THE REPUBLIC OF THE PHILIPPINES

DEPARTMENT OF PUBLIC WORKS AND HIGHWAYS

THE MASTER PLAN STUDY ON THE SMALL WATER IMPOUNDING MANAGEMENT (SWIM) PROJECTS

ANNEX

MARCH 1990

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

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ANNEX A INVENTORY OF SWIM PROJECTS FOR MASTER PLAN STUDY

1. INVENTORY OF THE PROPOSED SWIM PROJECTS

The lists of all the SWIM projects which have been identified and/or studied by each agency were collected. The inventory of the SWIM Projects was prepared (see Tables A.1.1 to A.1.2), by grouping into the following two categories:

(1) Candidate projects for the formulation of master plan, and

(2) Candidate projects for the post-evaluation study on the constructed and under-construction projects.

1.1 Candidate Projects for Master Plan

The total number of candidate projects for the formulation of master plan is 501 (see Fig.A.1.1 LOCATION MAP). In terms of implementing agency and present status of the projects; before-feasibility study(Pre-F/S), after-feasibility study(F/S) and detailed design(D/D), the number of the proposed projects is broken down as shown below:

Unit : nos.

Implementing Agency	Present Status			Total
	Pre-F/S	F/S	D/D	
DPWH	15	4	14	33
NIA	198	-	15	213
FMB	56	-	-	56
NEA	14	22	11	47
BSWM	-	-	152	152
Total	283	27	191	501

Note: Since FSDC was abolished in January 1988, the projects which has been formerly managed by FSDC are included in the category of DPWH(PMO-SWIM).

1.2 Candidate Projects for Post-Evaluation Study

The total number of constructed and under-construction projects is 49, of which 32 projects have been constructed (see Fig.A.1.2 LOCATION MAP) and the remaining 17 projects are under construction. These projects are broken down by each implementing agency as shown below:

Unit : nos.

Implementing Agency	Constructed		Under construc-tion	Total
	Functioning	Damaged		
DPWH	5	5	2	12
NIA	1	-	2	3
FMB	3	-	5	8
NEA	2	-	1	3
BSWM	6	-	4	10
FSDC	10	-	3	13
Total	27	5	17	49

Note: PMO-SWIM of DA is managing the under-construction projects in place of FSDC.

2. AVAILABLE DATA AND REPORTS

The data and reports relating to the SWIM Projects were collected from each agency. The present status of each project, and the availability of report in each agency are summarized below:

Unit : nos.

Implementing Agency	Present Status			Total
	Pre-F/S	F/S	D/D	
DPWH	15 (0)	4 (4)	14 (13)	33 (17)
NIA	198 (1)	-	15 (14)	213 (15)
FMB	56 (15)	-	-	56 (15)
NEA	14 (10)	22 (22)	11 (11)	47 (43)
BSWM	-	-	152(145)	152(145)
Total	283 (26)	27 (26)	191(183)	501(235)

Note: Parenthesized figure shows the number of the projects supported with designs and reports.

As seen from the above, the number of "the before F/S projects" is 283, or 56% of all the candidate projects. Of this, only 26 projects are supported with technical reports, and the remaining 257 projects are lacking in sufficient data and information for the master plan study. Considering this fact, the additional survey for 96 "before F/S projects" which are shown below, was made under the JICA Master Plan Study from December 1988 to March 1989.

Unit: nos.

Implementing Agency	Before F/S Projects without Data nor Reports	Before F/S Projects Surveyed by JICA
DPWH	15	10
NIA	197	70
FMB	41	12
NEA	4	4
BSWM	0	0
Total	257	96

In addition to the above reports for the projects, the following data relevant to the SWIM Projects were collected:

(1) Meteo-hydrological data in the Philippines and results of hydrological analysis made in the past nationwide development projects or river basin development projects

(2) Topographic maps, geological maps, soil maps, of the Philippines

(3) Statistical data relating to regional/national socio-economy

(4) Design criteria and other technical guidelines used by each agency

3. CANDIDATE PROJECTS FOR THE STUDY

3.1 Candidate Projects for the Master Plan Study

The number of projects proposed by SWIM-TWG is 501, which include all the SWIM projects proposed by each agency. During the course of the Study, all the projects are dealt with as candidate projects for the Study.

3.2 Candidate Projects for the Post-evaluation Study

The number of completed and under-construction projects is 49 in total. Of these only completed projects were taken up for post-evaluation study. The number of the constructed projects is 32, and their location is shown in Fig.A.1.2. In order to select the projects for post-evaluation study, the following factors were taken into consideration:

(a) Implementing agency
(b) Location (Region)
(c) Scale of dam
(d) Purpose of the project
(e) Present condition (function, damaged or washed out)
(f) Availability of the existing data
(g) Security in and around the project site

After thorough the examination of each project, 10 completed projects were selected as tabulated below:

No.	Project Name	Agency	Region	Present Condition
1.	Ilihan SWIP	NIA	VII	functioning
2.	Darapidap SWIP	BSWM	II	functioning
3.	Malinao SWIP	BSWM	VIII	functioning
4.	Pasig Timbu Watershed	FMB	III	functioning
5.	Mantayupan Falls SWIP	NEA	VII	functioning
6.	Bacnotan SWIP	FSDC	I	functioning
7.	Porac Dam	DPWH	III	washed out
8.	Kirong Dam	DPWH	III	damaged
9.	San Ramon Dam	DPWH	III	functioning
10.	Calanggaman SWIP	DPWH	VII	functioning

4. CLASSIFICATION OF CANDIDATE SWIM PROJECTS

4.1 Method of Data Arrangement

The fundamental basic data of 501 candidate SWIM projects were selected from the existing relevant reports and designs and arranged for the further study, according to the following steps:

(1) to prepare a "Project Format" (see Fig.A.4.1),

(2) to fill up the "Project Format", by transferring the data and information from the existing reports, and

(3) to computerize the said data and information of the "Project Format" and to constitute database.

Some essential data of the projects are shown in Table A.1.1. The candidate SWIM projects were classified into groups by various categories. The results are shown hereunder.

4.2 Classification by Implementing Agency

As mentioned in the previous section, total number of proposed SWIM projects is 501, of which 331 projects including 96 projects which had been additionally surveyed, are supported with data and/or reports. Those projects are classified by each implementing agency and by project status as shown below:

Unit : nos.

Implementing Agency	Present Status			Total
	Pre-F/S	F/S	D/D	
DPWH	15 (10)	4 (4)	14 (13)	33 (27)
NIA	198 (71)	-	15 (14)	213 (85)
FMB	56 (27)	-	-	56 (27)
NEA	14 (14)	22 (22)	11 (11)	47 (47)
BSWM	-	-	152(145)	152(145)
Total	283(122)	26 (26)	192(183)	501(331)

Note: Parenthesized figure shows the number of the projects supported with designs and reports.

NIA has the largest number of projects, followed by BSWM, FMB, NEA and DPWH.

4.3 Classification by Region

All the proposed SWIM projects are classified by their located region

as shown below (see also Fig.A.4.2):

Unit : nos.

Implement. Agency	REGION I	II	CAR.	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Total
DPWH	6	5	1	3	5	2	2	1	2	1	-	2	3	33
NIA	19	-	11	30	8	35	1	59	26	2	13	-	9	213
FMB	8	10	-	7	12	2	1	3	3	4	2	2	2	56
NEA	5	1	-	6	8	11	3	6	3	-	-	2	2	47
BSWM	25	28	6	17	5	5	8	13	10	7	10	9	9	152
TOTAL	63	44	18	63	38	55	15	82	44	14	25	15	25	501

Although the SWIM projects are distributed to all the regions, their distribution is not always well-balanced. The distribution density of the projects, which is calculated by dividing the number of the projects by the land area of each region, is higher in the regions V, VII, VIII and the regions of the Luzon island, as shown below.

Region	Area (km^2)	Number of Project (Nos.)	Project Density (Nos./1,000km^2)
I	21,568	63 (55)	2.9 (2.6)
II	36,403	62 (43)	1.7 (1.2)
III	18,231	63 (41)	3.5 (2.2)
IV	46,924	38 (25)	0.8 (0.5)
V	17,632	55 (33)	3.1 (1.9)
VI	20,223	15 (14)	0.7 (0.7)
VII	14,951	82 (50)	5.5 (3.3)
VIII	21,432	44 (21)	2.1 (1.0)
IX	18,685	14 (9)	0.7 (0.5)
X	28,328	25 (11)	0.9 (0.4)
XI	31,693	15 (14)	0.5 (0.4)
XII	23,293	25 (15)	1.1 (0.6)
TOTAL	299,363	501(331)	1.7 (1.1)

Note: (1) The figures in parenthesis indicate the projects currently supported by the studies and designs.
(2) CAR. Region is included in Region II.

The total number of the projects, presently supported with the existing studies and designs is 331, and those projects are distributed to each

region as shown below (see also Fig.A.4.2):

Unit : nos.

Implement. Agency	Region I	II	CAR.	III	IV	V	VI	VII	VIII	IX	X	XI	XII	Total
DPWH	6	3	1	3	5	2	1	0	2	0	0	1	3	27
NIA	15	0	0	11	3	14	1	34	6	1	0	0	0	85
FMB	5	4	0	4	5	1	1	1	1	1	1	2	1	27
NEA	5	1	0	6	8	11	3	6	3	0	0	2	2	47
BSWM	24	28	6	17	4	5	8	9	9	7	10	9	9	145
TOTAL	55	36	7	41	25	33	14	50	21	9	11	14	15	331

The distribution pattern of these projects is almost the same as that of all projects.

