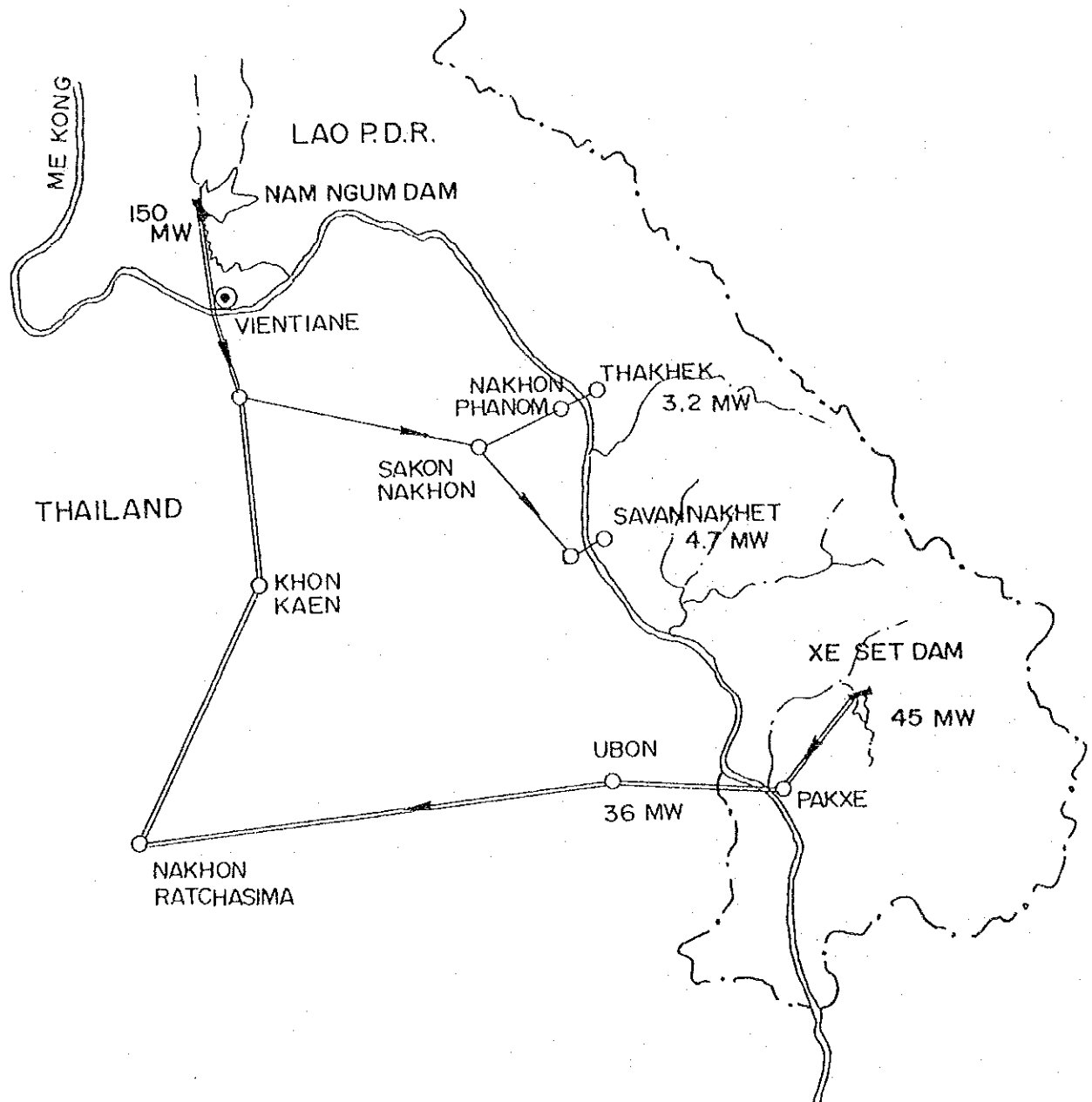
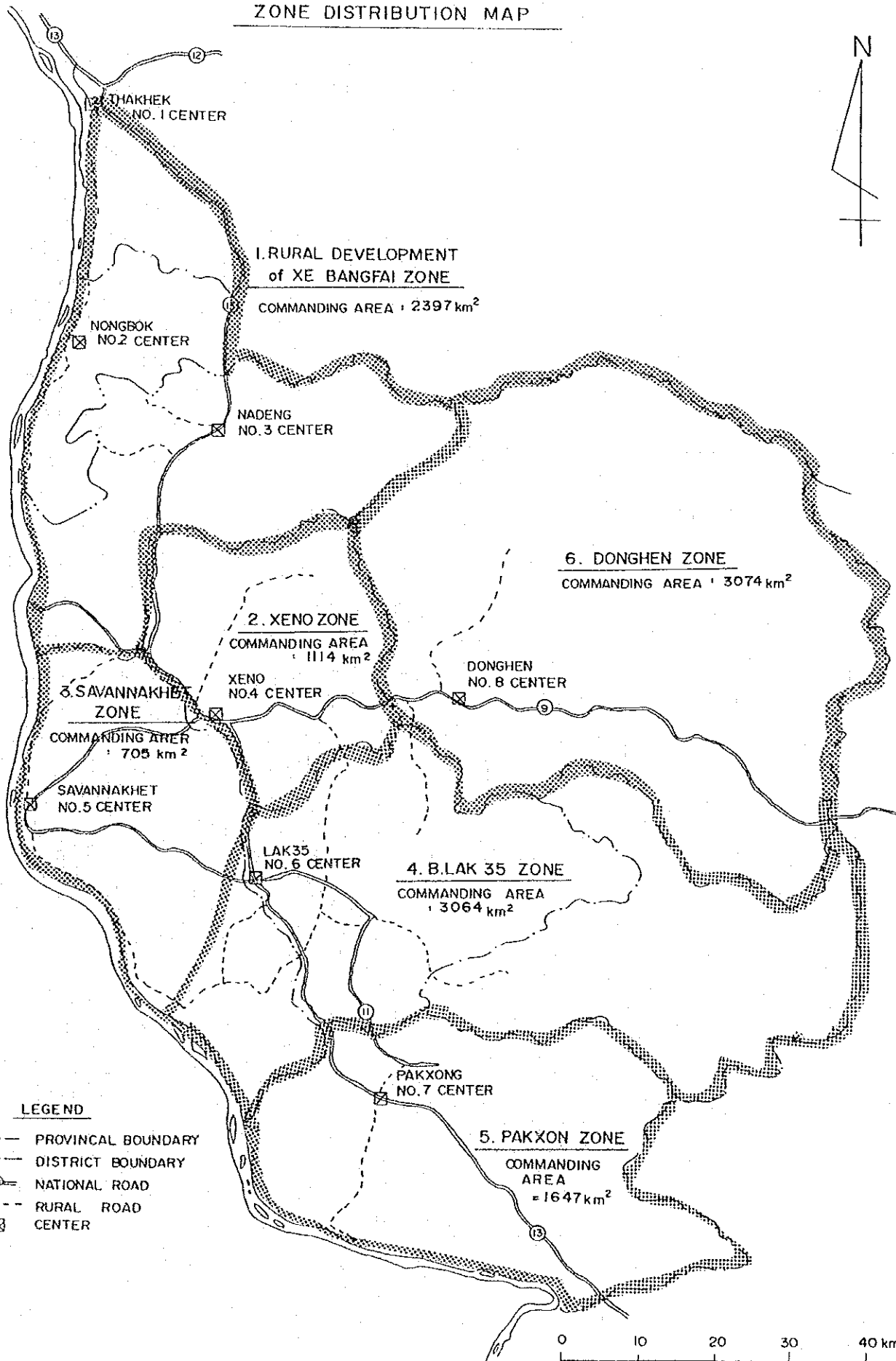
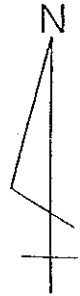

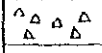
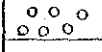
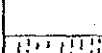



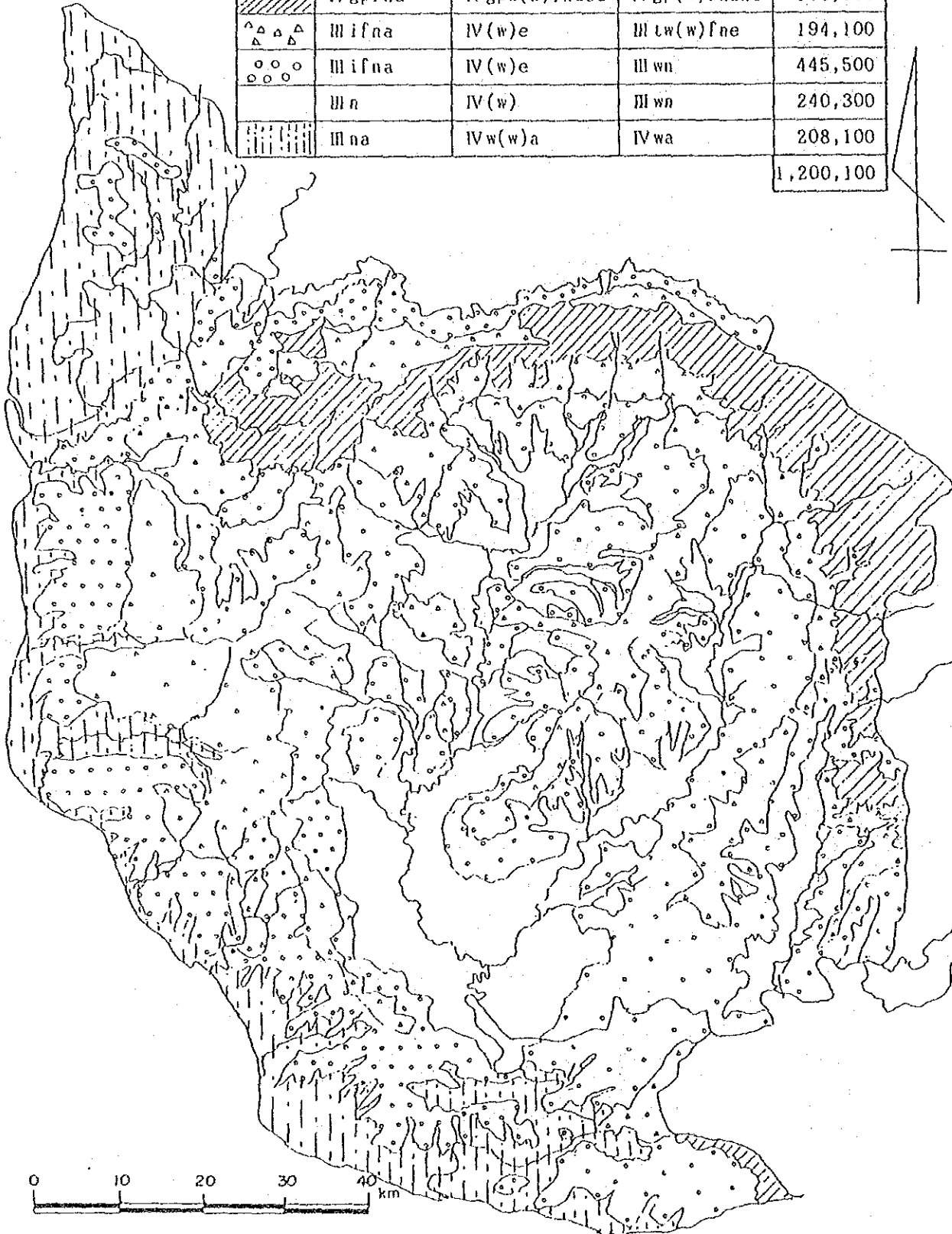
FIG. 2-17 POWER TRANSMISSION LINE

ZONE DISTRIBUTION MAP



LEGEND

	Paddyfield	Normal upland field	Land under Permanent crops	Area (ha)
	IVgpfna	IVgpw(w)fnase	IVgp(w)fnane	112,100
	III ifna	IV(w)e	III tw(w)fne	194,100
	III ifna	IV(w)e	III wn	445,500
	III n	IV(w)	III wn	240,300
	III na	IVw(w)a	IVwa	208,100
				1,200,100



