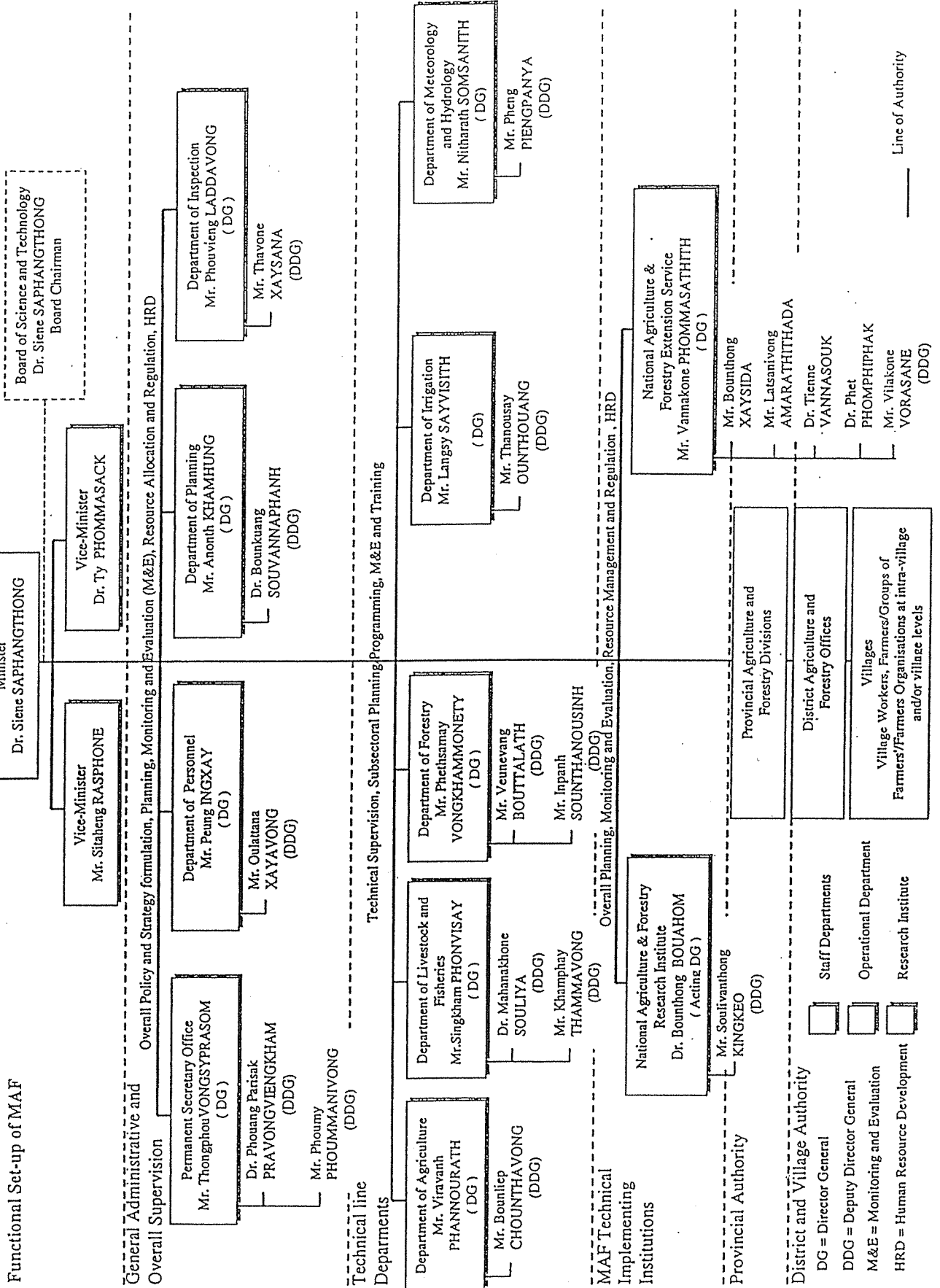
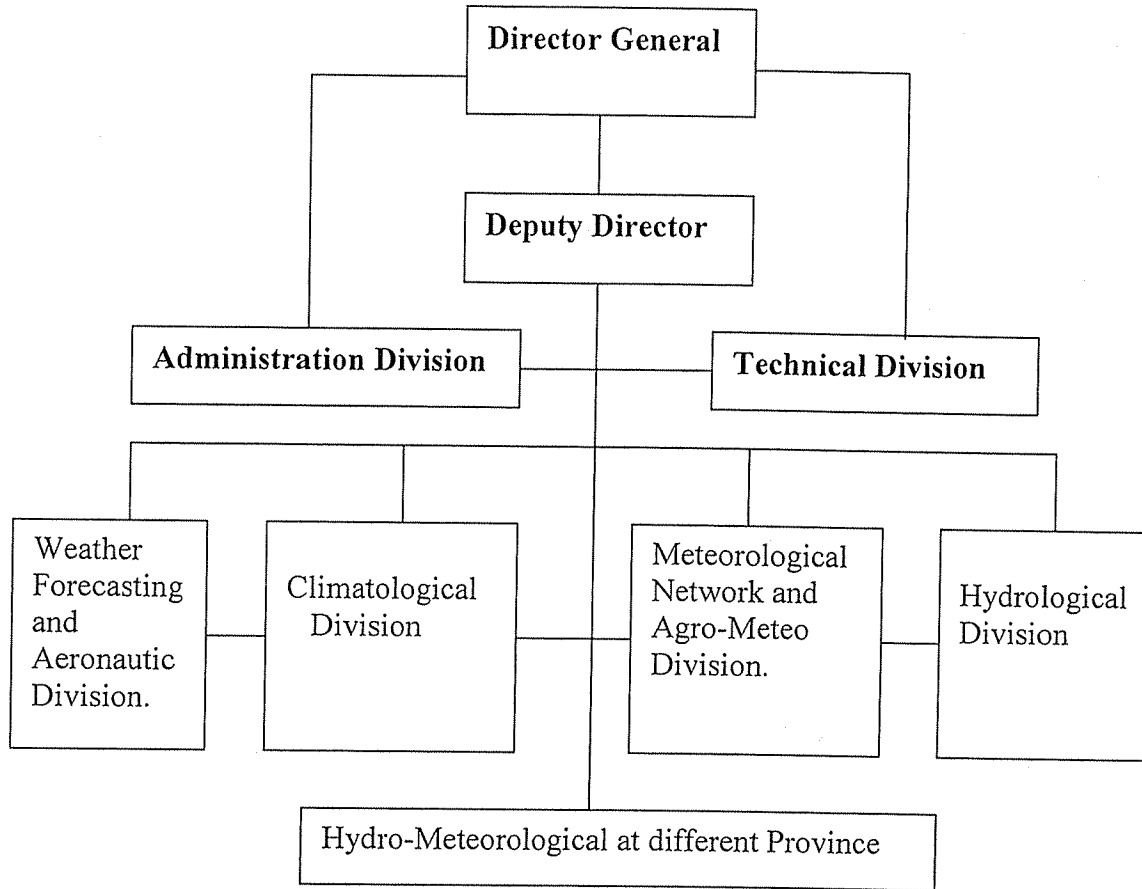