Further classification of the projects will be made only for those 331 projects which have the existing studies and designs.

4.4 Classification by Development Purposes

The projects are classified by their development purposes. Of 331 projects, 48 are single purpose projects, and the rest or 282 projects are multi-purpose oriented as shown below (see also Fig.A.4.2):

Unit : nos.

Implement. Agency	Main Purpose IR	WM	MH	WS	TOTAL	Incidental Purpose IR	IF	FC	WM	MH	WS
DPWH	24(-)	-	2(-)	1(-)	27 (-)	1	15	27	-	7	2
NIA	85(-)	-	-	-	85 (-)	-	14	85	-	9	1
FMB	-	27(-)	-	-	27 (-)	-	-	27	-	-	-
NEA	-	-	47(47)	-	47(47)	-	-	-	-	-	-
BSWM	144(-)	-	-	1(1)	145 (1)	-	142	142	144	-	-
TOTAL	253(-)	27(-)	49(47)	2(1)	331(48)	1	171	281	144	16	3

Note: IR: Irrigation; WM: Watershed management; IF: Inland fishery;
MH: Mini-hydro power; WS: Water supply;
Parenthesized figures show the number of single purpose projects.

All the projects proposed by NEA are single purpose (mini-hydropower), while almost all of the other projects are multi-purpose ones.

The projects proposed by NIA and BSWM are primarily geared to irrigation. The projects proposed by DPWH have also irrigation purpose; however, some projects have other main purposes such as mini-hydropower generation and water supply. The projects proposed by FMB are only for watershed management.

Flood control is the largest incidental purpose of the SWIM projects, irrespective of the implementing agencies. Other incidental purposes are; for DPWH, inland fishery, mini-hydropower and water supply; for NIA, inland fishery, mini-hydropower and water supply; for BSWM, inland fishery and watershed development.

4.5 Classification by Catchment Area

The projects are classified by the catchment areas at the proposed damsites as shown below (see also Fig.A.4.2):

Unit : nos.

Agency	Catchment Area (km^2)												Total
	0-10	10-20	20-30	30-40	40-50	50-60	60-70	70-80	80-90	90-100	>100	Unknown*	
DPWH	14	7	2	3	1	0	0	0	0	0	0	0	27
NIA	45	15	13	6	1	0	2	1	0	0	2	0	85
FMB	-	-	-	-	-	-	-	-	-	-	-	27	27
NEA	11	9	5	4	5	2	1	0	0	1	7	2	47
BSWM	144	0	0	0	0	0	0	0	0	0	0	1	145
TOTAL	214	31	20	13	7	2	3	1	0	1	9	30	331

Note: * no data available or not studied.

Most of the dams have small catchment areas in the range of $0.1km^2$ and $50km^2$; especially, all the BSWM projects have smallest group of the dams with the catchment area of less than $10km^2$.

4.6 Classification by Dam Height

The projects are also classified by structural height of the dams as shown below (see also Fig.A.4.2):

Unit : nos.

Agency	Dam Height (m)								Total
	0-5	5-10	10-15	15-20	20-25	25-30	30-35	Unknown*	
DPWH	0	1	6	10	7	3	0	0	27
NIA	2	8	8	4	21	38	4	0	85
FMB	0	0	0	0	0	0	0	27	27
NEA	39	0	1	0	0	0	0	7	47
BSWM	3	58	76	7	0	0	0	1	145
TOTAL	44	67	91	21	28	41	4	35	331

Note: * no data available or not studied.

The SWIM projects are defined as those dams with the structural height of less than 30m. However, in the case of some projects proposed by NIA, dam height exceeds this limit.

Almost all the projects proposed by NEA have low dams with the height of below 5m. The dam height of the BSWM projects are in the range of 5m and 15m, while those of DPWH projects are between 10m and 30m. The NIA dams are distributed in rather wide range of 10m and 35m. FMB projects are not classified with dam height, since their proposed projects facilities are only check dams and other structures.

4.7 Classification by Storage Capacity

The SWIM projects is also defined in terms of storage capacity as "those with storage capacity not exceeding 50 MCM". The following shows the classification of the projects by the storage capacity (see also Fig.A.4.2).

Unit : nos.

Agency	Storage Capacity (10^6 m^3)												Total
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	>10	Unknown*	
DPWH	16	7	1	0	1	0	1	0	0	0	1	0	27
NIA	28	19	13	6	5	2	3	3	0	1	5	0	85
FMB	-	-	-	-	-	-	-	-	-	-	-	27	27
NEA	-	-	-	-	-	-	-	-	-	-	-	47	47
BSWM	140	1	0	0	0	0	0	0	0	0	0	4	145
Total	184	27	14	6	6	2	4	3	0	1	6	78	331

Note: * no data available or not studied.

The storage capacity of the candidate projects is generally small, indicating below 4MCM. NEA has proposed the weir type dams which have no storage capacity. The largest storage capacity among the proposed projects is 32.7MCM of the Bayawan Communal Irrigation Project by NIA.

4.8 Classification by Embankment Volume

The embankment volume of the SWIM projects are rather small; almost all dams (97%) have embankment volume of less than 300,000m^3 as shown below (see also Fig.A.4.2). The largest embankment volume among the proposed projects is about 2.0 x 10^6m^3 of the Aulo River SWIP proposed by DPWH.

Unit : nos.

Agency	Embankment Volume (10^6 m^3)												Total
	0-0.1	-0.2	-0.3	-0.4	-0.5	-0.6	-0.7	-0.8	-0.9	-1.0	>1.0	Unknown*	
DPWH	12	11	3	0	0	0	0	0	0	0	1	0	27
NIA	43	27	8	4	2	1	0	0	0	0	0	0	85
FMB	-	-	-	-	-	-	-	-	-	-	-	27	27
NEA	-	-	-	-	-	-	-	-	-	-	-	47	47
BSWM	138	1	0	0	0	0	0	0	0	0	0	6	145
Total	193	39	11	4	2	1	0	0	0	0	1	80	331

Note: * no data available or not studied.

4.9 Classification by Development Scale

The proposed SWIM projects are also classified by irrigation area and installed capacity for mini-hydropower as indicators of their development scale.

(1) Irrigation Area

Irrigation is one of the important major purposes in the SWIM projects proposed by DPWH, NIA and BSWM. However, its development scale varies project by project as well as agency by agency. Proposed irrigation area in each agency is summarized below:

Agency	Irrigation Area (ha)		
	Average	Minimum	Maximum
DPWH	277	21	1,000
NIA	411	5	3,000
BSWM	79	10	530

The proposed projects are classified by irrigation area as presented below:

Unit : nos.

Agency	Irrigation Area (ha)											Total
	0-100	-200	-300	-400	-500	-600	-700	-800	-900	-1,000	>1,000	
DPWH	7	8	2	0	4	2	0	1	0	1	0	25
NIA	20	20	13	6	8	4	1	2	1	2	8	85
BSWM	124	16	2	1	0	1	0	0	0	0	0	144
TOTAL	151	44	17	7	12	7	1	3	1	3	8	254

(2) Installed Capacity

DPWH, NIA and NEA have proposed mini-hydropower generation in their

projects as one of development purposes. Proposed installed capacity by each agency is as shown below:

Agency	Installed Capacity (kW)		
	Average	Minimum	Maximum
DPWH	260	90	600
NIA	307	165	520
NEA	1,790	500	8,520

The installed capacity of the proposed projects is distributed as follows:

Unit : nos.

Agency	Installed Capacity (kW)												Total
	0-200	-500	-1000	-1500	-2000	-2500	-3000	-3500	-4000	-4500	-5000	>5000	
DPWH	5	3	1	0	0	0	0	0	0	0	0	0	9
NIA	3	5	1	0	0	0	0	0	0	0	0	0	9
NEA	0	1	18	7	9	5	2	2	0	0	1	2	47
Total	8	9	20	7	9	5	2	2	0	0	1	2	65

5. GENERAL FEATURES OF SWIM PROJECTS PROPOSED BY EACH AGENCY

General Features of the SWIM projects proposed by each agency are outlined hereunder (refer to Table A.1.1).

5.1 SWIM Projects Proposed by DPWH

The DPWH projects aim at uplifting the public welfare in rural areas, centering on the construction of small water impounding reservoirs in their development plans. Reflecting this basic policy, the DPWH projects are generally of multi-purposes nature, and include various activities in their

development plans which are suitable to the areas and will accelerate the rural economy.

The proposed dams is of medium scale like those of NIA, with the average dam height of 20m. The development scale of irrigation and mini-hydropower plans is also medium as compared with those projects proposed by NIA and NEA. Inland fishery is included in most of the proposed projects. The main feature of the DPWH projects are summarized as follows:

Item	Range	Average
Dam Type	Zoned Earthfill of reservoir type	
Dam Height(m)	10-29	20
Storage Capacity(MCM)	0.2-11	2.2
Irrigation Area(ha)	21-1,000	370
Install Capacity(kW)	90-900	260
Inland Fishery(ton/year)	10-1,470	460

Direct benefits are expected not only from main purposes, but also from incidental purposes except for flood control, because direct benefit from flood control is very nominal in consideration of small-scale reservoir capacity. Indirect benefits such as flood control, cost savings in health services, raising the income level of the farmers, recreational value of the dam, etc. are considered in formulation of the projects.