LAND CLASSIFICATION

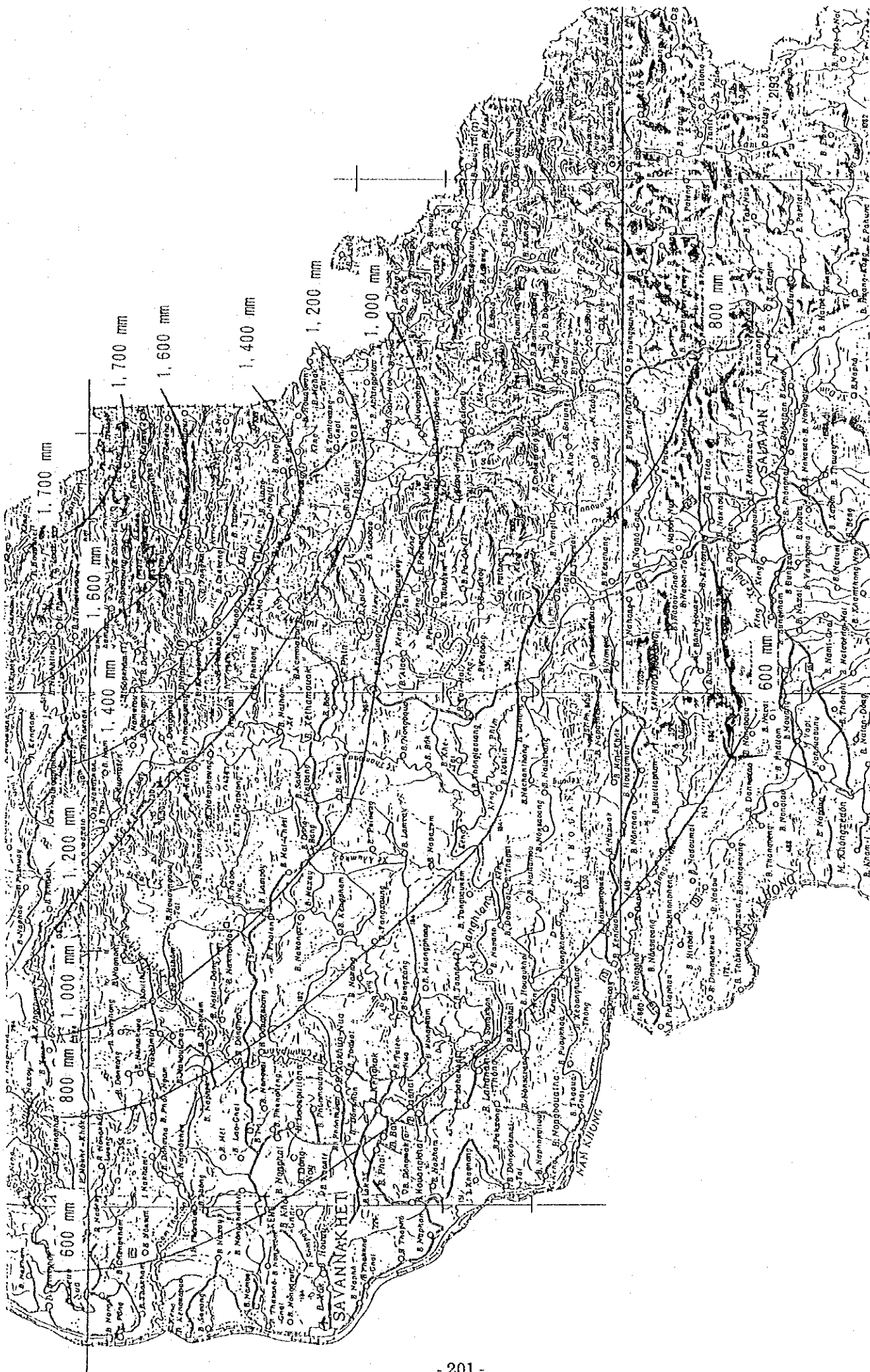
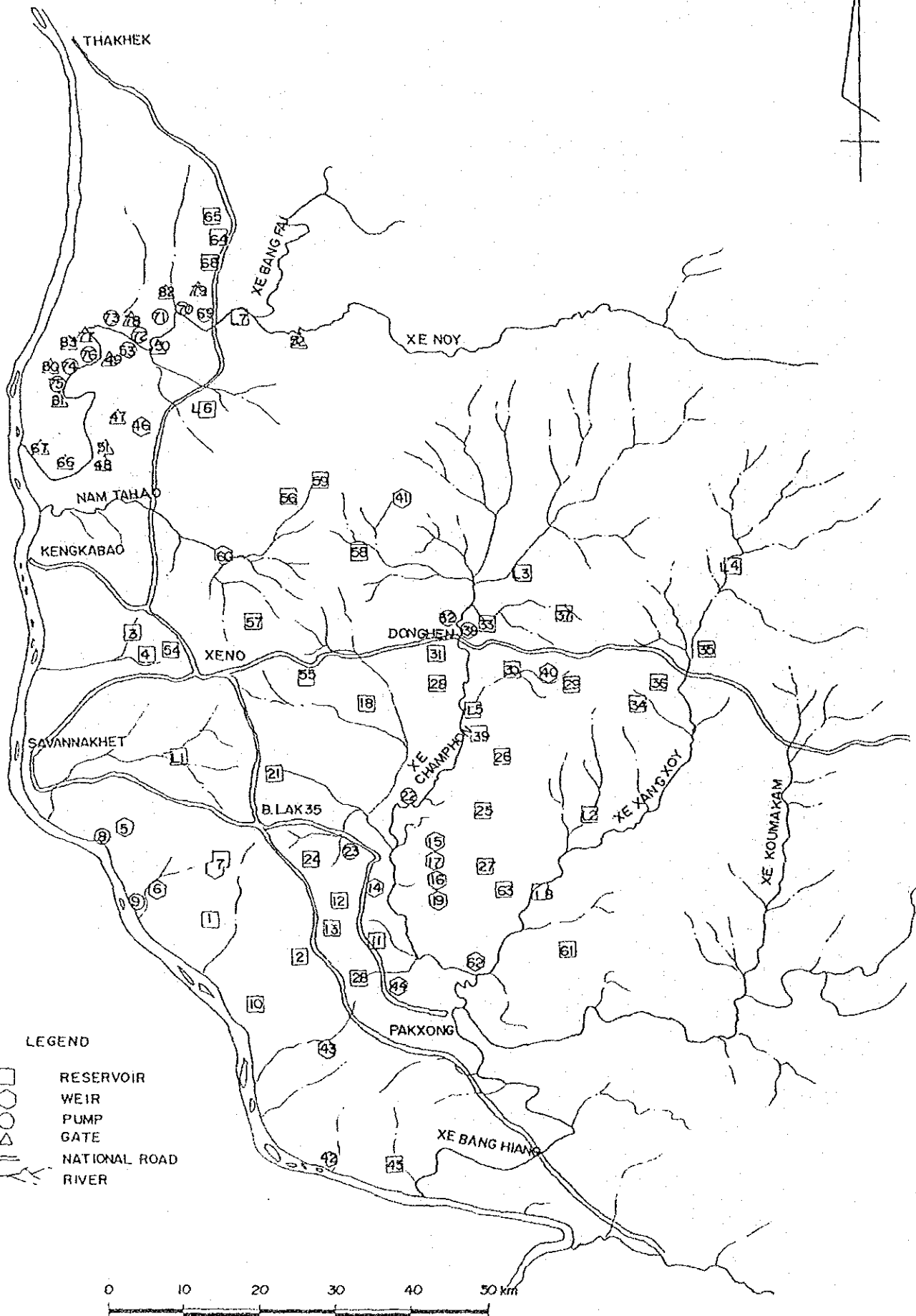
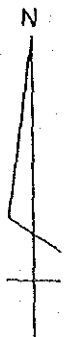


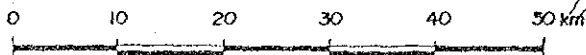
Fig. 3-3 Rough Data of Water Resources in Savannakhet Province(S= 1:1,000,000)