Organization Chart of the Ministry of Agriculture and Forestry

Chart 2-1

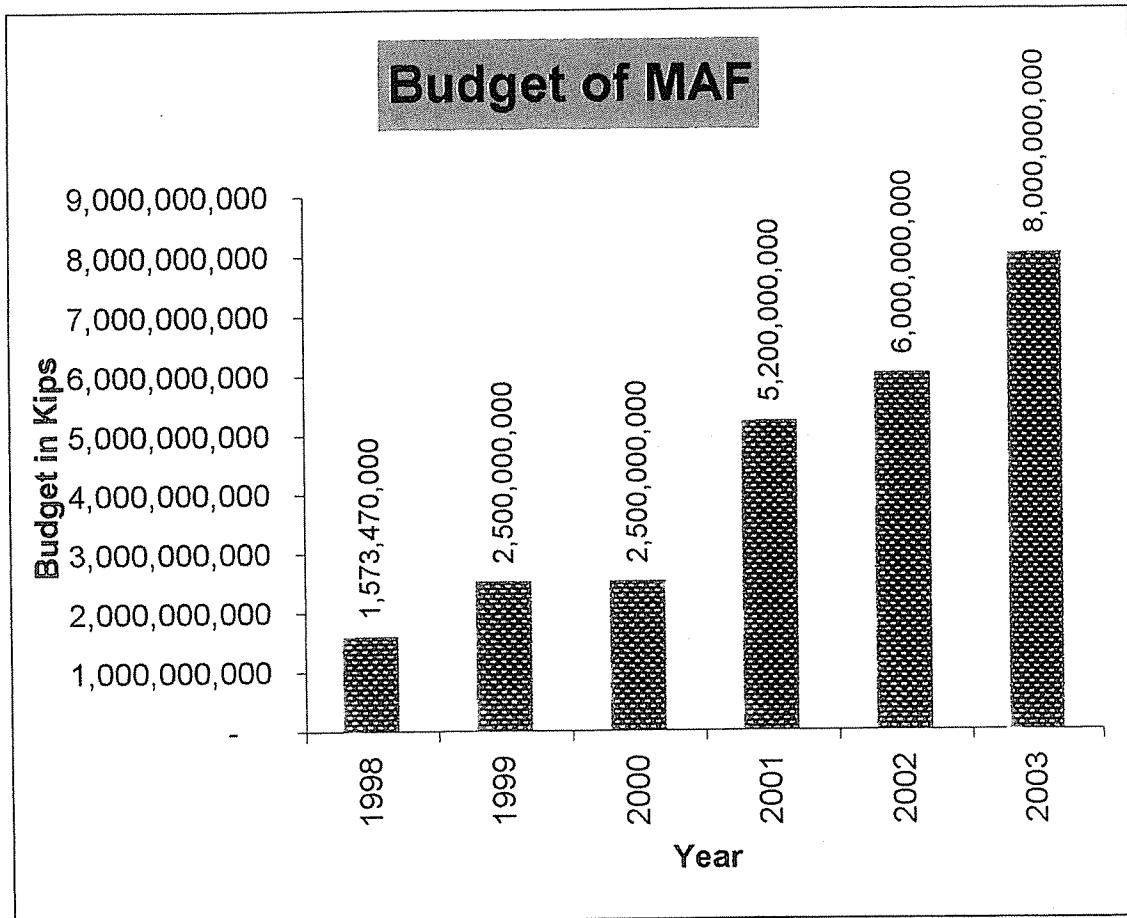


Organization Chart of DMH



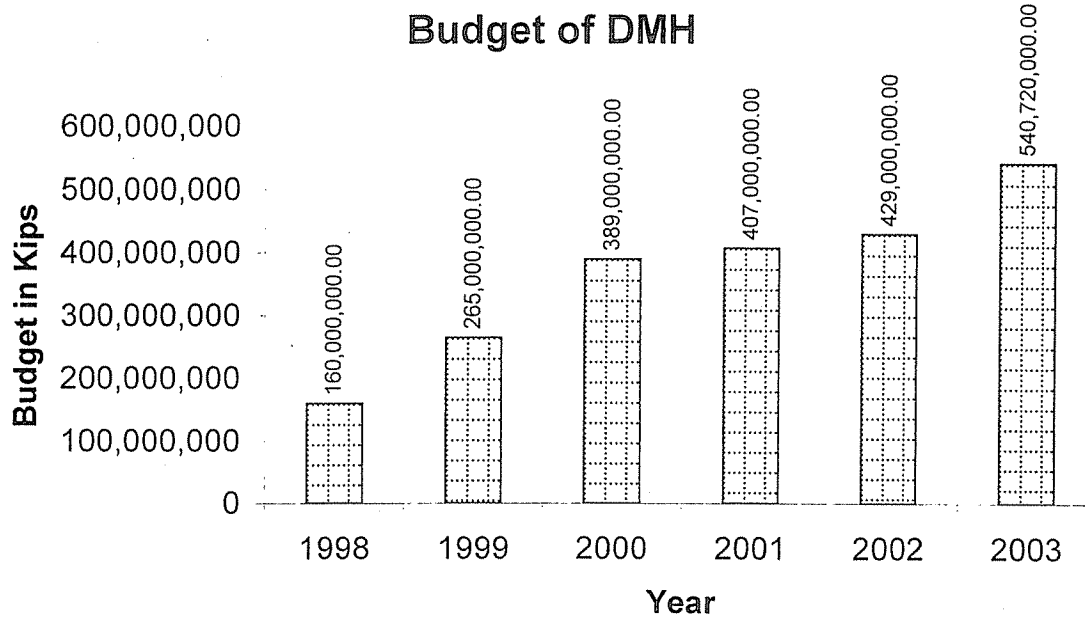
Budget of MAF

Year	Kip	Exchange Rate	US\$
1998	1,573,470,000	7000	224.781
1999	2,500,000,000	7500	333.333
2000	2,500,000,000	8000	312.500
2001	5,200,000,000	9000	577.778
2002	6,000,000,000	10000	600.000
2003	8,000,000,000	10500	761.905



Budget of DMH

Year	Kip	Exchange Rate	US\$
1998	160,000,000.00	7000	22857.14
1999	265,000,000.00	7500	35333.33
2000	389,000,000.00	8000	48625.00
2001	407,000,000.00	9000	45222.22
2002	429,000,000.00	10000	42900.00
2003	540,720,000.00	10500	51497.14



List of existing Meteorological Stations and Rain gauges in Lao P.D.R (of February 2003)

Total of 50 Meteorological Stations and 110 Rain Gauges

No.	Names of Stations	Station Indices		Locations				Year installed	Station Type	Communication means. HF radio / Telephone	
		WMO	OACI	Latitude	Longitude	Altitude (m)	Village				District
I	PhongSaly province										