5.2 SWIM Projects Proposed by NIA

The NIA projects are mainly formulated as irrigation development projects to supply dependable water to the existing communal irrigation systems (CIS) and communal irrigation projects (CIP). Incidental purposes such as mini-hydropower and inland fisheries are included in some projects. The CIS and CIP are generally defined as follows:

Item	Irrigation Area	Status
CIS	less than 1,000 ha	existing system
CIP	less than 1,000 ha	before implementation

NIA has implemented CIS and formulated CIP so far in the whole Philippines by their own funds. Total irrigation service area covered by CIS is 709,000 ha which corresponds to 47 % of total irrigation service area, 1,524,000 ha, in the Philippines as of December 1987. Due to lack of regulating facilities upstream of service areas, all CIS suffer from shortage of irrigation water especially in the dry season. Under such situation, the SWIM projects are expected to be countermeasures for such problems by creating new water resources for the CIS and CIP.

The NIA projects are characterized as comparatively large-scale projects. The main feature of the projects are summarized as follows:

Item	Range	Average
Dam Type	Zoned earthfill of reservoir type	
Dam Height(m)	2 - 33	24
Storage Capacity(MCM)	0.01 - 33	3.2
Irrigation Area(ha)	5 - 3,000	410
Installed capacity(kW)	165-520	310

5.3 SWIM Projects Proposed by FMB

The purpose of FMB projects is watershed management accompanied by the incidental purpose of flood control.

Forest area in the Philippines is about 15.9 million hectares which corresponds to 53% of whole the country area. The forest area of 6.5 million hectares have been denuded by felling, shifting cultivation and forest fire. The Government of Philippines has promoted the reforestation projects and the conservation works for proper maintenance of the watersheds

through the SWIM program on a long-term basis.

The SWIM projects proposed by FMB mainly consist of three (3) measures; (i) engineering measure, (ii) vegetation measure, and (iii) the combination of these two measures (it is called vengineering measures). Engineering measures comprise the construction of infrastructures such as check dams, terraces, ripraps, etc., aiming at conserving soil, water, and forest resources. Vegetative measure means the reforestation works for the denuded areas in the watersheds.

The projects are implemented under the direct management of FMB. During the course of the implementation of projects, FMB employs the local people as labor force, giving them income generating opportunity.

The FMB are expected to generate following benefits.

(1) Flood mitigation
(2) Erosion control in the watershed
(3) Mitigating the fluctuation of river bed (sedimentation and scouring)
(4) Enforcement of water holding capacity in the watershed.

However, any direct benefit is not counted in the FMB projects, since such benefits are hard to quantify.

5.4 SWIM Projects Proposed by NEA

The NEA projects are formulated with a single purpose of mini-hydropower generation. The main features of the NEA projects are summarized as follows:

Item	Range	Average
Type of Dam	Concrete weir of run-of-river type	
Installed Capacity(kW)	not more than 5,000kW	1,800
Gross Head(m)	3-280	103

All the projects are of run-of-river type, not regulating the natural river flow by reservoir. The main component of the project facilities are as follows:

(1) Concrete weir and intake structure
(2) Power tunnel and forebay
(3) Surge-tank and penstock
(4) Power house and power plant
(5) Tailrace

Substation and transmission line are not included in the project components.

After the completion of the projects, all facilities are transferred to the Electrical Cooperatives who amortize the investment cost to NEA. The Cooperatives make O&M of the projects and supply electricity to the surrounding rural areas.

5.5 SWIM Projects Proposed by BSWM

The BSWM projects aim at small scale agricultural development in small river basins. The BSWM projects are conceived directly to serve the farmers who live in the small river basins and have not benefited from irrigation so far and are left behind economically. Various activities which are suitable to the areas and will accelerate the rural economy, are included in their development plans. The BSWM projects are therefore multi-purpose oriented centering on the small scale irrigation development. The main features of the BSWM projects are summarized as follows:

Item	Range	Average
Dam Type	Homogeneous earthfill of reservoir type	
Dam Height (m)	0.5-19	10
Storage Capacity (MCM)	0.01-1.1	0.2
Irrigation Area (ha)	10-530	80
Inland Fisheries (ton/year)	0.6-32	7
Watershed Development (ha)	12-690	100

The BSWM projects has incidental purpose of watershed development which will give another income-generating opportunity to the occupants already settled in the watershed areas as well as the re-settlers from the prospective reservoir areas.

TABLES

Table A.1.1 Inventory of Candidate SWIM Projects (1/10)
- DPWH -

No.	AGENCY No.	PROJECT NAME	REGION	PROVINCE	PROJECT STATUS	MAIN PURPOSE	INCIDENTIAL PURPOSES	ANNUAL RUNOFF (mm)	ANNUAL RAINFALL (mm)	CATCH-MENT AREA (km2)	EFFECTIVE STORAGE CAPACITY (m3)	RESER-VOIR AREA (ha)	DAM HEIGHT (m)	EMBANKMENT VOLUME (m3)	IRRI-GABLE AREA (ha)	INSTALLED CAPACITY (kW)	REFORES-TATION AREA (ha)	WATER SUPPLY CAPACITY (m3/day)	ANNUAL FISH PRODUCTION (ton)	PROJECT COST (pesos)	TOTAL BENEFIT (pesos)	IRR (%)
1	DPWH 1	SAYTAN DAM & RESERVIOR SWIP	1	LA UNION	D/D	IR	FC,IF,MH	1,502	1,805	4	284,000	3	24	134,000	100	120	0	0	144	13,436,000	2,984,000	24.2
2	DPWH 2	BOLO DAM & RESERVIOR SWIP	CAR.	KALINGA-APAYAO	D/D	IR	FC,IF,MH	1,687	1,678	19	1,400,000	26	17	208,600	430	178	0	0	335	21,495,000	7,775,000	32.6
3	DPWH 3	SACRIFICE VALLEY DAM	3	BATAAN	F/S	WS	FC,IF	1,166	2,326	6	182,000	5	19	121,980	0	0	0	409	259	8,969,060	2,191,000	51.9
4	DPWH 4	BULU DAM & RESERVIOR SWIP	3	BULACAN	D/D	IR	FC,IF,MH	1,846	1,911	47	11,120,000	158	28	135,680	1,000	120	0	0	115	32,537,000	21,041,000	34.0
5	DPWH 5	AILO RIVER MULTI-PURPOSE SWIP	3	NUEVA ECIJA	D/D	IR	FC,IF,MH	1,102	1,912	20	6,064,000	108	29	2,022,600	775	180	0	0	1,471	46,422,000	13,247,000	17.1
6	DPWH 6	TULARIQUIN DAM & RESERVOIR	4	PALAWAN	D/D	MH	FC,IF	2,410	1,604	32	1,910,000	29	25	197,000	0	600	0	0	1,139	21,184,000	4,580,000	16.0
7	DPWH 7	BURDEOS RIVER SWIP	4	QUEZON	D/D	IR	FC,IF,MH	2,109	3,834	15	730,000	13	19	221,643	250	400	0	0	768	21,623,000	7,707,000	25.3
8	DPWH 8	SAN JOSE DAM	4	RIZAL	D/D	IR	FC,IF	861	1,858	2	255,000	5	17	26,800	21	0	0	0	106	5,407,000	930,000	16.0
9	DPWH 9	CUBACUB DAM & RESERVOIR SWIP	4	RIZAL	D/D	IR	FC,MH	2,179	2,847	10	402,000	6	28	136,400	450	0	0	0	0	22,619,000	2,052,000	n.d.
10	DPWH 10	NABUA DAM & RESERVOIR SWIP	5	CAMARINES SUR	D/D	IR	FC,IF	n.d.	2,171	36	1,484,480	464	23	113,935	550	0	0	0	753	28,860,000	11,656,000	n.d.
11	DPWH 11	DERESMAC DAM & RESERVOIR SWIP	5	MASBATE	F/S	MH	FC,IR,WS,IF	2,018	1,851	28	2,350,000	49	22	119,500	200	250	0	800	288	26,576,000	7,269,000	34.3
12	DPWH 12	MACAGTAS DAM & RESERVOIR SWIP	8	NORTHERN SAMAR	D/D	IR	FC,IF	1,706	3,318	4	4,500,000	53	19	94,300	510	0	0	0	0	10,071,000	2,697,000	17.8
13	DPWH 13	SAN JUAN DAM	8	NORTHERN SAMAR	D/D	IR	FC,IF	1,705	3,318	1	1,700,000	20	20	111,550	210	0	0	0	0	9,498,000	1,310,000	12.6
14	DPWH 14	GUIMBA DAM & RESERVOIR SWIP	12	LANAO DEL SUR	D/D	IR	FC,IF,MH	2,679	2,800	3	488,100	12	16	26,860	60	90	0	0	259	6,748,000	2,405,000	33.1
15	DPWH 15	MAGPET DAM & RESERVOIR SWIP	12	NORTH COTABATO	D/D	IR	FC,MH,WS,IF	2,003	1,941	14	755,000	7	17	221,643	500	0	0	0	320	22,322,000	8,390,000	29.6
16	DPWH 16	BANAYAL DAM & RESERVOIR SWIP	12	NORTH COTABATO	F/S	IR	FC,MH	1,808	1,986	36	1,070,000	15	24	85,762	450	300	0	0	0	27,912,000	5,890,000	17.0
17	DPWH 17	ACOP & RESERVOIR SWIP	1	PANGASINAN	Pre-F/S	IR	FC,IF	2,194	2,388	9	434,000	6	12	31,950	200	0	0	0	10	8,892,560	2,500,000	21.5
18	DPWH 18	CALITLITAN DAM & RESERVOIR	1	PANGASINAN	Pre-F/S	IR	FC,IF	2,165	2,388	12	765,000	8	21	138,088	150	0	0	0	0	14,527,749	2,725,000	13.7
19	DPWH 19	KITA-KITA DAM & RESERVOIR	1	PANGASINAN	Pre-F/S	IR	FC,IF	2,253	2,388	9	351,000	10	12	25,789	150	0	0	0	0	6,651,337	1,189,000	12.8
20	DPWH 20	SALVACION DAM & RESERVOIR SWIP	1	PANGASINAN	Pre-F/S	IR	FC,IF	1,207	2,388	5	459,000	5	13	58,366	125	0	0	0	0	9,169,699	1,600,000	13.6
21	DPWH 21	SAN ANGEL DAM & RESERVOIR	1	PANGASINAN	Pre-F/S	IR	FC,IF	2,164	2,388	9	261,000	10	13	35,640	150	0	0	0	0	7,438,169	2,726,000	24.6
22	DPWH 22	LISTOS SWIP	6	ILOILO	Pre-F/S	IR	FC,IF	1,370	2,119	25	1,602,000	10	25	175,652	200	0	0	0	0	18,700,114	2,839,000	11.4
23	DPWH 23	SANTOR DAM	2	ISABELA	Pre-F/S	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	100	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
24	DPWH 24	CARMENCITA DAM	2	ISABELA	Pre-F/S	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	130	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
25	DPWH 25	ABIAN SWIP	2	NUEVA VIZCAYA	Pre-F/S	IR	FC,IF	1,241	1,230	6	1,386,000	5	20	75,074	100	0	0	0	0	9,291,396	892,000	6.1
26	DPWH 26	CATTEBAGAN SWIP	2	ISABELA	Pre-F/S	IR	FC,IF	966	1,926	5	292,500	7	11	35,494	130	0	0	0	0	7,247,708	851,890	8.4
27	DPWH 27	MALALINTA SWIP	2	ISABELA	Pre-F/S	IR	FC,IF	966	1,926	12	315,000	5	13	42,339	75	0	0	0	0	6,534,064	641,000	6.7
28	DPWH 28	CALUBAYAN SWIP	4	OCC. MINDORO	Pre-F/S	IR	FC,IF	3,387	2,013	15	504,000	8	20	162,676	200	0	0	0	0	16,856,725	2,895,000	12.9
29	DPWH 29	SAN RAFAEL SWIP	6	ANTIQUE	Recornais	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
30	DPWH 30	CONSOLACION SWIP	7	CEBU	D/D	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
31	DPWH 31	LANTAWAN SWIP	9	ZAMBOANGA DEL SUR	Recornais	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
32	DPWH 32	BANGERCHAN SWIP	11	DAVAO DEL NORTE	Recornais	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
33	DPWH 33	LIBASAN SWIP	11	DAVAO DEL NORTE	F/S	IR	FC,IF	n.d.	1,804	4	371,861	20	10	15,480	136	0	0	0	10	4,280,000	8,126,000	n.d.