LOCATION OF IRRIGATION PLANNING



LEGEND

- RESERVOIR
- ⬡ WEIR
- PUMP
- △ GATE
- == NATIONAL ROAD
- RIVER



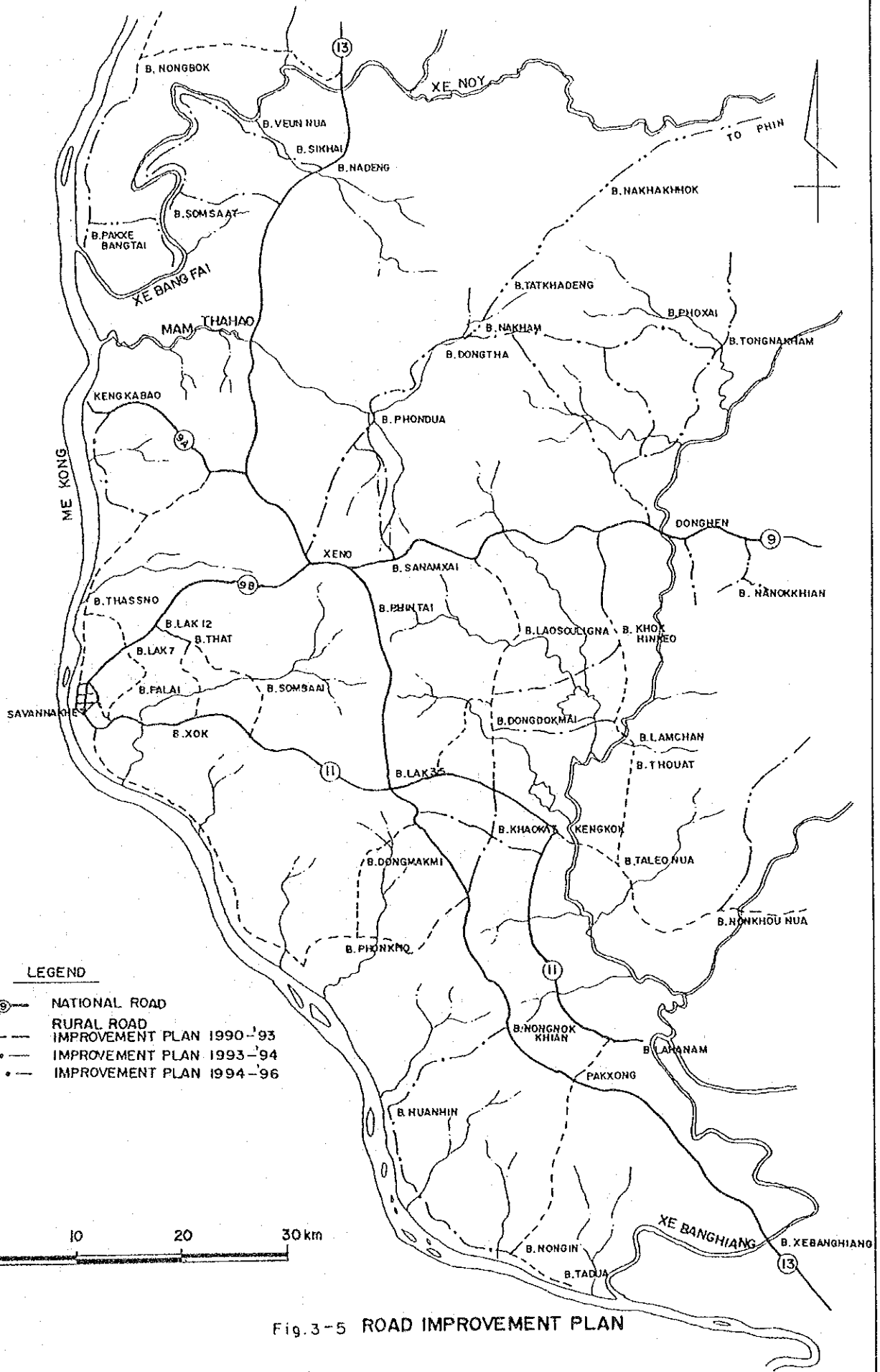
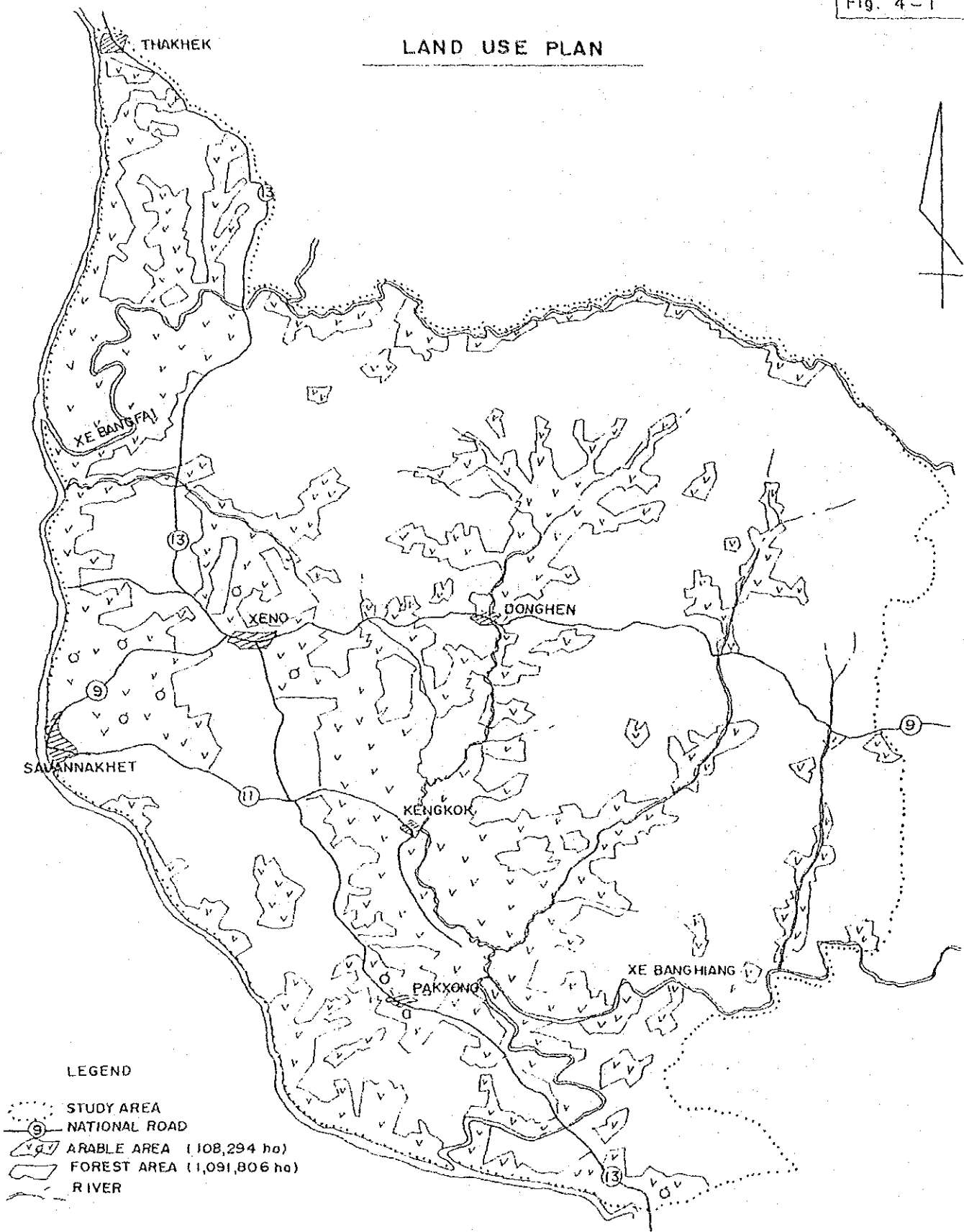


Fig. 3-5 ROAD IMPROVEMENT PLAN

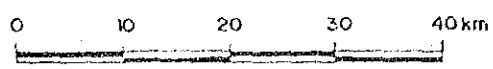
Fig. 4-1

LAND USE PLAN



LEGEND

- STUDY AREA
- NATIONAL ROAD
- ARABLE AREA (108,294 ha)
- FOREST AREA (1,091,806 ha)
- RIVER

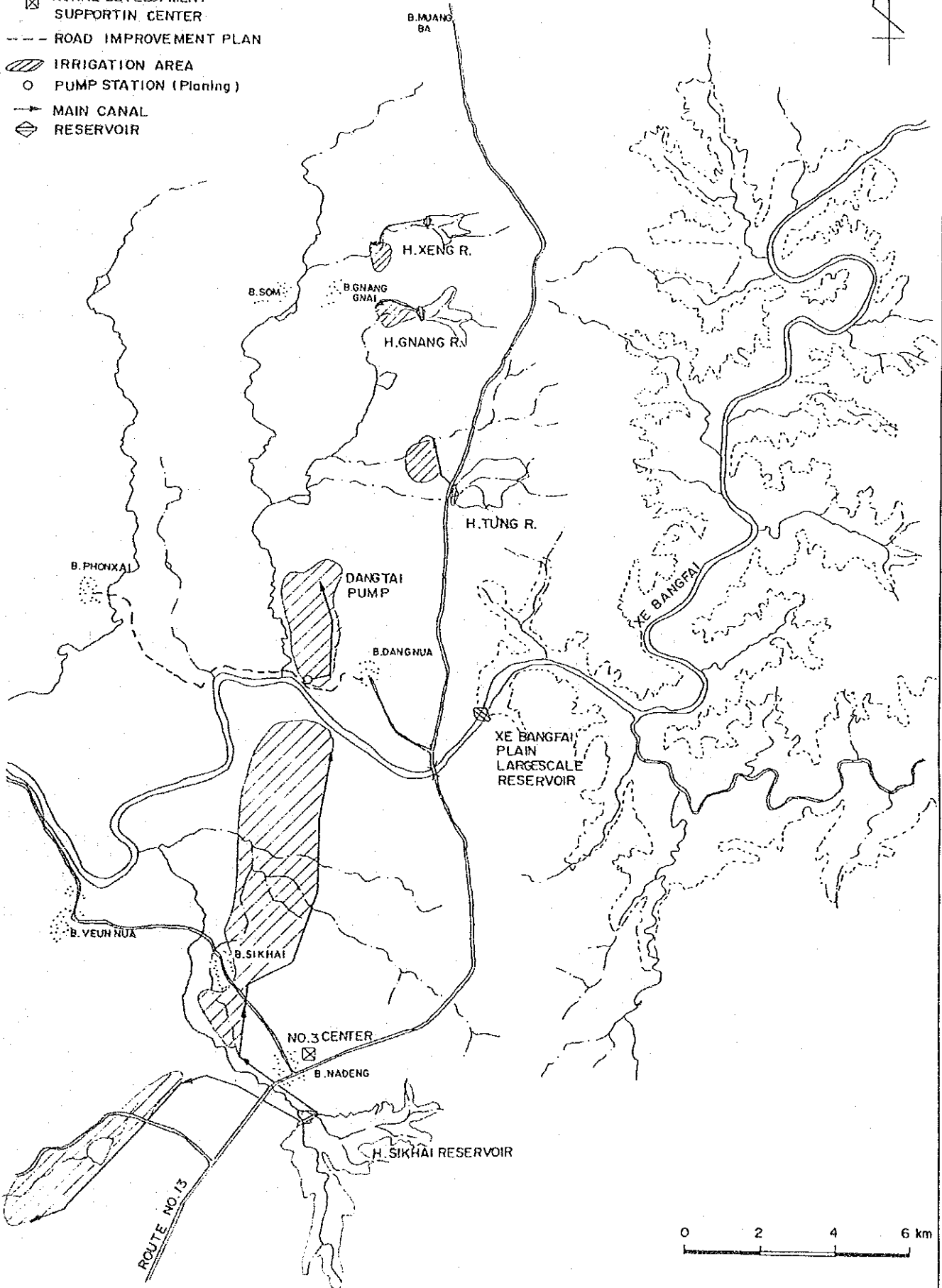


RURAL DEVELOPMENT of XE BANGFAI ZONE
D. NONGBOK, D. SAYBOULY

Fig. 4 - 2

LEGEND

- ☒ RURAL DEVELOPMENT SUPPORTIN CENTER
- ROAD IMPROVEMENT PLAN
- ▨ IRRIGATION AREA
- PUMP STATION (Planning)
- MAIN CANAL
- ◊ RESERVOIR



RURAL DEVELOPMENT of XE BANGFAI ZONE

D. NONGBOK, D. SAYBOULY

- LEGEND**
- ☒ RURAL DEVELOPMENT SUPPORTING CENTER
 - - - ROAD IMPROVEMNT PLAN
 - ▨ IRRIGABLE AREA
 - PUMP STATION (Existing)
 - PUMP STATION (Planning)
 - MAIN IRRIGATION CANAL
 - ▼ WEIR (Existing)
 - GATE (Planning)
 - GATE (Existing)
 - ⊕ RESERVOIR (Planning)
 - LARGE SCALE PROJECT