1	Phong Saly	48921	VLPL	21°42'	102°05'	1.300	PhoneKeo	Phongsaly	1989	Synoptic station Rain Gauge	HF Radio
2	Muang Khoua			21°05'	102°30'	380	Muangkhoua	Muangkhoua		Rain Gauge	
3	Boun Neua			21°38'	101°53'	929	HouaiKha	Boun Neua		Rain Gauge	
4	Gnot Ou						Ou Tai	Gnot Ou		Rain Gauge	
II	Luang Namtha province										
1	Luang Nam tha	48924	VLLN	21°03'	101°28'	600	Luang	Luang Namtha	1994	Synoptic station	HF Radio + Telephone
2	Muang Sing			21°12'	100°09'	810	Siliheuang /ThongGnonh	Muang Sing	1999	Climatic station	
3	Vieng Phoukha						Phoukha	Vieng Phoukha	2001	Climatic station	
4	Hong Leuai						Hong Leuai	LuangNamtha	2001	Rain Gauge	
5	Na Lae						Agriculture Office	Na lae	2001	Rain Gauge	
6	Xieng Kok						Xieng kok	Muang Long	2001	Rain Gauge	HF Radio
III	Oudomexai Province										
1	Oudomexai	48925	VLOS	20°41'	102°00'	550	Cheng	Muang Xai	1984	Synoptic station	Telephone
2	Muang Houn			20°10'	101°29'	440	Vang	Houn	2000	Climatic station	
3	Park Baeng						Park Baeng	Park Baeng	2001	Rain Gauge	HF Radio
4	Muang Baeng						Baeng Luang	Baeng		Rain Gauge	
5	Na Mor						Na mor	Na Mor		Rain Gauge	