Note: IR:Irrigation; FC:Flood Control; IF:Inland Fishery; MH:Mini-hydropower; WS:Water Supply
n.d.:no data available.

Table A.1.1 Inventory of Candidate SWIM Projects (2/10)
- NIA No.1 -

No.	AGENCY No.	PROJECT NAME	REGION	PROVINCE	PROJECT STATUS	MAIN PURPOSE	INCIDENTAL PURPOSES	ANNUAL RUNOFF (mm)	ANNUAL RAINFALL (mm)	CATCHMENT AREA (km2)	EFFECTIVE STORAGE CAPACITY (m3)	RESER-VOIR AREA (ha)	DAM HEIGHT (m)	EMBANKMENT VOLUME (m3)	IRRI-GABLE AREA (ha)	INSTALLED CAPACITY (kW)	REFORES-TATION AREA (ha)	WATER SUPPLY CAPACITY (m3/day)	ANNUAL FISH PRODUCTION (ton)	PROJECT COST (pesos)	TOTAL BENEFIT (pesos)	IRR (%)
1	NIA 1	BANILA SWIP	1	PANGASINAN	D/D	IR	FC,IF,MH	2,315	2,338	34	2,200,000	25	30	289,000	1,685	520	0	0	0	34,106,000	6,834,000	25.2
2	NIA 2	CABACANAN SWIP	1	ILOCOS NORTE	D/D	IR	FC,IF,MH	2,625	2,265	9	1,720,000	14	32	334,900	850	200	0	0	0	19,022,000	2,570,000	22.0
3	NIA 3	SAN CLEMENTE SWIP	3	TARLAC	D/D	IR	FC,IF,MH	3,621	3,310	27	1,970,000	20	33	439,000	1,160	480	0	0	2	48,486,000	11,025,000	15.0
4	NIA 4	PARPAGOJA SWIP (SCHEME-I)	4	ROMBLON	D/D	IR	FC,IF,MH	735	2,138	37	2,800,000	51	21	168,000	500	225	0	0	0	17,234,000	2,671,000	10.9
5	NIA 5	TAGUM-ANGAS SWIP	4	MARINDUQUE	D/D	IR	FC,IF,MH	1,392	1,657	25	2,746,000	26	32	131,300	520	300	0	0	0	28,749,000	n.d.	n.d.
6	NIA 6	POTOT SWIP (SCHEME-I)	5	MASBATE	D/D	IR	FC,IF,MH	n.d.	3,133	10	3,144,000	43	18	119,000	300	165	0	0	0	13,143,000	2,166,000	11.3
7	NIA 7	CARAMDAN SWIP	5	CAMARINES SUR	D/D	IR	FC,IF,MH	1,824	3,145	23	586,000	20	15	65,645	350	240	0	0	0	9,064,000	n.d.	n.d.
8	NIA 8	ALAPASCO SWIP	6	ILOILO	D/D	IR	FC,IF	1,192	2,068	8	3,950,000	62	21	224,000	680	0	0	0	0	12,941,000	2,022,000	15.0
9	NIA 9	NASIG-ID SWIP	7	NEGROS ORIENTAL	D/D	IR	FC,IF	1,433	1,275	10	466,000	6	30	160,900	500	0	0	0	0	30,056,000	5,218,000	12.0
10	NIA 10	DUMANJUG RONDA SWIP	7	CEBU	D/D			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
11	NIA 11	TUGAS SWIP	7	BOHOL	D/D	IR	FC,IF	582	1,486	5	2,080,000	18	33	445,000	250	0	0	0	0	11,215,000	1,675,000	10.5
12	NIA 12	ILAYA SWIP	7	BOHOL	D/D	IR	FC,IF	427	2,134	10	3,370,000	49	25	232,400	450	0	0	0	0	27,000,000	6,216,000	16.4
13	NIA 13	HIBULANGAN SWIP	8	NORTHERN LEYTE	D/D	IR	FC,IF,MH	1,807	2,095	40	21,180,000	249	24	398,560	3,000	450	0	0	0	82,831,000	16,572,000	14.0
14	NIA 14	SAGUDSURON SWIP (SCHEME-I)	8	NORTHERN SAMAR	D/D	IR	FC,IF	1,706	3,301	5	1,570,000	21	14	212,500	230	0	0	0	0	7,375,000	1,070,000	10.3
15	NIA 15	BUCACAO SWIP	9	ZAMBOANGA DEL SUR	D/D	IR	FC,IF,MH	1,101	2,618	23	1,630,000	25	26	68,500	410	180	0	0	0	14,972,000	3,270,000	13.5
16	NIA 16	DONGDONGLA SWIP	1	ILOCOS NORTE	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
17	NIA 17	BUCONG BALINGOAN SWIP	1	ILOCOS SUR	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
18	NIA 18	COMILLAS EXTENSION SWIP	1	ILOCOS SUR	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
19	NIA 19	SILAG PACANG SWIP	1	ILOCOS SUR	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
20	NIA 20	MALOYO SWIP	1	LA UNION	Pre-F/S	IR	FC,IF	2,536	2,436	29	5,409,000	85	23	100,300	430	0	0	0	0	24,450,000	7,582,000	24.0
21	NIA 21	MAGSIPING SWIP	1	LA UNION	Pre-F/S	IR	FC,IF	2,536	2,436	10	3,153,000	41	30	126,500	100	0	0	0	0	15,800,000	2,127,000	11.6
22	NIA 22	SAN FELIPE SWIP	1	LA UNION	Pre-F/S	IR	FC,IF	2,536	2,436	15	1,364,000	20	30	141,600	140	0	0	0	0	19,000,000	2,949,000	13.0
23	NIA 23	MACABATO SWIMP	1	LA UNION	Pre-F/S	IR	FC,IF	2,536	2,436	8	682,000	n.d.	30	55,000	60	0	0	0	0	8,420,000	1,206,000	12.0
24	NIA 24	BAYADAS SWIP	1	PANGASINAN	Pre-F/S	IR	FC,IF	2,466	2,319	62	2,400,000	30	30	304,200	1,250	0	0	0	0	54,800,000	10,126,000	13.6
25	NIA 25	MASIDEM SWIP	1	PANGASINAN	Pre-F/S	IR	FC,IF	2,504	2,319	12	1,957,000	28	30	82,000	440	0	0	0	0	21,790,000	5,456,000	21.7
26	NIA 26	OBOY-OBOY SWIP	1	PANGASINAN	Pre-F/S	IR	FC,IF	2,504	2,319	5	1,792,000	23	25	200,900	60	0	0	0	0	11,450,000	1,009,000	8.8
27	NIA 27	VEGA SWIP	1	PANGASINAN	Pre-F/S	IR	FC,IF	2,504	2,319	14	4,269,000	76	22	51,000	100	0	0	0	0	9,400,000	1,715,000	15.4
28	NIA 28	TOBOY SWIP	1	PANGASINAN	Pre-F/S	IR	FC,IF	2,504	2,319	73	4,655,000	69	30	111,000	2,000	0	0	0	0	45,150,000	18,211,000	25.9
29	NIA 29	ALIBENG SWIP	1	PANGASINAN	Pre-F/S	IR	FC,IF	2,504	2,319	11	1,730,000	26	30	127,000	250	0	0	0	0	22,440,000	3,576,000	14.7
30	NIA 30	LABAYUG SWIP	1	PANGASINAN	Pre-F/S	IR	FC,IF	2,504	2,319	22	1,832,000	24	30	114,000	960	0	0	0	0	30,780,000	8,131,000	22.2
31	NIA 31	DIGAP SWIP	1	PANGASINAN	Pre-F/S	IR	FC,IF	1,138	2,319	1	71,000	4	10	14,550	40	0	0	0	0	3,104,000	365,000	2.0
32	NIA 32	DIKET SWIP	1	PANGASINAN	Pre-F/S	IR	FC,IF	1,133	2,319	1	368,000	8	23	75,500	75	0	0	0	0	10,845,000	635,000	4.8
33	NIA 33	NAGTUPACAN SWIP	CAR.	ABRA	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
34	NIA 34	NAGTIPULAN SWIP	CAR.	ABRA	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
35	NIA 35	PALSIGUAN SWIP	CAR.	ABRA	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
36	NIA 36	ATOK CENTRAL SWIP	CAR.	BENGUET	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
37	NIA 37	KABANGAN SWIP	CAR.	BENGUET	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
38	NIA 38	SAGUBO SWIP	CAR.	BENGUET	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
39	NIA 39	TUBLAY CENTRAL SWIP	CAR.	BENGUET	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
40	NIA 40	PANDEY SWIP	CAR.	MT. PROVINCE	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
41	NIA 41	LAKE DANUM SWIP	CAR.	MT. PROVINCE	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
42	NIA 42	BURAYOK SWIP	CAR.	MT. PROVINCE	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
43	NIA 43	BAYANGAOAN SWIP	CAR.	MT.PROVINCE	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
44	NIA 44	LABANGAN RIVER SWIP	3	BATAAN	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
45	NIA 45	TANGILAD	3	BATAAN	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
46	NIA 46	CAPALANGAN-MAHIPON CIS	3	NUEVA ECIJA	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
47	NIA 47	MAYAMOT CIP	3	NUEVA ECIJA	Pre-F/S	IR	FC,IF	1,092	1,900	1	18,000	5	2	990	5	0	0	0	0	167,000	71,000	27.0
48	NIA 48	SAN FELIPE CIS	3	NUEVA ECIJA	Pre-F/S	IR	FC,IF	1,093	1,900	3	20,000	3	3	1,800	5	0	0	0	0	174,700	71,000	27.0
49	NIA 49	BAYOG CIS	3	NUEVA ECIJA	Pre-F/S	IR	FC,IF	2,066	1,900	10	7,706,000	149	28	81,000	230	0	0	0	0	13,460,000	4,365,000	25.0
50	NIA 50	AGUPALO ESTE CIP	3	NUEVA ECIJA	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
51	NIA 51	SAN ROQUE CIP	3	NUEVA ECIJA	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
52	NIA 52	STA. NINO III CIP	3	NUEVA ECIJA	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
53	NIA 53	MANTEVIDEO CIP	3	NUEVA ECIJA	Pre-F/S	IR	FC,IF	1,094	1,900	3	1,184,000	55	10	21,000	75	0	0	0	0	5,565,000	1,003,000	14.7
54	NIA 54	CABU CIP	3	NUEVA ECIJA	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.