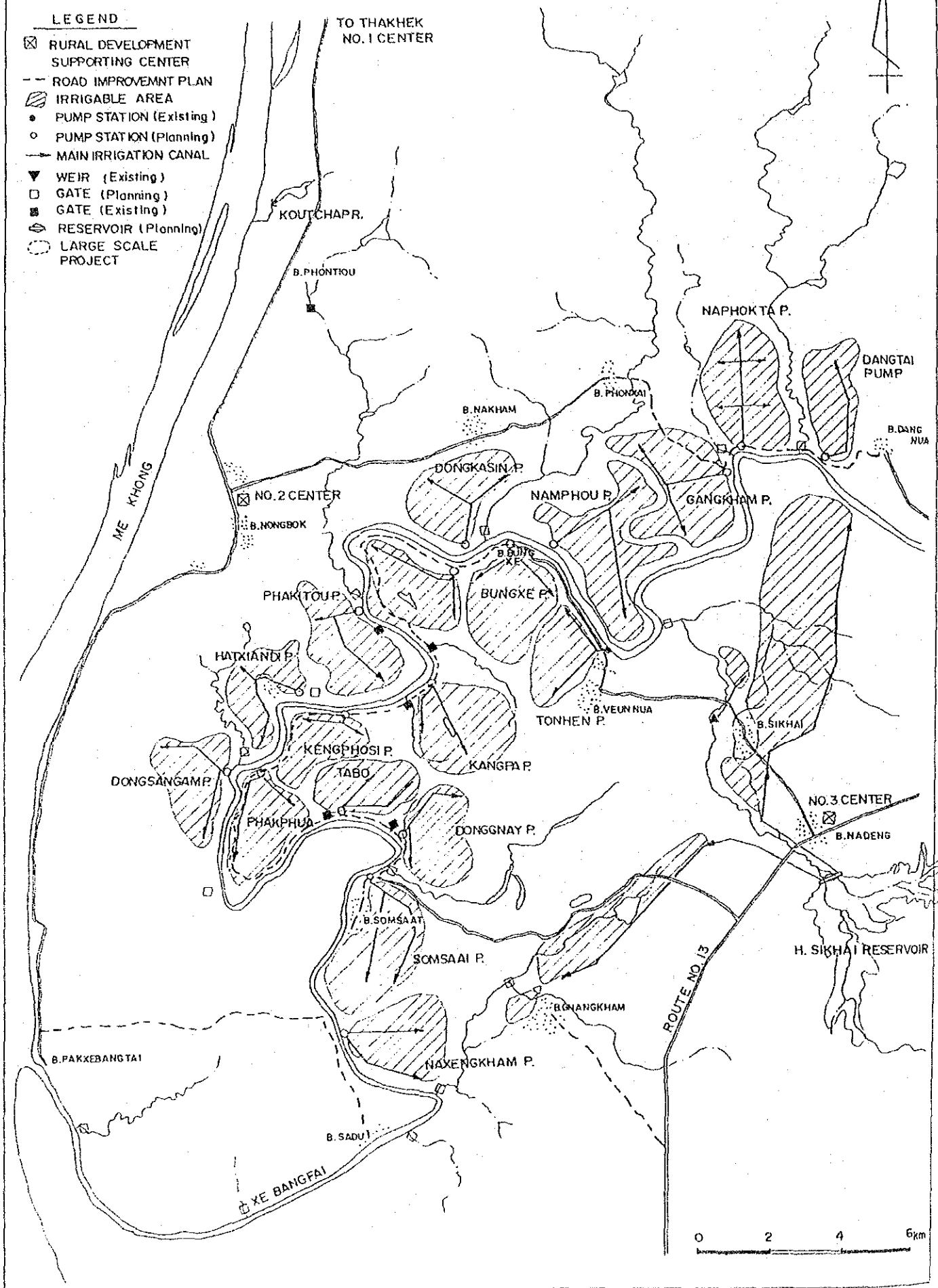
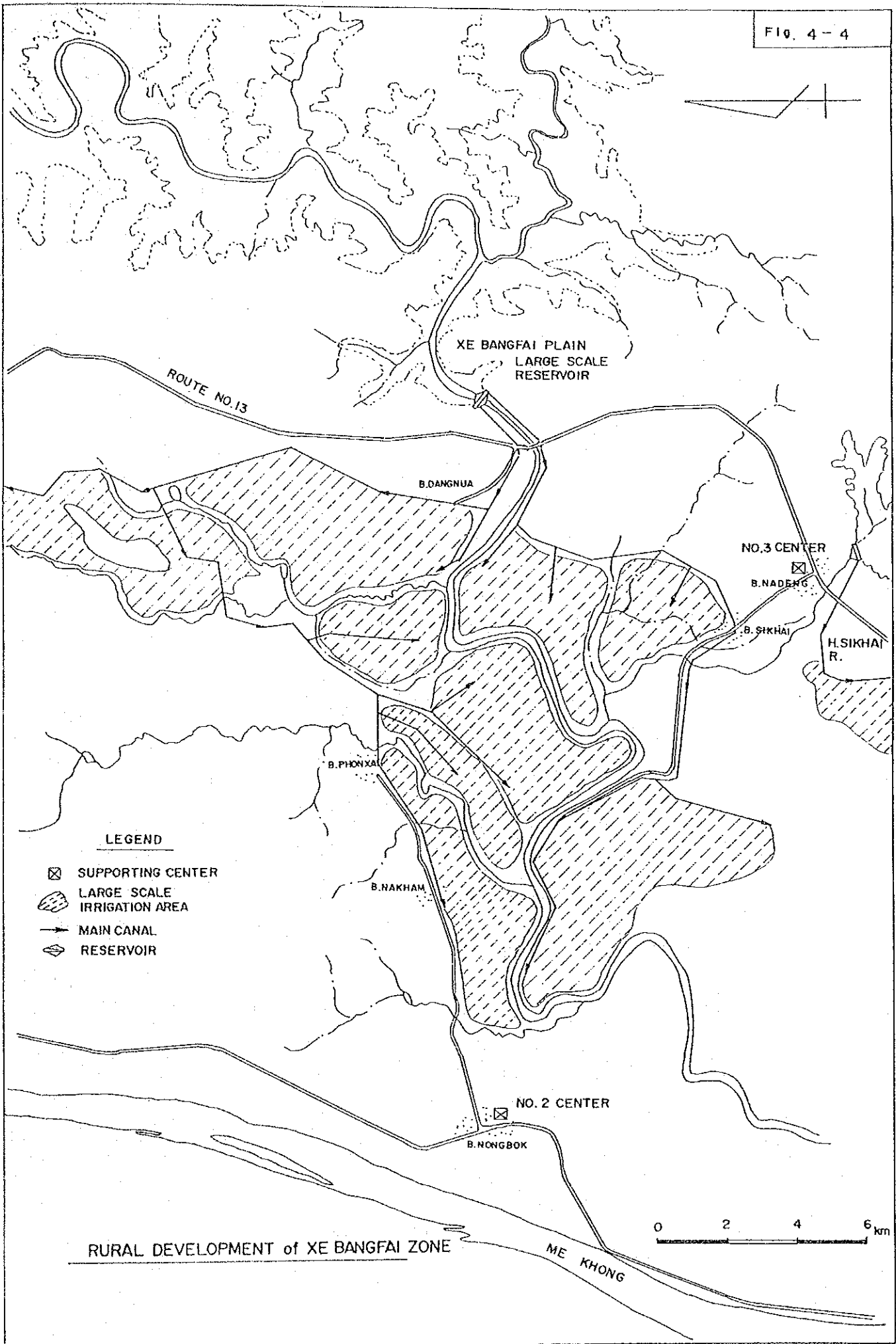