No.	Names of Stations	Station Indices		Locations					Year installed	Station Type	Communication means
		WMO	OACI	Latitude	Longitude	Altitude (m)	Village	District			
	Oudomxai Province (cont.)										
6	Muang Nga						Nga	Nga		Rain Gauge	
7	Muang La						Park La	La		Rain Gauge	
IV	Houa Phan Province										
1	Sam Neua	48928	VLSN	20°25'	104°04'	1000	Nathong	SamNeua	2000	Synoptic station	HF Radio + Telephone
2	Viengxai	48927	VLVX	20°25'	104°14'	913	Phon Baeng	Vieng xai	1975	Climatic station	HF Radio
3	Muang Aeth						Muang Aet	Aet	2001	Rain Gauge	
V	Xieng Khouang Province										
1	Xieng Khouang	48935	VLXK	19°28'	103°08'	1050	Phon Thong	Paek	1981	Synoptic station	HF Radio + Telephone
2	Muang Kham	48936	VLMK				Long Few	Muang Kham	1999	Climatic station	
3	Xieng dad						Xieng Daet	Phou kout		Rain Gauge	
4	Phouvieng , Phiengluang						Phieng Luang	Phou Kout		Rain Gauge	
5	Muang Mork						Na Khone	Mork		Rain Gauge	
6	Muang Khoon						Khang Thor	Khoon		Rain Gauge	
7	Nong Hat						Nong haet	Nong Haet		Rain Gauge	
8	Pha Xai						Lath Khai	Phaxai		Rain Gauge	
9	Nam neun						Nam Neun	Park Namneun	2001	Rain Gauge	
VI	Luang Prabang Province										
1	Luang Prabang	48930	VLLB	19°53'	102°08'	305	Hath Hienh	Luang Prabang	1960	Synoptic station	HF Radio + Telephone + วิทยุ วิทยุ
2	Houai Khoat			19°45'	102°10'	304	Houai Khoat	Xieng Ngeun	1996	Climatic station	

添付資料 3-5 気象観測施設リスト (2)

No.	Names of Stations	Station Indices		Locations							Year installed	Station Type	Communication means
		WMO	OACI	Latitude	Longitude	Altitude (m)	Village	District					
3	Saen Khaloak			19°42'	101°54'	290	Saen Khaloak	Luang Prabang				Rain Gauge	
4	Muang Ngoy			20°42'	102°02'	360	Sob Houm	Muang Ngoy				Rain Gauge	
5	Park Xaeng			20°10'	102°40'		Done Xai	Park Xaeng				Rain Gauge	
6	Barn Xae						Xae	Vieng Kham				Rain Gauge	
7	Nam Bark						Nam Nga	Nam Bark				Rain Gauge	
8	Park Ou						Park Ou	Park Ou				Rain Gauge	
9	Muang Narn						Pa Phai	Muang Narn				Rain Gauge	
10	Phou Khoune						Phou Khoon	Phou Khoon				Rain Gauge	
11	Nam Dong						Nam Dong Dam	Luang Prabang				Rain Gauge	
12	Park Nga						Park Nga	Phone Xai				Rain Gauge	
13	Soab Chaerk						Sob Chaek	Park Xaeng			2001	Rain Gauge	HF Radio
VII	Sai Yaboury province												
1	Sai Yaboury	48938	VLSB	19°14'	101°44'	326	Kaeng	Sai Yaboury			1968	Synoptic station	HF Radio + Telephone
2	Park Lai	48934		18°12'	101°12'	220	Nasavang	Park Lai				Climatic station	
3	Nam Tarn	48937		19°07'	101°33'	370	Na Xing	Muang Phieng				Climatic station	
4	Bo Taene						Agriculture Office	Bor Taen				Climatic station	
5	Kaene Thao						Agriculture Office	Kaen Thao				Climatic station	
6	Hong Sa			19°43'	101°25'	583	Phone Xai	Hong Sa				Rain Gauge	
7	Thong Mixai						Agriculture Office	Thong Mixai				Rain Gauge	
8	Na morn						Na morn	Sai Yaboury				Rain Gauge	