NOTE: FC=Flood Control, IF=Inland Fishery, MH=Municipal Waterworks, WS=Water Supply

Table A.1.1 Inventory of Candidate SWIM Projects (3/10)
- NIA No.2 -

No.	AGENCY No.	PROJECT NAME	REGION	PROVINCE	PROJECT STATUS	MAIN PURPOSE	INCIDENTAL PURPOSES	ANNUAL RUNOFF (mm)	ANNUAL RAINFALL (mm)	CATCHMENT AREA (km2)	EFFECTIVE STORAGE CAPACITY (m3)	RESER-VOIR AREA (ha)	DAM HEIGHT (m)	EMBANKMENT VOLUME (m3)	IRRI-GABLE AREA (ha)	INSTALLED CAPACITY (kW)	REFORES-TATION AREA (ha)	WATER SUPPLY CAPACITY (m3/day)	ANNUAL FISH PRODUCTION (ton)	PROJECT COST (pesos)	TOTAL BENEFIT (pesos)	IRR (%)
55	NIA 55	DALAYAP SWIP	3	PAMPANGA	Pre-F/S	IR	FC,IF	1,157	1,843	1	9,500	3	20	48,900	55	0	0	0	0	4,844,000	315,000	5.2
56	NIA 56	BLISS II SWIP	3	PAMPANGA	Pre-F/S	IR	FC,IF	1,150	1,843	1	40,000	2	11	19,800	20	0	0	0	0	3,160,000	242,000	6.6
57	NIA 57	BIGBIGA CIS	3	TARLAC	Pre-F/S	IR	FC,IF	1,136	2,098	4	439,000	77	22	45,500	200	0	0	0	0	9,200,000	1,169,000	11.3
58	NIA 58	TANGCARANG CIP	3	TARLAC	Pre-F/S	IR	FC,IF	1,137	2,098	2	278,000	5	21	21,600	100	0	0	0	0	4,410,000	1,107,000	19.4
59	NIA 59	LAWACAMULAG CIP	3	TARLAC	Pre-F/S	IR	FC,IF	1,130	2,098	2	719,000	34	9	36,000	120	0	0	0	0	8,000,000	1,299,000	12.2
60	NIA 60	WESTERN ZARRICS SWIP	3	TARLAC	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
61	NIA 61	PAMALASAN CREEK SWIP	3	ZAMBALES	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
62	NIA 62	TUTO LANUM CREEK SWIP	3	ZAMBALES	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
63	NIA 63	NAMNEL RIVER SWIP	3	ZAMBALES	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
64	NIA 64	TABAO-TABAO RIVER SWIP	3	ZAMBALES	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
65	NIA 65	BACULI CREEK SWIP	3	ZAMBALES	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
66	NIA 66	TAGALED CREEK SWIP	3	ZAMBALES	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
67	NIA 67	BATANG CREEK SWIP	3	ZAMBALES	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
68	NIA 68	BATO CREEK SWIP	3	ZAMBALES	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
69	NIA 69	NAGLABUSAN CREEK SWIP	3	ZAMBALES	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
70	NIA 70	PATOCO RIVER & NAYOM RIVER	3	ZAMBALES	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
71	NIA 71	MAPANAW CREEK SWIP	3	ZAMBALES	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
72	NIA 72	MATIKIW SWIP	4	LAGUNA	Pre-F/S	IR	FC,IF	632	1,897	3	447,000	7	30	136,100	100	0	0	0	0	10,100,000	842,000	7.4
73	NIA 73	BAHI CIP	4	MARINDUQUE	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
74	NIA 74	QUINLOGAN RIVER SWIP	4	PALAWAN	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
75	NIA 75	SINGALONG SWIP	4	RIZAL	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
76	NIA 76	CAROLINA SWIP	4	ROMBLON	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
77	NIA 77	GABAWAN SWIP	4	ROMBLON	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
78	NIA 78	INOGMA-INARACTING CIP	5	ALBAY	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
79	NIA 79	ALLANG CIP	5	ALBAY	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
80	NIA 80	NAHULIGAN PASIG SWIP	5	CAMARINES SUR	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
81	NIA 81	RANGAS SWIP	5	CAMARINES SUR	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
82	NIA 82	ANIB SWIP	5	CAMARINES SUR	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
83	NIA 83	TINAWAGAN SWIP	5	CAMARINES SUR	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
84	NIA 84	GUINOBATAN CIP	5	CATANDUANES	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
85	NIA 85	COMACAYCAY CIP	5	CATANDUANES	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
86	NIA 86	PATURIC CIP	5	CATANDUANES	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
87	NIA 87	CANIURO CIP	5	CATANDUANES	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
88	NIA 88	PALAWIG CIP	5	CATANDUANES	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
89	NIA 89	BINALMAAN CIP	5	CATANDUANES	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
90	NIA 90	CASUOCAN CIP	5	CATANDUANES	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
91	NIA 91	HAWAN CIP	5	CATANDUANES	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
92	NIA 92	MARILIMA CIP	5	CATANDUANES	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
93	NIA 93	PALTA SWIP	5	CATANDUANES	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
94	NIA 94	PATABIG SWIP	5	CATANDUANES	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
95	NIA 95	SIMAMLA CIP	5	CATANDUANES	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
96	NIA 96	INBANUHAN CIP	5	MASBATE	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
97	NIA 97	DOMOROG SWIP	5	MASBATE	Pre-F/S	IR	FC,IF	1,512	1,851	5	1,147,000	21	22	57,500	120	0	0	0	0	11,270,000	1,680,000	12.3
98	NIA 98	BATONGAN CIP	5	MASBATE	Pre-F/S	IR	FC,IF	1,512	1,851	4	1,818,000	50	15	52,500	150	0	0	0	0	12,350,000	2,128,000	14.5
99	NIA 99	JAMORAWON CIP	5	MASBATE	Pre-F/S	IR	FC,IF	1,512	1,851	19	4,280,000	166	15	77,000	400	0	0	0	0	20,800,000	6,562,000	23.8
100	NIA 100	CABANDCALAN CIP	5	MASBATE	Pre-F/S	IR	FC,IF	1,512	1,851	28	12,485,000	231	22	70,700	200	0	0	0	0	12,900,000	3,212,000	22.3
101	NIA 101	POSTACON SWIMP	5	MASBATE	Pre-F/S	IR	FC,IF	1,512	1,851	7	4,928,000	95	22	89,000	250	0	0	0	0	19,550,000	3,842,000	17.1
102	NIA 102	PILI SWIMP	5	MASBATE	Pre-F/S	IR	FC,IF	1,512	1,851	4	727,000	36	10	24,000	80	0	0	0	0	6,200,000	1,320,000	14.2
103	NIA 103	BITO SWIMP	5	MASBATE	Pre-F/S	IR	FC,IF	1,512	1,851	30	1,404,000	33	15	49,000	200	0	0	0	0	13,000,000	3,224,000	21.9
104	NIA 104	RIZAL SWIMP	5	MASBATE	Pre-F/S	IR	FC,IF	1,512	1,851	4	2,479,000	21	23	65,200	120	0	0	0	0	10,400,000	1,588,000	14.4
105	NIA 105	TIGBAO SWIP	5	MASBATE	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
106	NIA 106	BONTOLAN SWIMP	5	MASBATE	Pre-F/S	IR	FC,IF	1,512	1,851	2	2,505,000	36	25	73,400	100	0	0	0	0	9,900,000	1,215,000	10.9
107	NIA 107	BORACAN SWIMP	5	MASBATE	Pre-F/S	IR	FC,IF	1,512	1,851	5	392,000	17	12	28,000	80	0	0	0	0	7,200,000	1,138,000	12.3
108	NIA 108	PINANGAKOGAN SWIMP	5	MASBATE	Pre-F/S	IR	FC,IF	1,512	1,851	12	14,066,000	198	30	143,000	250	0	0	0	0	19,750,000	3,584,000	16.9