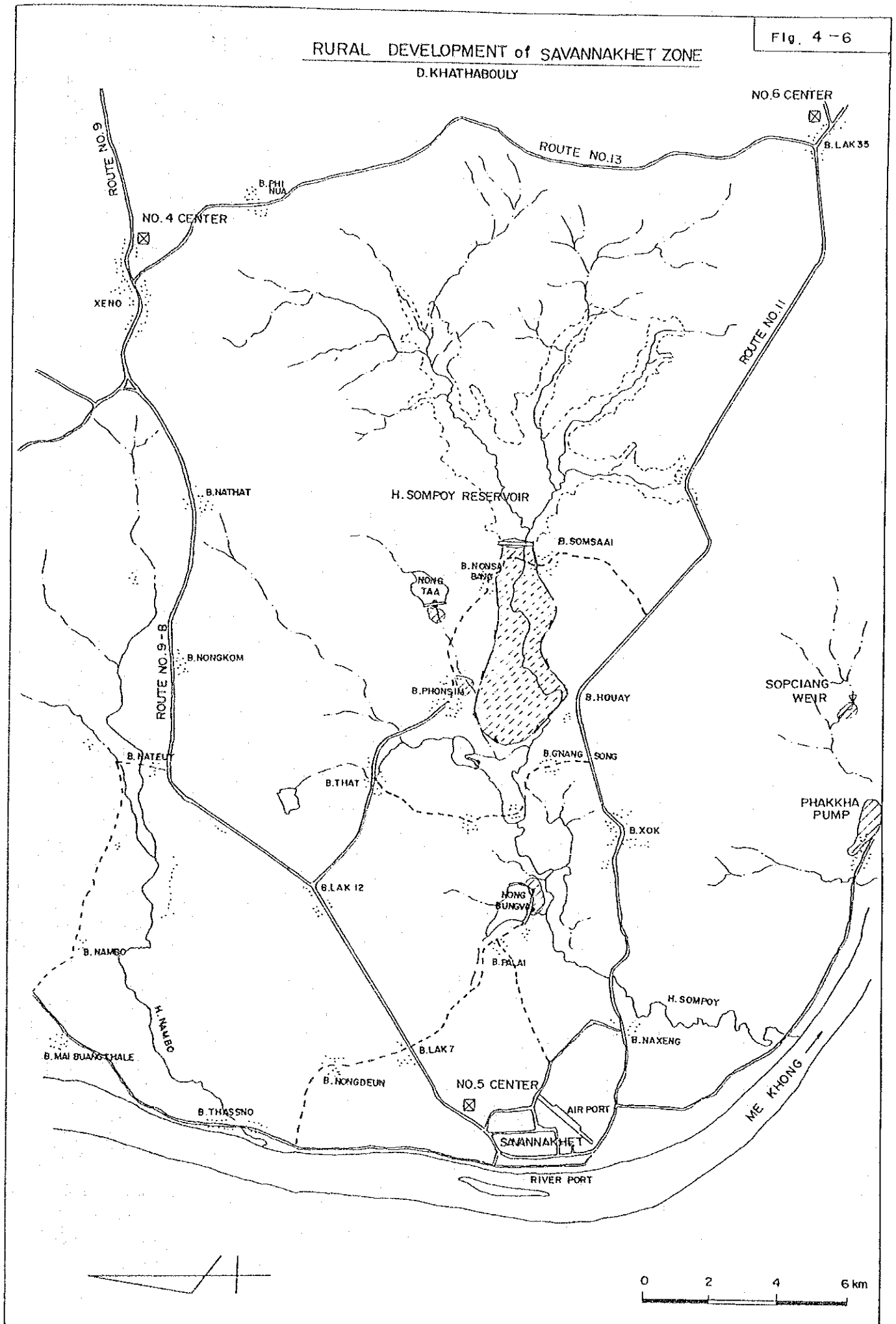
Fig. 4 - 4



RURAL DEVELOPMENT of XE BANGFAI ZONE

RURAL DEVELOPMENT of SAVANNAKHET ZONE
D. KHATHABOULY

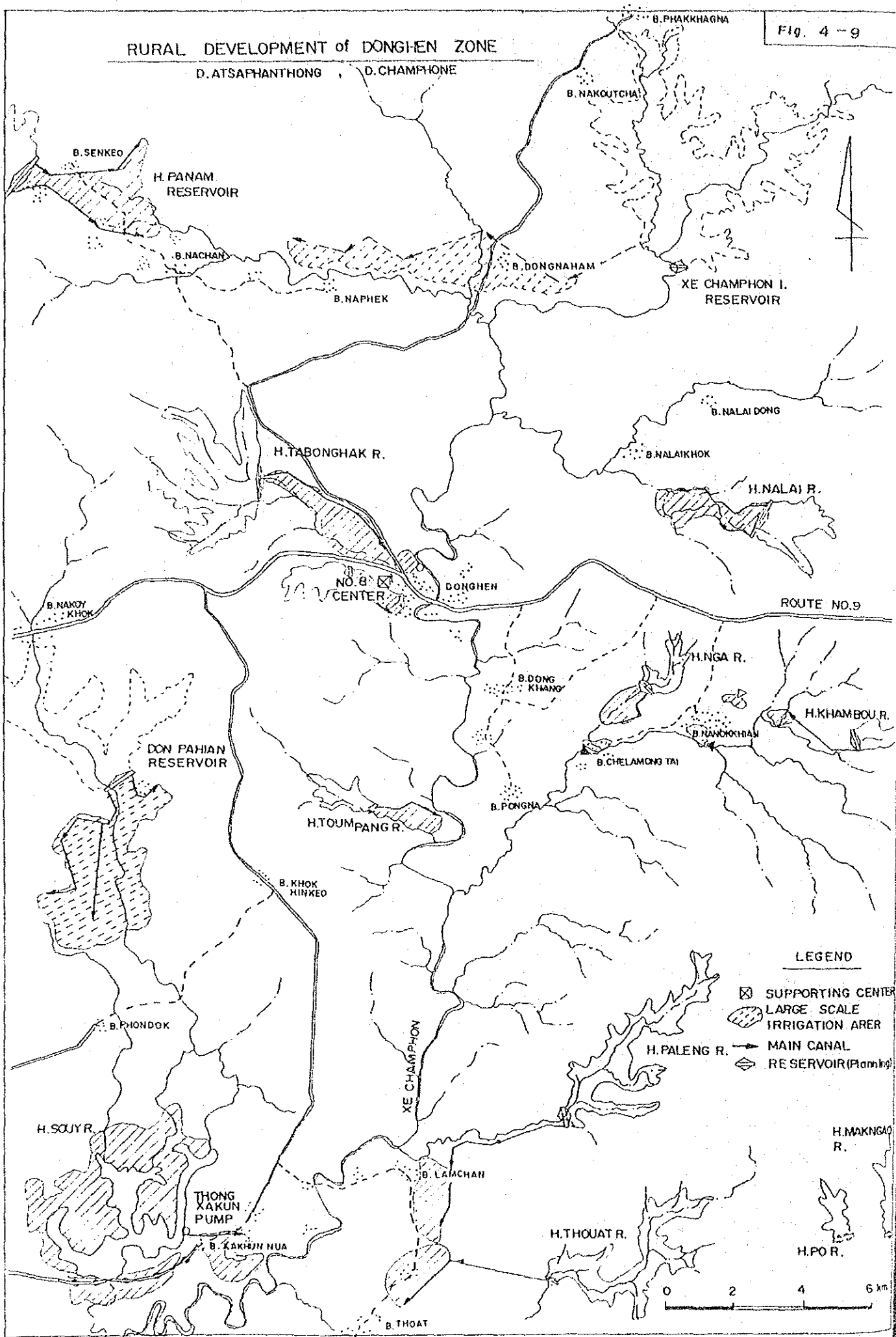
Fig. 4-6



RURAL DEVELOPMENT of DONGHEN ZONE

D. ATSAPHANTHONG D. CHAMPHONE

Fig. 4-9



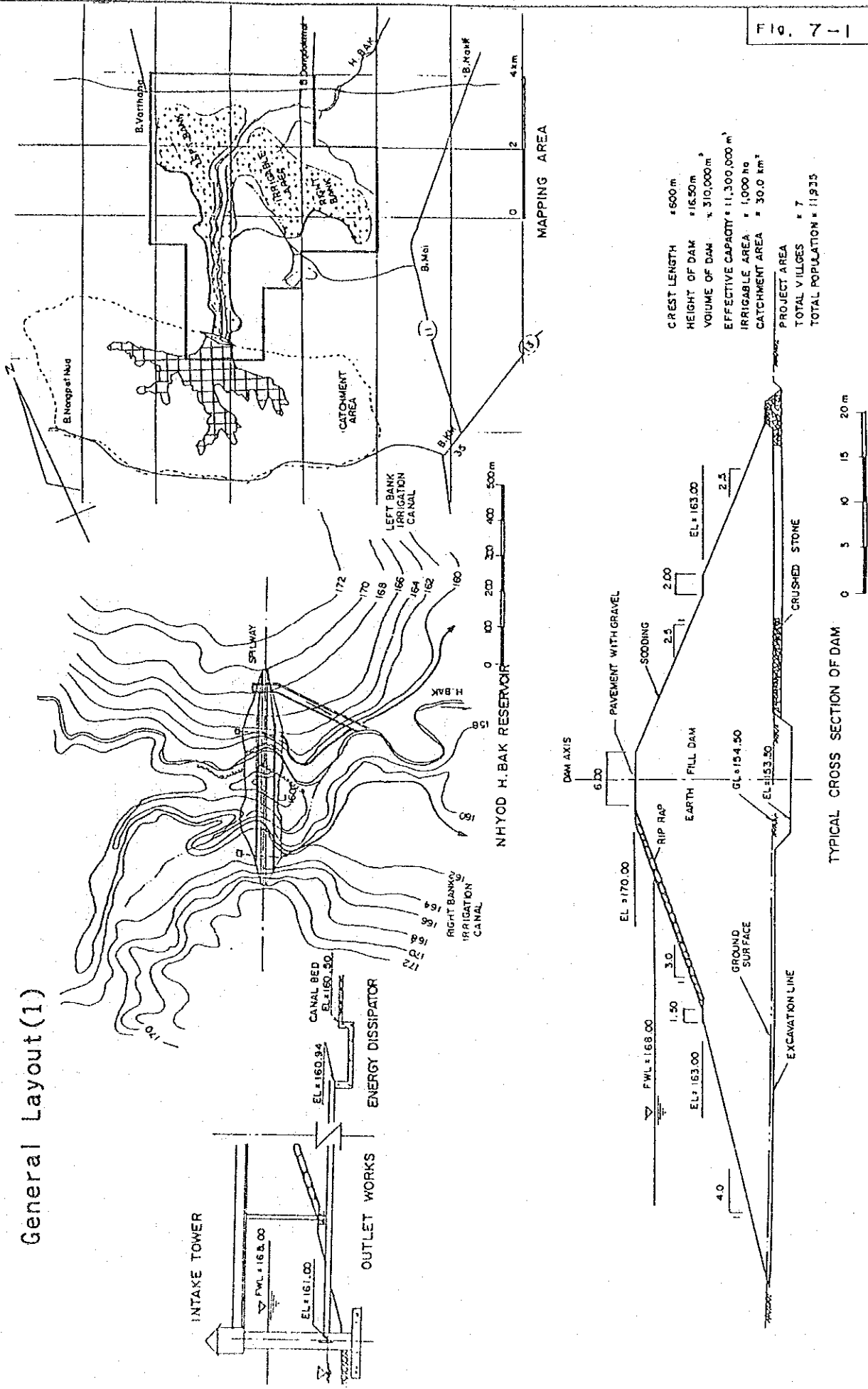
LEGEND

- ☒ SUPPORTING CENTER
- ▨ LARGE SCALE IRRIGATION AREA
- MAIN CANAL
- ◊ RESERVOIR (Planning)



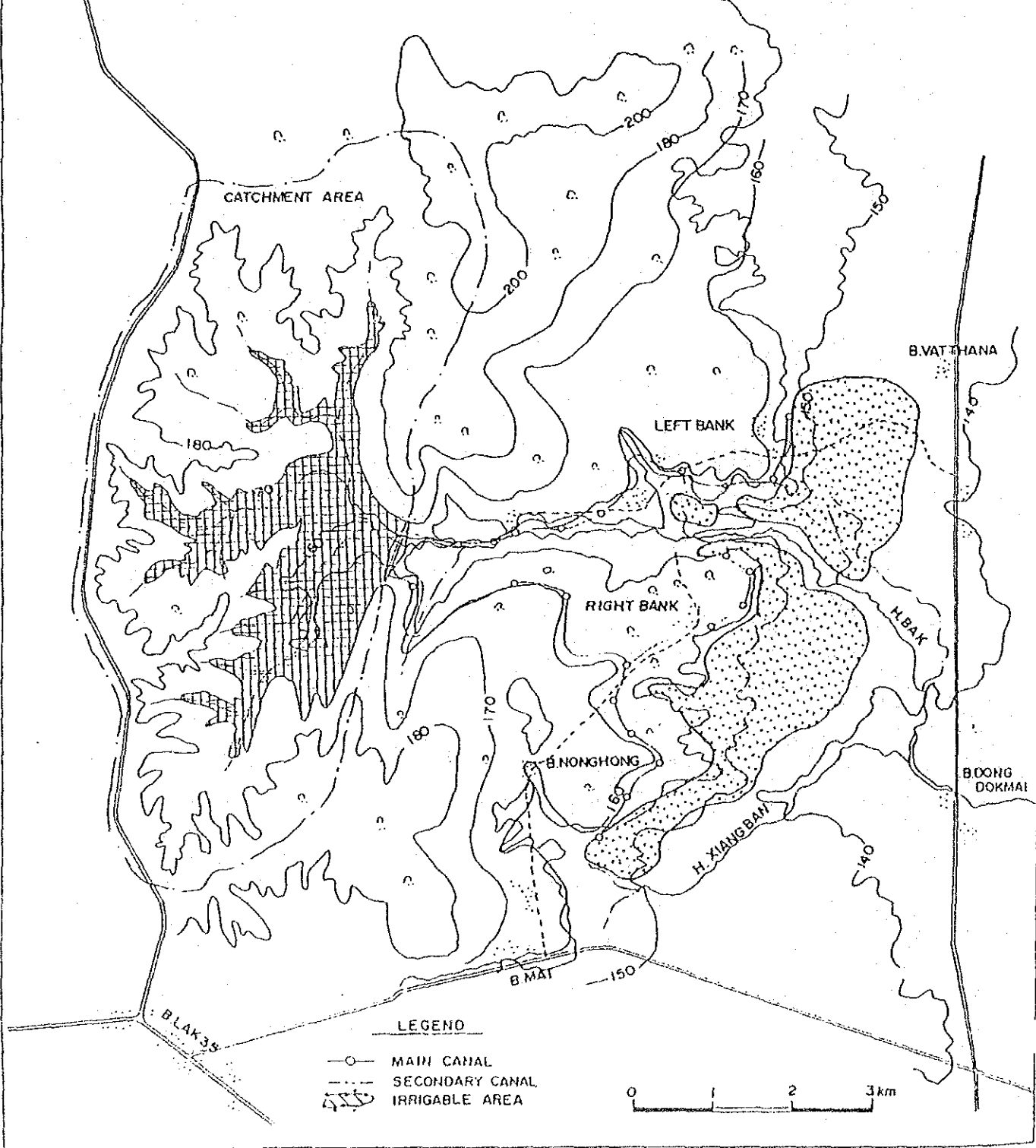
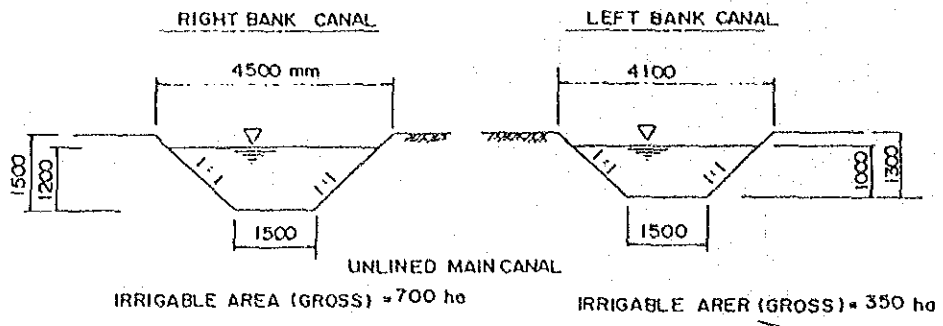
NHYOD H. BAK IRRIGATION PLAN