No.	Names of Stations	Station Indices		Locations						Year installed	Station Type	Communication means
		WMO	OACI	Latitude	Longitude	Altitude (m)	Village	District				
VIII	Bor keo province											
1	Houai Xaii	48926	VLHS	20°16'	100°24'	401	Pa Oy	Houai Saii		1993	Synoptic station	HF Radio
2	Tonh Pheung			20°19'	100°09'	371	Khone Luang	Tonh Pheung		2001	Climatic station	
IX	Xai Somboon Special Zone											
1	Xai Somboon	48933	VLXB	18°59'	102°56'	460	Agriculture Office	Xai Som Boon		1999	Climatic station	
2	Naluang			18°54'	102°48'	460	Kor My	Muang Khoon		2001	Rain Gauge	HF Radio
X	Vieng Chanh Province											
1	Phone Hong (nalongkhoon)	48941	VLPH	18°28'	102°24'	179	Nalongkhoon	Phone Hong		1972	Synoptic station	Telephone
2	Na Phaeng	48943		18°16'	102°56'	172	Naphaeng	Thoulakhom		1970	Climatic station	
3	Vang vieng	48939		18°55'	102°27'	298	Houai Sa Ngao	Vang Vieng		1970	Climatic station	
4	Ka Sy			19°24'	102°29'	360	Agriculture Office	Kasy		2000	Climatic station	
5	Hinh Heub			18°39'	102°21'	195	Hinh Heub Tai	Hinh Heub			Rain Gauge	HF Radio
6	Pha Tang			19°08'	102°34'	160	Pha Tang	Vang Vieng			Rain Gauge	
7	Tha Lath			18°31'	102°31'	184	Tha Lath	Keo Oudom			Rain Gauge	
8	Park Kagnuong			19°32'	102°26'	190	Park Kagnoung	Vieng Kham			Rain Gauge	
9	Muang Fuang			18°43'	102°07'		Agriculture Office	Muang Feuang			Rain Gauge	
10	Sa Na Kham			17°54'	101°40'	206	XaNakharm	XaNakharm			Rain Gauge	
11	Long Xarn						Phone Muong	Long xarn		2002	Rain Gauge	HF Radio
XI	Vientiane Municipality											
1	Wattay (DMH Headquarters)	48940	VLVT	17°57'	102°34'	171.64	Akarth	Sikhottabong		1900	Synoptic station	HF Radio + Telephone
2	Na Phork						Tha Dork Kham	Xai Tha Ny		1996	Climatic station	

No.	Names of Stations	Station Indices		Locations						Year installed	Station Type	Communication means	
		WMO	OACI	Latitude	Longitude	Altitude (m)	Village	District					
3	Veune Khamn							ChaleunXai	Xai Thany			Climatic station	HF Radio
4	Tha Ngorn	48944		18°17'	102°38'	185		ThaNgone	Xai Thany	1990		Climatic station	
5	Na Xorn			18°04'	102°58'	160		Na Xone	Park Ngum			Rain Gauge	
6	Barn Hai							Barn Hai	Park Ngum			Rain Gauge	HF Radio
XII	Bolikhamxai												
1	Park Xanh	48945	VLPX	18°24'	103°40'	157		Pho Sy	Park Xanh	1987		Synoptic station	HF Radio + Telephone
2	Kham Keuth (Larkxao)			18°11'	104°51'	540		SomsaNouk	Kham Keuth	1990		Climatic station	HF Radio
3	Muang Kao			18°33'	103°44'	158		Muang Kao	Bor Li Khanh			Rain Gauge	HF Radio
4	Muang Mai			18°30'	103°41'	159		Muang Mai	Park Xanh			Rain Gauge	HF Radio
5	Tath Leuk			18°26'	103°06'	220		Tath Leuk	Tha Phabath			Rain Gauge	
6	Tha Boak			18°22'	103°12'	160		Tha Boak	Tha Phabath			Rain Gauge	
7	Park Thouai			18°17'	103°26'	159		Park Thouai	Park xanh			Rain Gauge	
8	Na Pae			18°19'	105°05'	589		Na Pae	Kham Keut			Rain Gauge	
9	Kaeng Kouang			18°15'	104°43'	470		Kaeng Kouang	Kham Keut			Rain Gauge	
10	Phone Sy			18°18'	104°06'	157		Phone Sy	Park Kading			Rain Gauge	HF Radio
11	Pha Muang							Pha Muang	Bor Li Khanh			Rain Gauge	
XIII	Kham Mouane Province												
1	Tha Khaek	48946	VLTK	17°23'	104°49'	151		Chorn Phet	Tha Khaek	1977		Synoptic station	HF Radio + Telephone
2	Na Kail			17°40'	105°06'	≥ 570		Agriculture office	Na kai	1998		Climatic station	