Note: IR:Irrigation; FC:Flood Control; IF:Inland Fishery; MH:Mini-Hydropower; WS:Water Supply
n.d.:no data available.

Table A.1.1 Inventory of Candidate SWIM Projects (4/10)
- NIA No.3 -

No.	AGENCY No.	PROJECT NAME	REGION	PROVINCE	PROJECT STATUS	MAIN PURPOSE	INCIDENTAL PURPOSES	ANNUAL RUNOFF (mm)	ANNUAL RAINFALL (mm)	CATCHMENT AREA (km2)	EFFECTIVE STORAGE CAPACITY (m3)	RESER-VOIR AREA (ha)	DAM HEIGHT (m)	EMBANKMENT VOLUME (m3)	IRRI-GABLE AREA (ha)	INSTALLED CAPACITY (kW)	REFORES-TATION AREA (ha)	WATER SUPPLY CAPACITY (m3/day)	ANNUAL FISH PRODUCTION (ton)	PROJECT COST (pesos)	TOTAL BENEFIT (pesos)	IRR (%)
109	NIA 109	TIBU SWIMP	3	PAMPANGA	Pre-F/S	IR	FC,IF	1,789	1,953	30	6,522,000	98	30	121,500	740	0	0	0	0	27,500,000	11,481,000	26.2
110	NIA 110	BOTONG CIP	5	SORSOGON	Reconnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
111	NIA 111	IBINGAN SWIP	5	SORSOGON	Pre-F/S	IR	FC,IF	2,290	2,561	6	1,460,000	18	30	172,000	460	0	0	0	0	28,900,000	5,563,000	17.9
112	NIA 112	BAGASICO SWIP	7	BOHOL	Pre-F/S	IR	FC,IF	1,300	2,057	21	2,364,000	52	19	42,000	400	0	0	0	2	17,100,000	6,459,000	23.0
113	NIA 113	CABATANG SWIP	7	BOHOL	Reconnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
114	NIA 114	CAMBA-OL SWIP	7	BOHOL	Reconnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
115	NIA 115	CAYACAY SWIP	7	BOHOL	Reconnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
116	NIA 116	JUNAS SWIP	7	BOHOL	Reconnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
117	NIA 117	PROGRESO SWIP	7	BOHOL	Reconnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
118	NIA 118	UNTAGA SWIP	7	BOHOL	Reconnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
119	NIA 119	BONOT-BONOT SWIP	7	BOHOL	Pre-F/S	IR	FC,IF	1,300	1,792	13	11,693,000	173	30	105,000	300	0	0	0	0	21,100,000	5,585,000	22.0
120	NIA 120	CALINASAN SWIP	7	BOHOL	Pre-F/S	IR	FC,IF	1,320	1,792	3	833,700	13	30	78,000	100	0	0	0	0	11,000,000	1,791,000	14.4
121	NIA 121	MANDALO SWIP	7	BOHOL	Pre-F/S	IR	FC,IF	1,300	1,792	3	1,122,000	13	30	104,000	140	0	0	0	0	14,940,000	2,503,000	15.0
122	NIA 122	ABEJILAN SWIP	7	BOHOL	Pre-F/S	IR	FC,IF	1,300	2,057	12	202,000	3	30	102,000	30	0	0	0	0	7,226,000	579,000	9.4
123	NIA 123	BOYO-AN SWIP	7	BOHOL	Reconnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
124	NIA 124	CALAMINGAW SWIP	7	BOHOL	Reconnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
125	NIA 125	CAMBANE SWIP	7	BOHOL	Reconnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
126	NIA 126	CANDIJAY SWIP	7	BOHOL	Reconnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
127	NIA 127	CABAYAN SWIP	7	BOHOL	Reconnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
128	NIA 128	LUNGSOD-AN SWIP	7	BOHOL	Pre-F/S	IR	FC,IF	1,300	2,057	1	277,000	15	9	9,100	30	0	0	0	0	2,500,000	555,000	18.6
129	NIA 129	TUBOD SWIP	7	BOHOL	Reconnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
130	NIA 130	CATUNGAWAN SWIM	7	BOHOL	Pre-F/S	IR	FC,IF	1,300	2,057	4	774,000	13	25	77,000	130	0	0	0	0	13,450,000	2,465,000	16.3
131	NIA 131	LAPACAN SWIP	7	BOHOL	Pre-F/S	IR	FC,IF	1,300	1,791	9	591,000	37	9	41,500	150	0	0	0	0	8,670,000	2,870,000	24.8
132	NIA 132	TAYTAY SWIP	7	BOHOL	Pre-F/S	IR	FC,IF	1,300	1,791	3	822,000	30	13	22,000	110	0	0	0	0	8,200,000	2,077,000	19.6
133	NIA 133	ABACA SWIP	7	BOHOL	Pre-F/S	IR	FC,IF	1,300	1,555	5	1,749,000	27	23	70,000	200	0	0	0	0	14,700,000	3,996,000	22.0
134	NIA 134	CABIDIAN SWIP	7	BOHOL	Reconnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
135	NIA 135	CABULAO SWIP	7	BOHOL	Reconnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
136	NIA 136	CANDOL SWIP	7	BOHOL	Pre-F/S	IR	FC,IF	1,300	1,555	5	3,692,000	68	22	83,000	200	0	0	0	0	14,830,000	3,996,000	21.8
137	NIA 137	TALIBON SWIP	7	BOHOL	Pre-F/S	IR	FC,IF,WS	0	0	23	6,270,000	n.d.	21	231,000	1,000	0	0	0	0	100,000,000	15,800,000	15.4
138	NIA 138	SAN ISIDRO BANLASAN SWIP	7	BOHOL	Pre-F/S	IR	FC,IF	1,300	1,555	7	2,786,000	95	20	61,000	300	0	0	0	0	19,700,000	5,956,000	22.5
139	NIA 139	BANLASAN SWIP	7	BOHOL	Pre-F/S	IR	FC,IF	1,300	1,792	7	465,000	24	10	28,300	120	0	0	0	0	8,150,000	2,345,000	23.6
140	NIA 140	CABULIHAN SWIP	7	BOHOL	Reconnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
141	NIA 141	BIABAS SWIP	7	BOHOL	Pre-F/S	IR	FC,IF	1,300	1,555	6	485,000	23	10	25,000	110	0	0	0	0	7,200,000	2,168,000	20.5
142	NIA 142	BENLIN SWIP	7	BOHOL	Reconnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
143	NIA 143	BONG BONG SWIP	7	BOHOL	Reconnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
144	NIA 144	DITA SWIP	7	BOHOL	Reconnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
145	NIA 145	LUMANGOG SWIP	7	BOHOL	Reconnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
146	NIA 146	TIPOLO SWIP	7	BOHOL	Reconnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
147	NIA 147	KANASUHAN CIP	7	CEBU	Pre-F/S	IR	FC,IF	485	1,622	39	5,992,000	95	30	164,000	380	0	0	0	0	25,300,000	5,100,000	17.5
148	NIA 148	LUYANG CIP	7	CEBU	Pre-F/S	IR	FC,IF	485	1,622	32	982,000	14	27	77,000	230	0	0	0	0	16,950,000	3,215,000	16.0
149	NIA 149	DANAO CIP	7	CEBU	Pre-F/S	IR	FC,IF	485	1,622	50	2,623,000	39	30	73,200	430	0	0	0	0	25,550,000	6,035,000	19.0
150	NIA 150	TUNGKOD CIP	7	CEBU	Pre-F/S	IR	FC,IF	485	1,622	19	9,648,000	135	30	88,900	240	0	0	0	0	18,300,000	3,217,000	14.8
151	NIA 151	BAYAWAN CIP	7	NEGROS ORIENTAL	Pre-F/S	IR	FC,IF	1,409	1,932	321	32,692,000	526	30	527,000	2,185	0	0	0	0	111,575,000	27,271,000	17.2
152	NIA 152	MAAYOG-TUBIG CIP	7	NEGROS ORIENTAL	Pre-F/S	IR	FC,IF	1,595	1,932	8	1,455,000	37	25	78,600	180	0	0	0	0	12,500,000	2,288,000	17.2
153	NIA 153	MABINAY CIP	7	NEGROS ORIENTAL	Pre-F/S	IR	FC,IF	1,409	1,932	122	7,100,000	157	25	383,000	2,060	0	0	0	0	102,200,000	27,312,000	19.3
154	NIA 154	MASAPLOD CIP	7	NEGROS ORIENTAL	Pre-F/S	IR	FC,IF	1,545	1,932	5	2,273,000	27	30	78,000	130	0	0	0	0	10,550,000	1,696,000	13.0
155	NIA 155	GUIHULNGAN CIP	7	NEGROS ORIENTAL	Pre-F/S	IR	FC,IF	1,409	1,932	65	7,273,000	109	30	162,800	590	0	0	0	0	37,159,000	7,795,000	17.9
156	NIA 156	HIBAIYO SWIMP	7	NEGROS ORIENTAL	Pre-F/S	IR	FC,IF	1,409	1,932	18	1,832,000	24	30	212,600	530	0	0	0	0	42,450,000	7,028,000	14.4
157	NIA 157	NAGA-MANTUYOP CIP	7	NEGROS ORIENTAL	Pre-F/S	IR	FC,IF	1,595	1,932	11	2,481,000	34	30	219,000	250	0	0	0	0	22,250,000	3,147,000	12.2
158	NIA 158	SAN ANTONIO CIP	7	NEGROS ORIENTAL	Pre-F/S	IR	FC,IF	1,595	1,932	9	351,000	7	30	118,300	120	0	0	0	0	11,700,000	1,570,000	11.5
159	NIA 159	TAMBOLAN CIP	7	NEGROS ORIENTAL	Pre-F/S	IR	FC,IF	1,409	1,932	39	2,376,000	33	30	196,800	1,080	0	0	0	0	45,200,000	13,466,000	23.0
160	NIA 160	VALENCIA CIP	7	NEGROS ORIENTAL	Pre-F/S	IR	FC,IF	1,409	1,932	19	328,000	4	28	160,200	520	0	0	0	0	44,700,000	6,783,000	11.3
161	NIA 161	SENORA CIP	7	SIQUIJOR	Pre-F/S	IR	FC,IF	1,409	2,115	23	1,527,000	22	30	151,600	730	0	0	0	0	40,550,000	13,189,000	24.5
162	NIA 162	SIMACOLONG CIP	7	SIQUIJOR	Reconnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.