General Layout(1)



NHYOD H. BAK IRRIGATION PLAN

General Layout (2)



NHYOD H. BAK IRRIGATION SYSTEM(1)

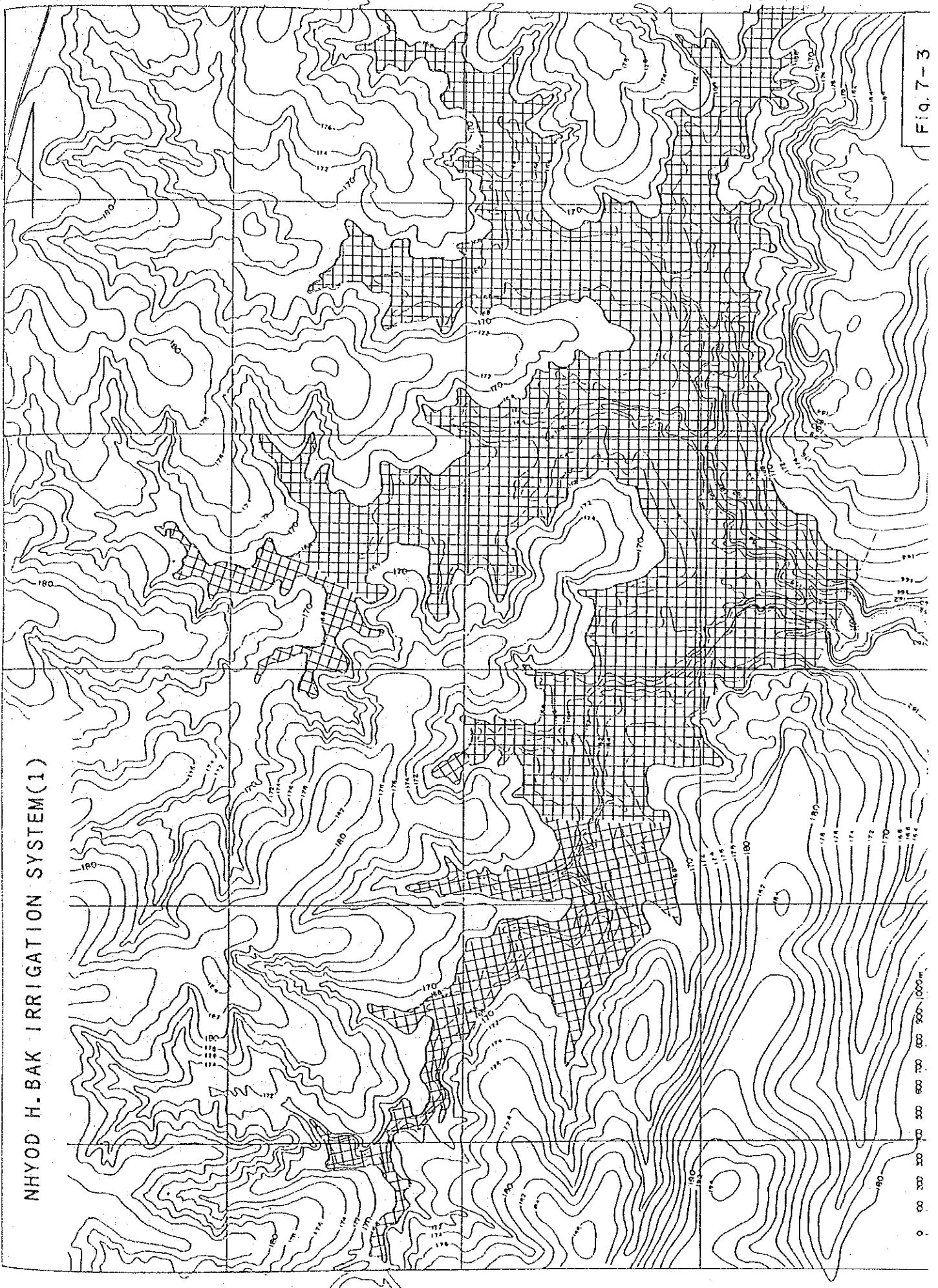
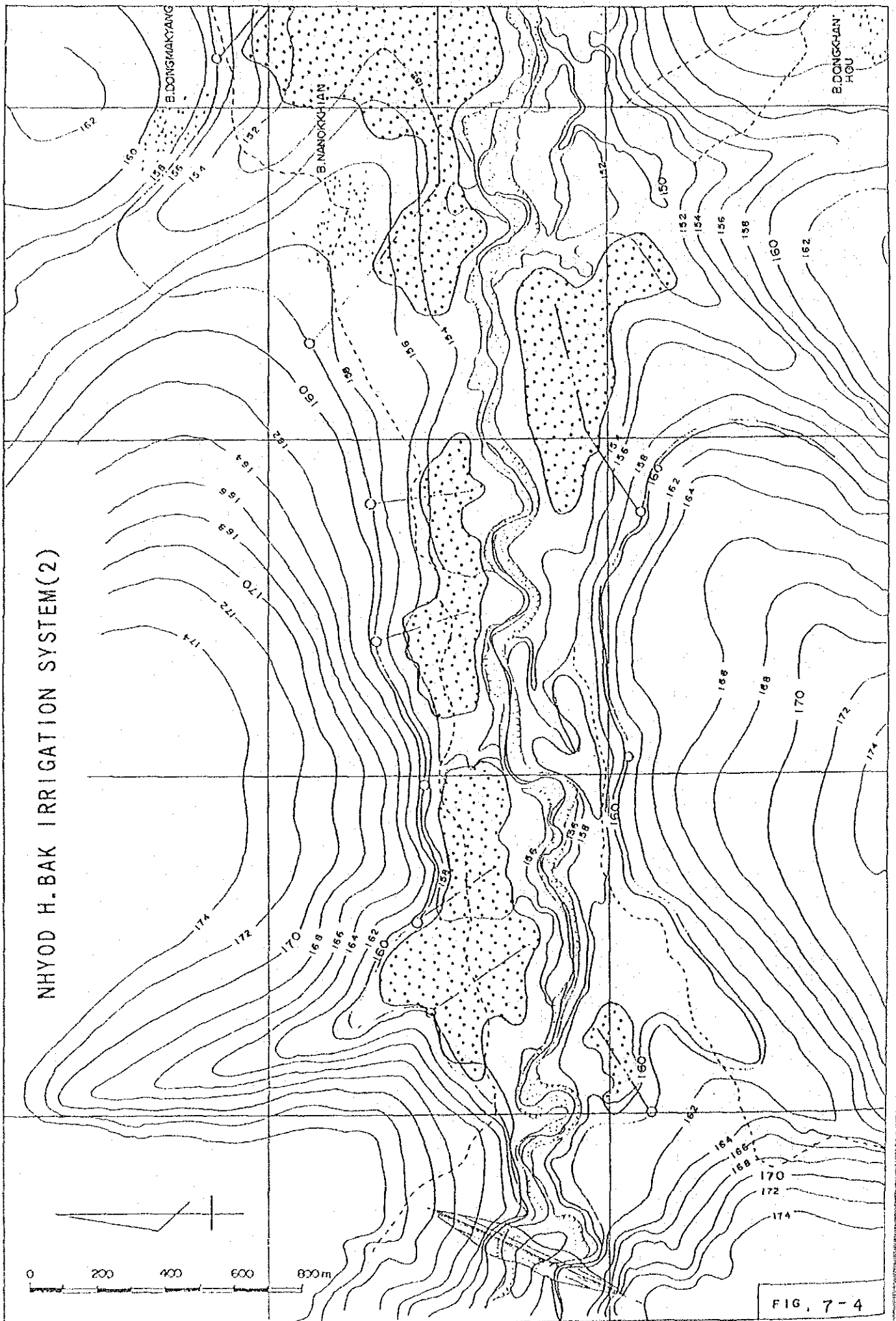
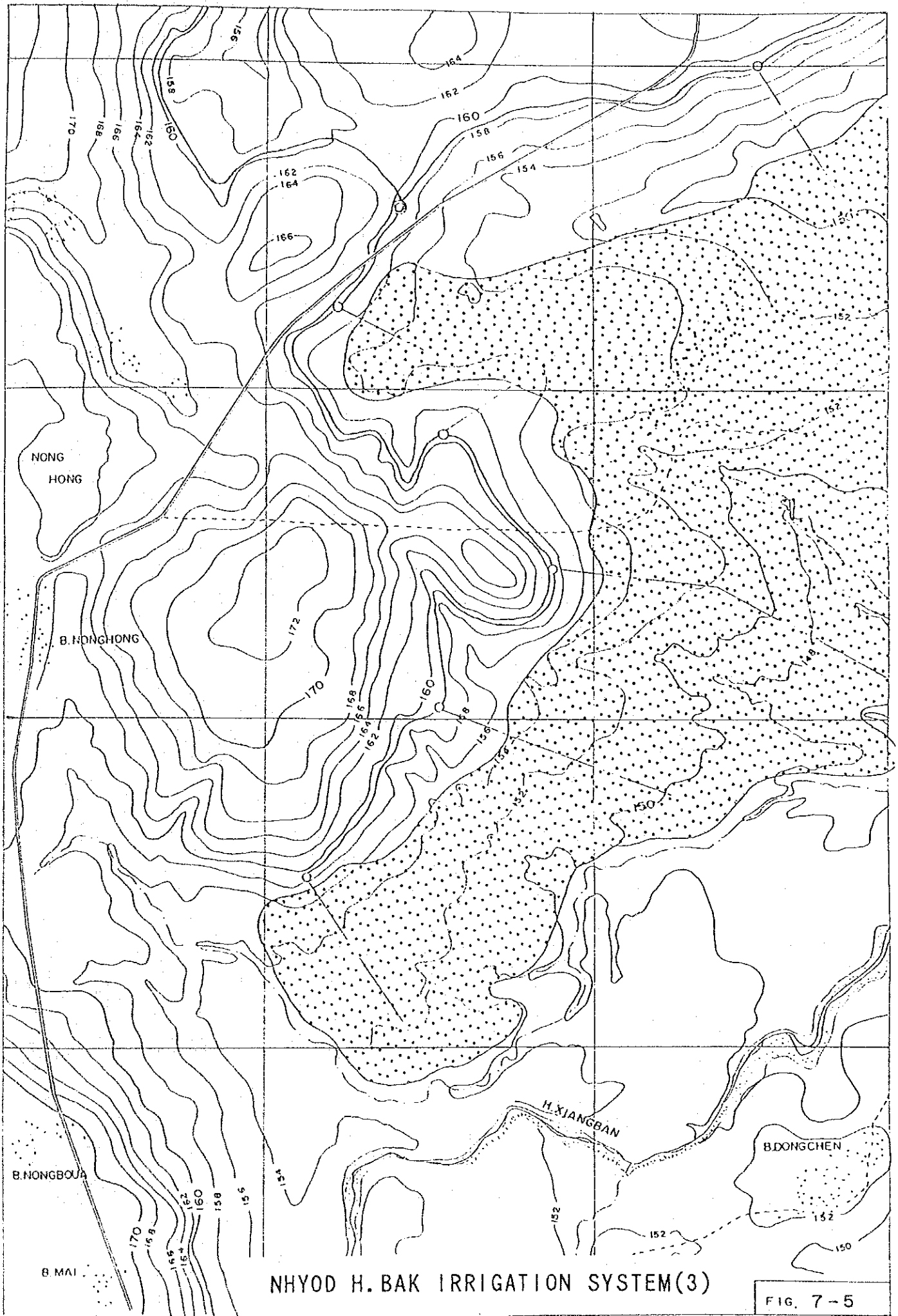