No.	Names of Stations	Station Indices		Locations							Year installed	Station Type	Communication means
		WMO	OACI	Latitude	Longitude	Altitude (m)	Village	District					
3	Gnom Malath			17°29'	105°25'	180	Agriculture Office	Gnom Malath			Rain Gauge		
4	Mahaxai			17°25'	105°11'	170	Tha Phabath	Mahaxai			Rain Gauge	HF Radio	
5	Boualapha						Agriculture Office	Boualapha			Rain Gauge		
6	XaiBouathong						Agriculture Office	Xai Bouathong			Rain Gauge		
7	Nong Boak						Song Muang Tai	Nong Boak			Rain Gauge		
8	Bor Phonetew						Muong Khai Kang	Hinh Boon			Rain Gauge		
9	Khoon Kham						Khoon Kham	Hinh Boon			Rain Gauge		
10	Hai Pha Vieng						Hai Phavieng	Gnom Malath			Rain Gauge		
11	Xe Bang Fai						District office	Xebangphai			Rain Gauge		
12	Sa Ang						Sa Ang	Boua Lapha			Rain Gauge		
13	Hinh Boon						Agriculture Office	Hinh Boon			Rain Gauge		
14	SiGno			17°50'	105°02'	570	Tha Lang	Na kai			Rain Gauge	HF Radio	
15	Namtheun Dam site						Dam site	Na kai			Rain Gauge		
16	Hai Khouanh Pho						Hai Khouane Pho	Gnom Malath			Rain Gauge		
17	X10 Phone Thong						Phone Thong	Gnom Malath			Rain Gauge		
18	Na meo						Na meo	Na kai			Rain Gauge		
19	Xorklaek						Xork Laek	Na kai			Rain Gauge		
20	Park Hinh Boon						Park Hinh boon	Hinh Boon	2001		Rain Gauge		

No.	Names of Stations	Station Indices		Locations							Year installed	Station Type	Communication means
		WMO	OACI	Latitude	Longitude	Altitude (m)	Village	District					
XIV	Savannakhet province												
1	Savannakhet	48947	VLSK	16°33'	104°45'	144	Xai Oudom	Khanh Thabouly				Synoptic station	HF Radio + Telephone
2	Seno	48948	VLSO	16°40'	105°00'	185	Seno	Outhoum phorn				Synoptic station	Telephone
3	Sepone	48949	VLSP	16°43'	106°12'	170	Xepone	Xepone			1999	Climatic station	HF Radio
4	Ath Saphang Thong			16°42'	105°16'	158	Dong Hen	Athsaphangthong				Climatic station	HF Radio
5	Muang Phinh			16°32'	106°02'	185	Agriculture office	Muang Phinh				Rain Gauge	
6	Barn Dong			16°38'	106°25'	210	Dong	Xepone				Rain Gauge	
7	Kaeng Kork			16°27'	105°11'	130	Kaengkork	Champhorn				Rain Gauge	
8	Xonh nabouly			16°24'	105°21'	160	Phone Savang	Xonabouly				Rain Gauge	
9	Park Xong			16°13'	105°12'	173	Agriculture Office	Songkhorn				Rain Gauge	
10	Kaeng Ta Ngarn			16°05'	105°22'	153	Xebanghieng	Songkhorn				Rain Gauge	
11	Se Bang Nouane			16°01'	105°28'	139	Xenouane	Songkhorn				Rain Gauge	
12	None Charn			15°59'	105°45'	193	None Charn	Thapangthong				Rain Gauge	
13	Barn veun			17°03'	104°53'	145	Veun	Xaibouly				Rain Gauge	
14	Lao Souliga			16°37'	105°09'	154	Lao	Champhorn				Rain Gauge	
15	La Ha Nam			16°16'	105°16'	139	Lahanam	Songkhorn				Rain Gauge	HF Radio
16	Kaeng Ka Bao			16°48'	105°45'	163	Kaengkabao	Xaibouly				Rain Gauge	
17	Phone Phang			16°47'	105°10'	180	Phonephang	Athsaphangthong				Rain Gauge	
18	Barn Boung			16°58'	105°56'	225	Boung	Vilabouly				Rain Gauge	
19	Na Kout Charn			16°51'	105°19'	167	Nakoutcharn	Athsaphorn				Rain Gauge	

No.	Names of Stations	Station Indices		Locations							Year installed	Station Type	Communication means
		WMO	OACI	Latitude	Longitude	Altitude (m)	Village	District					
20	Pha Larn			16°39'	105°36'	162	Phalam	Phalamxai				Rain Gauge	
21	Muang Nong			16°22'	106°30'	237	Nong	Nong				Rain Gauge	
22	Tang Waii						Tang Waii	Xonabouty				Rain Gauge	
XV	Salavanh Province												
1	Salavanh	48952	VLSV	15°41'	106°26'	168	Lark Song	Salavanh			1980	Synoptic station	HF Radio + Telephone
2	Lao Ngarm			15°28'	106°10'	540	Lao Ngarm	Lao Ngarm			1980	Climatic station	
3	Khong sedone			15°36'	105°48'	156	Khong	Khongsedone			1991	Climatic station	HF Radio
4	Samouai						Samouai	Samouai			2000	Climatic station	
5	Kaeng Sim						Kaeng noy	Lakhorn pheng				Rain Gauge	
6	Ta Oi						Agriculture Office	Ta Oi				Rain Gauge	
7	Toum Larn						Agriculture Office	Toum Larn				Rain Gauge	
8	Va pee						Agriculture Office	Vapy				Rain Gauge	
XVI	Champasack Province												
1	Park Se	48955	VLPS	15°07'	105°47'	102	Sapharn Xai	Parkse			1909	Synoptic station	Telephone
2	Park Xong	48956	V LPG	15°14'	106°20'	1200	Parkxong	Park Xong			1983	Climatic station	Telephone
3	Lark 42			15°11'	106°09'	1160	Lark 42	Park Xong			1986	Climatic station	
4	Nikhom Lark34			15°10'	106°24'	1120	Chanh savang	Park Xong			1983	Climatic station	
5	SouKhouma			14°39'	105°47'	90	Soukhouma	Soukhouma			1989	Climatic station	
6	Muang Khong	48959	V LKG	14°07'	105°50'	76	Hathxaiikhoon	Khong			1999	Climatic station	HF Radio
7	Barn Eetou Lark 35			15°10'	106°35'	890	Eetou	Park Xong				Climatic station	