Table A.1.1 Inventory of Candidate SWIM Projects (5/10)
- NIA No.4 -

No.	AGENCY No.	PROJECT NAME	REGION	PROVINCE	PROJECT STATUS	MAIN PURPOSE	INCIDENTAL PURPOSES	ANNUAL RUNOFF (mm)	ANNUAL RAINFALL (mm)	CATCHMENT AREA (km2)	EFFECTIVE STORAGE CAPACITY (m3)	RESER-VOIR AREA (ha)	DAM HEIGHT (m)	EMBANKMENT VOLUME (m3)	IRRI-GABLE AREA (ha)	INSTALLED CAPACITY (kW)	REFORES-TATION AREA (ha)	WATER SUPPLY CAPACITY (m3/day)	ANNUAL FISH PRODUCTION (ton)	PROJECT COST (pesos)	TOTAL BENEFIT (pesos)	IRR (%)
163	NIA 163	TIGABAO CIP	7	SIQUIJOR	Pre-F/S	IR	FC,IF	1,596	2,115	5	383,000	6	30	61,000	80	0	0	0	0	8,600,000	1,446,000	14.2
164	NIA 164	LOTLOTAN SWIP	7	SIQUIJOR	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
165	NIA 165	DOMANJOG SWIP	7	SIQUIJOR	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
166	NIA 166	SONGCOLAN CIP	7	SIQUIJOR	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
167	NIA 167	BALACDAS CIP	8	EASTERN SAMAR	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
168	NIA 168	CATI-AN CIP	8	EASTERN SAMAR	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
169	NIA 169	STA. FE SWIP	8	EASTERN SAMAR	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
170	NIA 170	GUIBUANGAN CIP	8	EASTERN SAMAR	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
171	NIA 171	CANTUMCO SWIP	8	EASTERN SAMAR	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
172	NIA 172	CAPACIAGAN SWIP	8	EASTERN SAMAR	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
173	NIA 173	LAYOG-CASCROY CIP	8	EASTERN SAMAR	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
174	NIA 174	SUROK-NENA CIP	8	EASTERN SAMAR	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
175	NIA 175	STA. TOMAS SWIP	8	EASTERN SAMAR	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
176	NIA 176	NATO CIP	8	EASTERN SAMAR	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
177	NIA 177	SAN LUIS CIP	8	EASTERN SAMAR	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
178	NIA 178	TAFT CIP	8	EASTERN SAMAR	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
179	NIA 179	MACAGTAS SWIP	8	NORTHERN SAMAR	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
180	NIA 180	GALUTAN SWIP	8	NORTHERN SAMAR	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
181	NIA 181	JAZMINES CIP	8	SAMAR	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
182	NIA 182	NACOBI CIP	8	SAMAR	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
183	NIA 183	RAWIS CIP	8	SAMAR	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
184	NIA 184	BLANCA AURORA SWIP	8	SAMAR	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
185	NIA 185	STA. RITA CIP	8	SAMAR	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
186	NIA 186	MAHAYAHAY SWIP	8	SOUTHERN LEYTE	Pre-F/S	IR	FC,IF	1,818	2,761	7	221,000	4	30	117,000	335	0	0	0	0	22,225,000	5,151,000	18.5
187	NIA 187	BOGO-DONGAN SWIP	8	SOUTHERN LEYTE	Pre-F/S	IR	FC,IF	1,818	2,761	13	4,405,000	58	30	150,000	260	0	0	0	0	22,400,000	5,752,000	14.4
188	NIA 188	LAN-AGAN SWIM	8	SOUTHERN LEYTE	Pre-F/S	IR	FC,IF	1,818	2,760	3	3,003,000	45	30	141,000	110	0	0	0	0	16,350,000	1,549,000	9.9
189	NIA 189	PASANON SWIP	8	SOUTHERN LEYTE	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
190	NIA 190	KAMANSI-RIZAL SWIP	8	SOUTHERN LEYTE	Pre-F/S	IR	FC,IF	1,818	2,760	30	6,031,000	76	30	160,000	345	0	0	0	0	23,675,000	5,015,000	15.0
191	NIA 191	MERCEDES CIP	9	ZAMBOANGA CITY	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
192	NIA 192	BASAG CIS	10	AGUSAN DEL NORTE	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
193	NIA 193	BOMBON CIS	10	AGUSAN DEL NORTE	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
194	NIA 194	AMONTAY CIS	10	AGUSAN DEL NORTE	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
195	NIA 195	KITCHARAO CIS	10	AGUSAN DEL NORTE	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
196	NIA 196	CABANGALASAN CIP	10	BUKIDNON	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
197	NIA 197	DE LA PAZ CIS	10	MISAMIS OCCIDENTAL	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
198	NIA 198	TANGUB CIS	10	MISAMIS OCCIDENTAL	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
199	NIA 199	BALINGASAG CIP	10	MISAMIS ORIENTAL	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
200	NIA 200	BANGLAY CIP	10	MISAMIS ORIENTAL	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
201	NIA 201	BONOPOLAN CIP	10	MISAMIS ORIENTAL	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
202	NIA 202	GUMADO CIP	10	MISAMIS ORIENTAL	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
203	NIA 203	STA. ANA CIP	10	MISAMIS ORIENTAL	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
204	NIA 204	SOLANA CIP	10	MISAMIS ORIENTAL	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
205	NIA 205	BULOD SWIP	12	LANAO DEL NORTE	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
206	NIA 206	SALUG SWIP	12	LANAO DEL NORTE	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
207	NIA 207	BUSOK SWIP	12	SULTAN KUDARAT	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
208	NIA 208	MARBOL SWIP	12	SULTAN KUDARAT	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
209	NIA 209	MINO SWIP	12	SULTAN KUDARAT	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
210	NIA 210	BILA SWIP	12	SULTAN KUDARAT	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
211	NIA 211	CADEDANG SWIP	12	SULTAN KUDARAT	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
212	NIA 212	KALANDAGAN SWIP	12	SULTAN KUDARAT	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
213	NIA 213	PUTI SWIP	12	SULTAN KUDARAT	Recomnais			n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.