Fig. 7-3

0 100 200 300 400 500 600 700 800 900 1000m

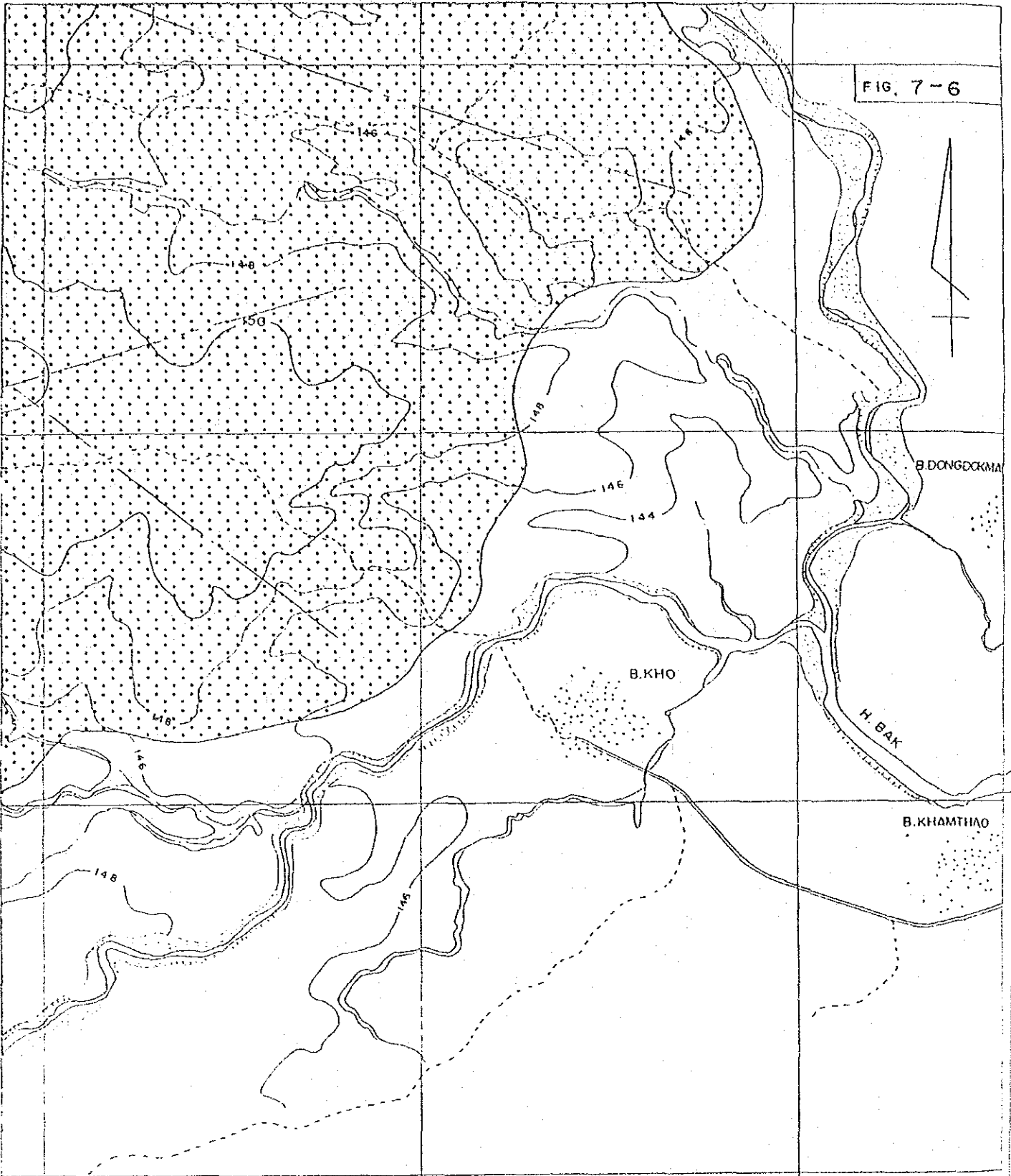








NHOD H. BAK IRRIGATION SYSTEM(3)

FIG. 7-5

FIG. 7-6



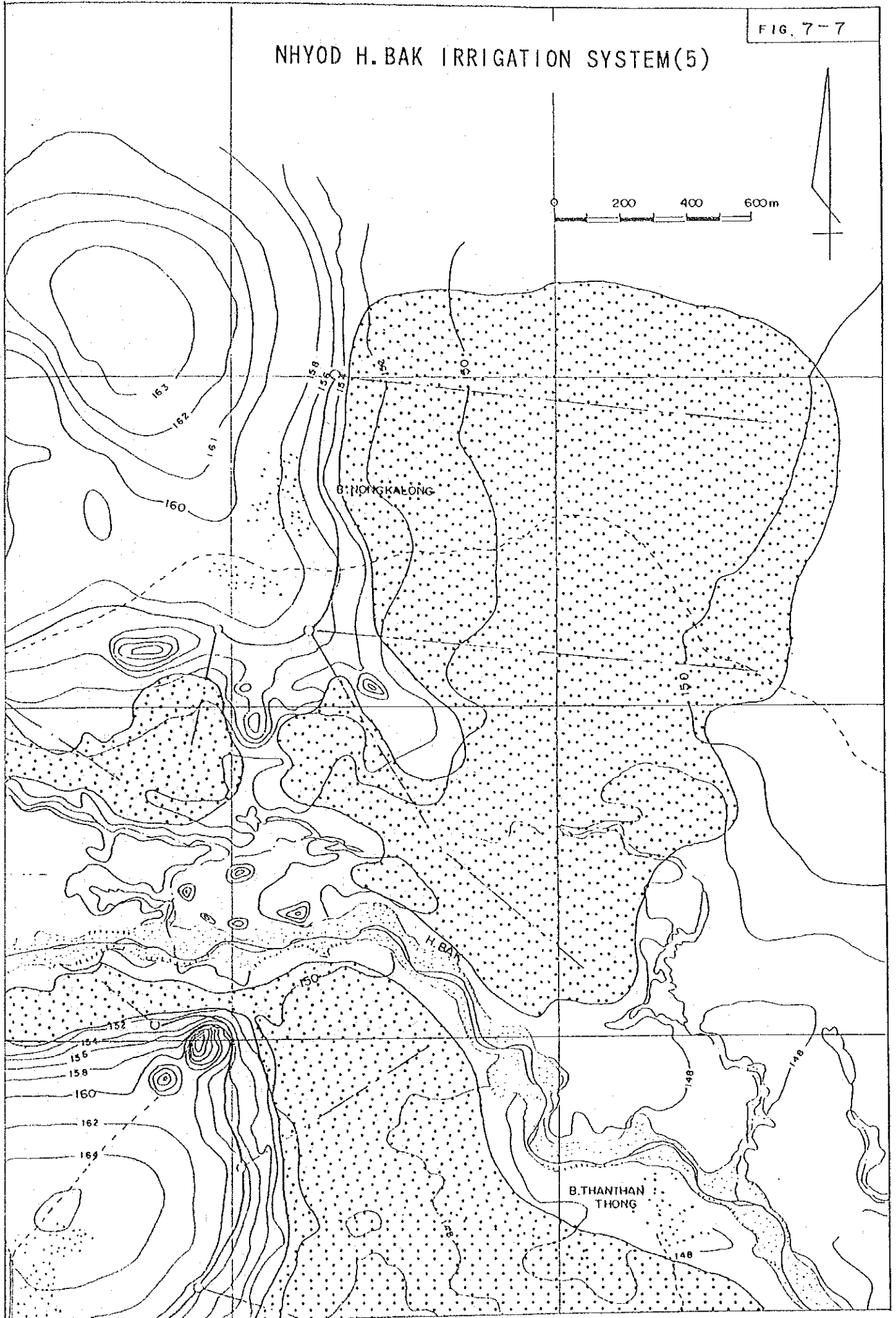
LEGEND

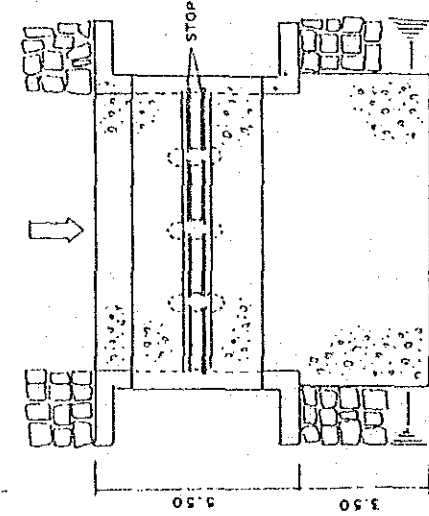
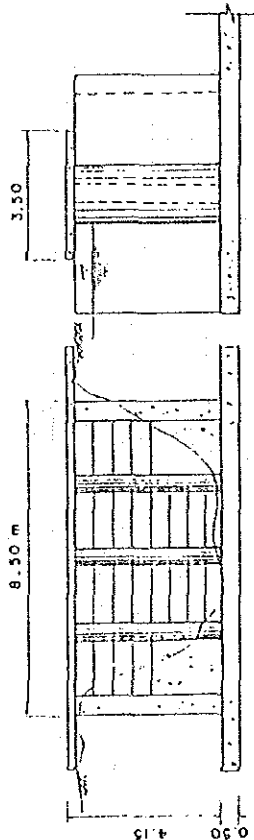
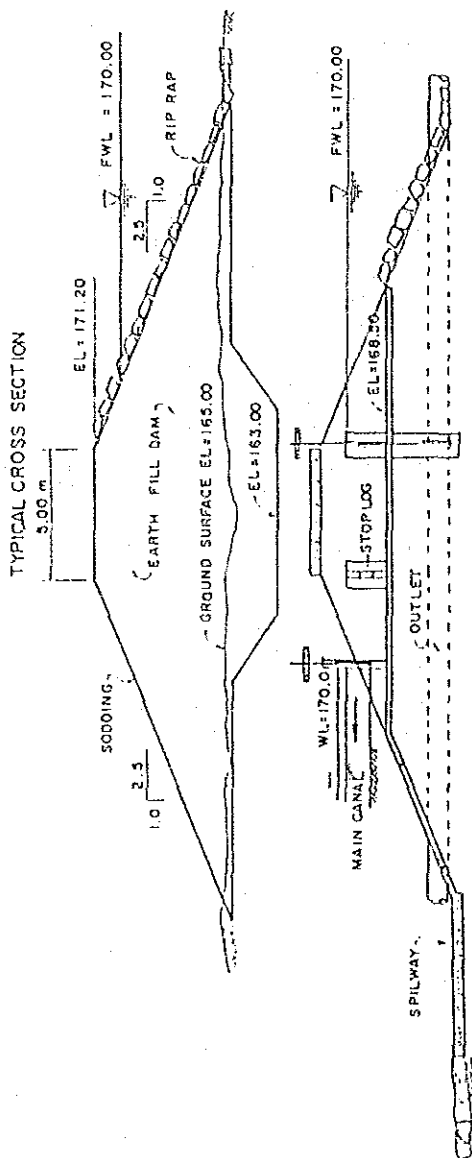
-  MAIN IRRIGATION CANAL
-  SECONDARY IRRIGATION CANAL
-  IRRIGABLE AREA
-  FARM ROAD