No.	Names of Stations	Station Indices		Locations						Year installed	Station Type	Communication means
		WMO	OACI	Latitude	Longitude	Altitude (m)	Village	District				
8	Xae La Bam			15°22'	105°50'	116	Xaelabam	Xanasornboon		Rain Gauge		
9	Vang Tao			15°08'	105°31'	125	Vangtao	Phonethong		Rain Gauge		
10	PathoumPhone			14°50'	105°56'	96	Tomo	Pathouraphorn		Rain Gauge		
11	Bachieng			15°15'	105°55'	220	Bachieng	Bachieng		Rain Gauge		
12	Champasack			14°54'	105°53'	95	Champasack	Champasack		Rain Gauge		
13	NongHinh			15°13'	105°53'	1255	Nonghinh	Park Xong		Rain Gauge		
14	Kasikam Lark 20			15°09'	105°57'	200	Lark 20	Bachieng		Rain Gauge		
15	Nong Tae			14°53'	105°42'	100	Nong Tae	Champasack		Rain Gauge		
16	MounLapamoak			14°20'	105°52'	95	Mounlapamoak	Mounlapamoak		Rain Gauge		
XVII	Sekong Province											
1	Sekong	48953	VLSG	15°20'	106°41'	143	Phia mai	La Marm	1988	Synoptic station	HF Radio + Telephone	
2	ThaTaeng	48954	VLTG	15°27'	106°22'	816	Thataeng neua	Tha taeng	2000	Climatic station		
3	Kaleum						Ka leum	Kaleum		Rain Gauge		
4	Chou La						Choula	Choula		Rain Gauge		
XVIII	Attoupeu Province											
1	Attoupeu	48957	VLAP	14°48'	106°50'	105	Phonsavang	Samakthixai	1980	Synoptic station	HF Radio	
2	Ka Gnark			14°41'	106°52'		Ka Gnark	Samakthixai		Rain Gauge		
3	Mitsamphanh						Mitsamphanh	Sanarnxai		Rain Gauge		
4	Done Ngew						Done Ngew	Xaisetha		Rain Gauge		