NHYOD H. BAK IRRIGATION SYSTEM(4)

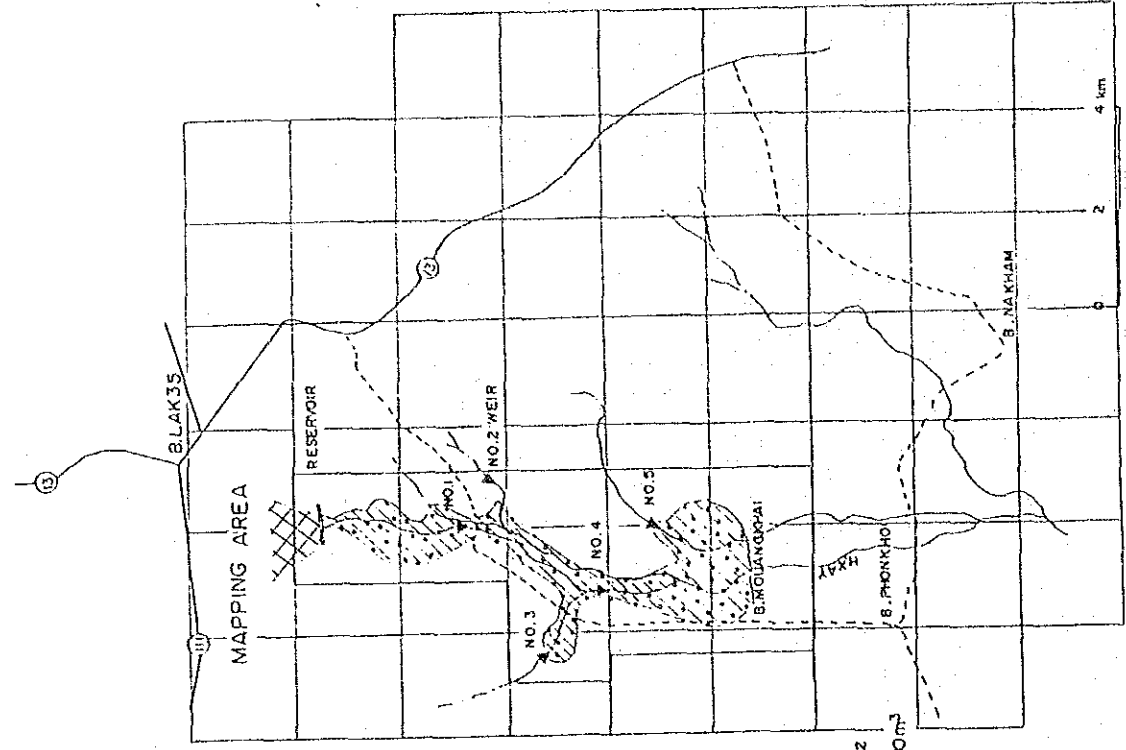
0 200 400 600 800 1000m

NHYOD H. BAK IRRIGATION SYSTEM(5)





TOTAL IRRIGABLE AREA: 613 ha
 (DRY SEASON) 143 ha
 RESERVOIR CATCHMENT : 15.8 km²
 EFFECTIVE STORAGE : 1,900,000 m³
 TOTAL OF VILLAGES : 9
 TOTAL OF POPULATION : 6200

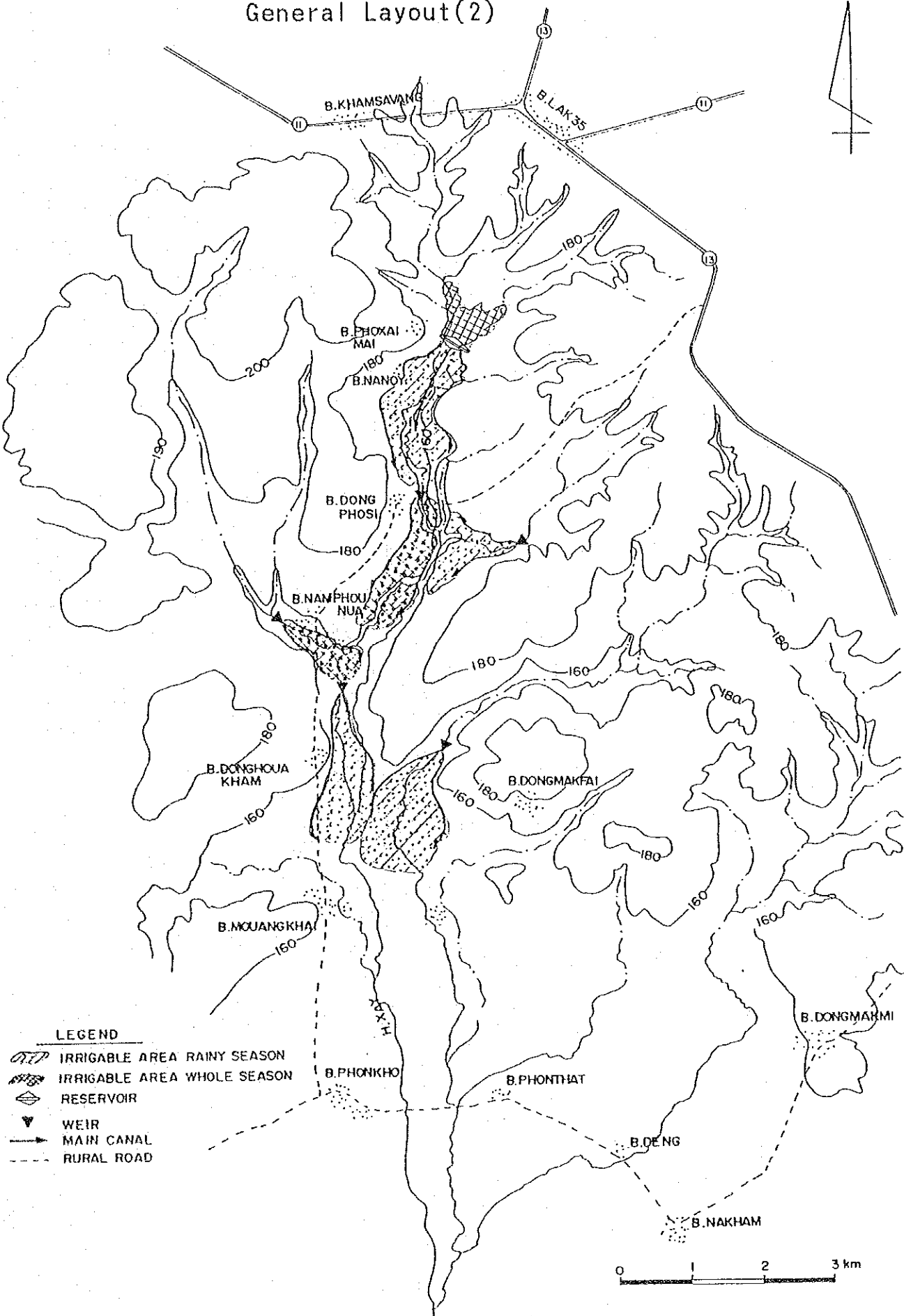


NAMPHOU IRRIGATION PLAN
 General Layout(1)







NAMPHOU IRRIGATION PLAN

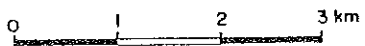
Fig. 7-9

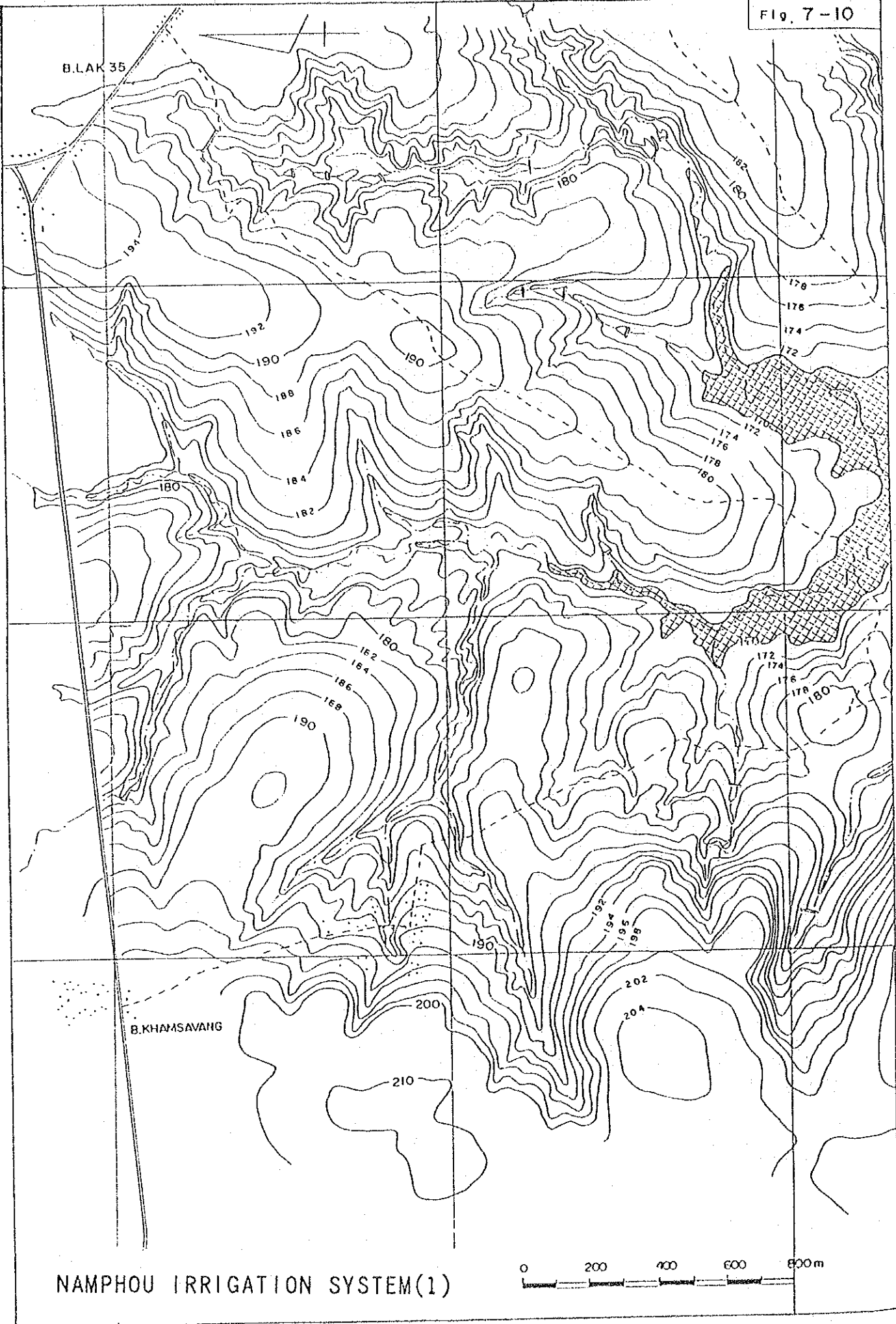
General Layout(2)



LEGEND

-  IRRIGABLE AREA RAINY SEASON
-  IRRIGABLE AREA WHOLE SEASON
-  RESERVOIR
-  WEIR
-  MAIN CANAL
-  RURAL ROAD





NAMPHOU IRRIGATION SYSTEM(1)