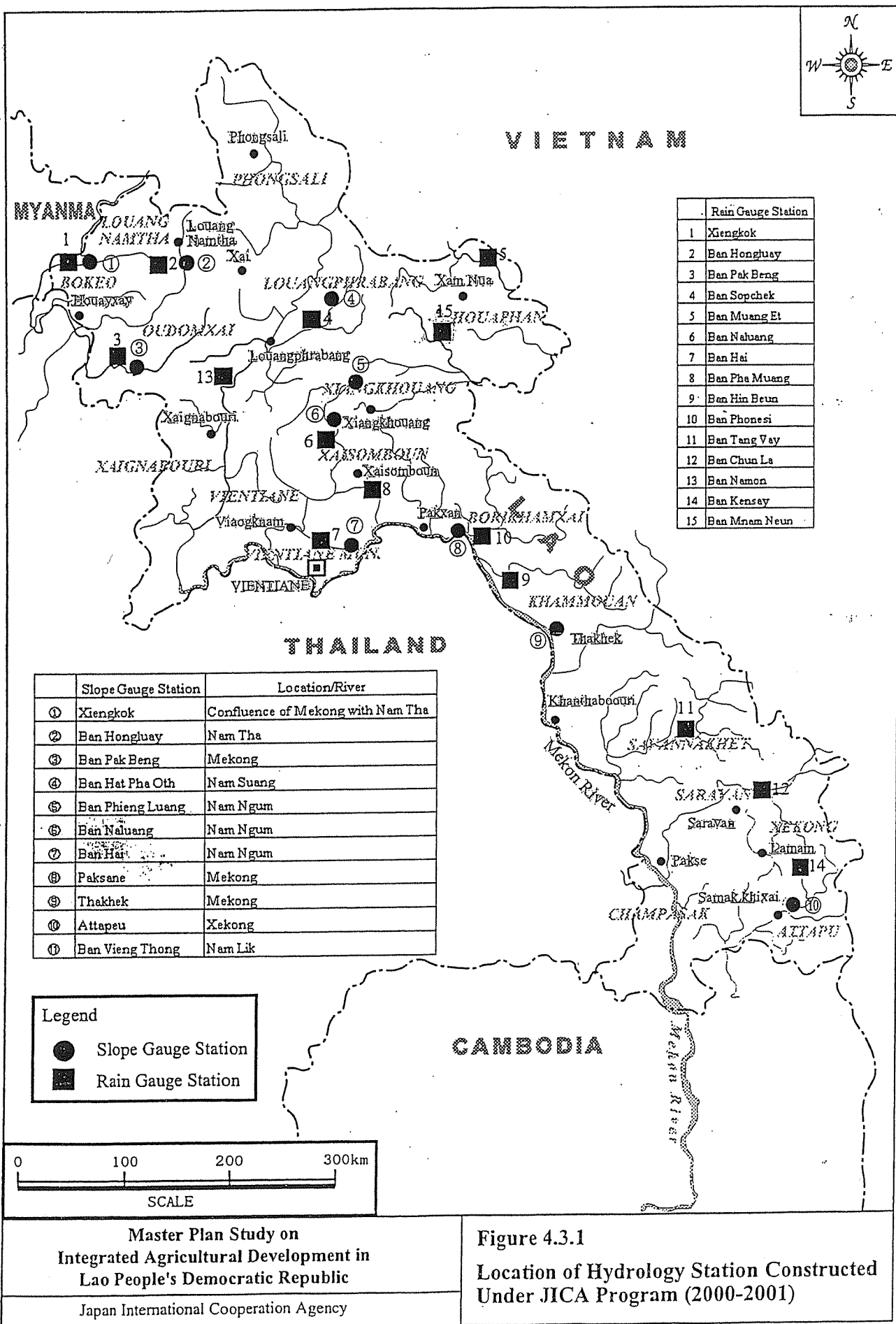
No.	Names of Stations	Station Indices		Locations					Year installed	Station Type	Communication means
		WMO	OACI	Latitude	Longitude	Altitude (m)	Village	District			
5	Pa Am			14°55'	107°02'		Pa Am	XamXai		Rain Gauge	
6	Vong Sam Phanh						Vongsamphanh	Phouvong		Rain Gauge	
7	Cha Leun xai						ChaleunXai	Xamxai		Rain Gauge	
8	EeToum						Eetoum	Phouvong		Rain Gauge	

Vientiane, date 28 / 2 / 2003

Chief of Meteorological Station Division



Singthong Pathoummady



Master Plan Study on
Integrated Agricultural Development in
Lao People's Democratic Republic
Japan International Cooperation Agency

Figure 4.3.1
Location of Hydrology Station Constructed
Under JICA Program (2000-2001)

Lao People's Democratic Republic
Peace Independence Democracy Unity Prosperity

Ministry of Agriculture and Forestry
Department of Meteorology and Hydrology

Daily Forecast

The general Weather condition at 07:00 (00:00 UTC) on 15/03/2003 :

An area of low pressure with medium intensity persisted over northern region of Laos , but the central and southern parts of country covered by ridge of high pressure with moderate intensity, where the associated northeasterly and westerly winds will be active over central of Lao PDR . As resulted in rain shower with occasionally thunderstorm .

The weather forecast from 12:00 (Local time) of 15/03/2003 to 12:00

(Local time) 16/03/2003:

Vientiane prefecture : Partly cloudy and temporary develop in after afternoon . The scattered thunders shower will occur in late afternoon . The minimum temperature about 21- 23 degree Celsius and the maximum temperature about 30 - 32 degree Celsius .

Northern part : Mostly cloudy , scattered thunders shower . With moderate thunders shower will occur at northwestern part . The minimum temperature about 16 - 19 degree Celsius and the maximum temperature about 30 - 32 degree Celsius .

Central and Southern parts: Partly cloudy and develop in late afternoon . The scattered thunders shower will occur at some place . The temperature will be highest during day time . The minimum temperature about 21- 23 degree Celsius and the maximum temperature about 30 - 32 degree Celsius . For Paksong district the minimum temperature about 12- 14 degree Celsius and the maximum temperature about 23 - 25 degree Celsius.

Observation Data on 15/03/2003 :

On 15/03/2003 the weather observed : Partly cloudy and develop in late afternoon and on 15:30 Hours (local time) occurred thunders shower with gust wind . North northwest direction about 320 degree and surface wind speed about 10 meters per second and total precipitation measured 00.5 millimeter (these data observed at Department of Meteorology and Hydrology station) . At north northeast of Sikhotabong district the wind speed

estimated more than 20 meters per second and precipitation during that time more than 20 millimeters.

The weather condition during the occurrence of strong wind at station of DMH , recorded as follow :

08:30 32020 8000 TS Sct023 Few 030 / N BKN100 26/20 1011

If compared the released daily forecast with the occurrence of strong wind with thunders shower on the 15/03/2003 , it indicated that the accuracy of daily weather forecast is very low percentage due to the lack of suitable observation means such as Doppler weather radar.