Note: IR:Irrigation; FC:Flood Control; IF:Inland Fishery; MH:Mini-hydropower; WS:Water Supply
n.d.:no data available.

Table A.1.1 Inventory of Candidate SWIM Projects (6/10)
- FMB -

No.	AGENCY No.	PROJECT NAME	REGION	PROVINCE	PROJECT STATUS	MAIN PURPOSE	INCIDENTAL PURPOSES	ANNUAL RUNOFF (mm)	ANNUAL RAIN-FALL (mm)	CATCH-MENT AREA (km2)	EFFECT. STORAGE CAPACITY (m3)	RESER-VOIR AREA (ha)	DAM HEIGHT (m)	EMBANK-MENT VOLUME (m3)	IRRIGA-TION AREA (ha)	IN-STALLED CAPACITY (kW)	REFORES-TATION AREA (ha)	WATER SUPPLY CAPACITY (m3/day)	ANNUAL FISH PRODUC. (ton)	PROJECT COST (pesos)	TOTAL BENEFIT (pesos)	IRR (%)
1	FMB 1	AMBUAYAN RIVER W.R.	1 ILOCOS SUR,BENGUET & LA UNION	Recomnais.	WM	FC		n.d.	n.d.	836	0	0	4	0	0	0	20000	0	0	320000000	n.d.	n.d.
2	FMB 2	LAOAG RIVER W.R.	1 ILOCOS NORTE	Recomnais.	WM	FC		n.d.	n.d.	1200	0	0	4	0	0	0	28800	0	0	459000000	n.d.	n.d.
3	FMB 3	ILOCOS NORTE METROPOLITAN F.R.	1 ILOCOS NORTE	Recomnais.	WM	FC		n.d.	n.d.	29	0	0	4	0	0	0	1710	0	0	28000000	n.d.	n.d.
4	FMB 4	LIDLIDDA WATERSHED F.R.	1 ILOCOS SUR	Recomnais.	WM	FC		n.d.	n.d.	12	0	0	4	0	0	0	740	0	0	11800000	n.d.	n.d.
5	FMB 5	NAGUILIAN RIVER W.R.	1 LA UNION,BENGUET	Pre-F/S	WM	FC		n.d.	3625	160	0	0	4	0	0	0	10000	0	0	290370000	n.d.	n.d.
6	FMB 6	LOWER AGNO RIVER W.R.	1 BENGUET PANGASINAN	Recomnais.	WM	FC		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
7	FMB 7	ALAMINOS W.R.	1 PANGASINAN	Recomnais.	WM	FC		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
8	FMB 8	MANGATAREM SUB-WATERSHED REHAB.	1 PANGASINAN	Recomnais.	WM	FC		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
9	FMB 9	DAMMIN RIVER W.R.	2 CAGAYAN	Recomnais.	WM	FC		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
10	FMB 10	DIADI RIVER W.R.	2 CAGAYAN,ISABELA & NUEVA VIZCAYA	Recomnais.	WM	FC		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
11	FMB 11	KASIBU RIVER W.R.	2 NUEVA VIZCAYA	Pre-F/S	WM	FC		n.d.	1978	111	0	0	4	0	0	0	8000	0	0	200430000	n.d.	n.d.
12	FMB 12	BAWA & WANGAG W.R.	2 CAGAYAN	Recomnais.	WM	FC		n.d.	n.d.	94	0	0	4	0	0	0	2300	0	0	36000000	n.d.	n.d.
13	FMB 13	KILKILING WATERSHED F.R.	2 CAGAYAN	Recomnais.	WM	FC		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
14	FMB 14	BOROBOS SPRING W.R.	2 NUEVA VIZCAYA	Recomnais.	WM	FC		n.d.	n.d.	6	0	0	4	0	0	0	380	0	0	5900000	n.d.	n.d.
15	FMB 15	STA. PRAXEDES W.R.	2 CAGAYAN	Recomnais.	WM	FC		n.d.	n.d.	6	0	0	4	0	0	0	250	0	0	5600000	n.d.	n.d.
16	FMB 16	CASECNAN W.R.	2 NUEVA VIZCAYA	Recomnais.	WM	FC		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
17	FMB 17	SINAPAOAN SUB-WATERSHED REHAB.	2 NUEVA VIZCAYA	Recomnais.	WM	FC		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
18	FMB 18	MANGA RIVER W.R.	2 NUEVA VIZCAYA	Recomnais.	WM	FC		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
19	FMB 19	MARIVELES W.R.	3 BATAAN	Recomnais.	WM	FC		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
20	FMB 20	PASIG-TIMBU POTRERO R.W.R.	5 PAMPANGA	Recomnais.	WM	FC		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
21	FMB 21	TANGBAD SUB-WATERSHED REHAB.	3 TARLAC	Recomnais.	WM	FC		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
22	FMB 22	O'DONNEL R.W.R.	3 TARLAC	Pre-F/S	WM	FC		n.d.	3702	127	0	0	4	0	0	0	7000	0	0	240450000	n.d.	n.d.
23	FMB 23	BALOG-BALOG W.R.	3 TARLAC	Recomnais.	WM	FC		n.d.	0	280	0	0	4	0	0	0	6800	0	0	107000000	n.d.	n.d.
24	FMB 24	MASINLOC W.R.	3 ZAMBALES	Recomnais.	WM	FC		n.d.	0	16	0	0	4	0	0	0	1110	0	0	15300000	n.d.	n.d.
25	FMB 25	TALAVERA W.R.	3 NUEVA ECIJA	Recomnais.	WM	FC		n.d.	0	37	0	0	4	0	0	0	0	0	0	192500000	n.d.	n.d.
26	FMB 26	LAGUNA DE BAY W.R.	4 LAGUNA,CAVITE,RIZAL & BATANGAS	Recomnais.	WM	FC		n.d.	0	2945	0	0	4	0	0	0	30000	0	0	478000000	n.d.	n.d.
27	FMB 27	AGOS RIVER W.R.	4 QUEZON	Recomnais.	WM	FC		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
28	FMB 28	ATIMONAN WATERSHED F.R.	4 QUEZON	Recomnais.	WM	FC		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
29	FMB 29	KALIWA R.W.R.	4 QUEZON - RIZAL	Recomnais.	WM	FC		n.d.	0	434	0	0	4	0	0	0	10400	0	0	166400000	n.d.	n.d.
30	FMB 30	KANAN R.W.R.	4 QUEZON	Recomnais.	WM	FC		n.d.	0	384	0	0	4	0	0	0	9400	0	0	147300000	n.d.	n.d.
31	FMB 31	LAKE BUHI-BARIT R.W.R.	5 CAMARINES SUR	Recomnais.	WM	FC		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
32	FMB 32	BACO-BUCAYAO W.R.	4 ORIENTAL MINDORO	Recomnais.	WM	FC		n.d.	0	n.d.	0	0	4	0	0	0	2250	0	0	35900000	n.d.	n.d.
33	FMB 33	ALABAT W.R.	4 QUEZON	Recomnais.	WM	FC		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
34	FMB 34	CALATRAVA-SAN ANDRES-SAN AGUSTIN F.R.	4 ROMBLON	Recomnais.	WM	FC		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
35	FMB 35	DIPACULAO W.R.	4 QUEZON	Recomnais.	WM	FC		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
36	FMB 36	DULANGAN SUB-WATERSHED E.C.	4 ORIENTAL MINDORO	Recomnais.	WM	FC		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
37	FMB 37	SABLAYAN WATERSHED PILOT	4 OCCIDENTAL MINDORO	Recomnais.	WM	FC		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
38	FMB 38	MALVAR MAUHAN W.R.	4 ORIENTAL MINDORO	Pre-F/S	WM	FC		n.d.	1930	18	0	0	4	0	0	0	1000	0	0	26220000	n.d.	n.d.
39	FMB 39	BINASAGAN YABO R.W.R.	5 CAMARINES SUR	Pre-F/S	WM	FC		n.d.	3403	5	0	0	4	0	0	0	250	0	0	6555000	n.d.	n.d.
40	FMB 40	ILOG-NIVARANGAN R.W.R.	7 NEGROS ORIENTAL	Recomnais.	WM	FC		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
41	FMB 41	PANAY-MAMBUSAO R.W.R.	6 CAPIZ	Pre-F/S	WM	FC		n.d.	4590	91	0	0	4	0	0	0	8000	0	0	170420000	n.d.	n.d.
42	FMB 42	SAN PEDRO ILAYA & CANSOBAY R.W.R.	7 DUERO	Recomnais.	WM	FC		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
43	FMB 43	CANDIJAY W.R.	7 BOHOL	Pre-F/S	WM	FC		n.d.	1423	23	0	0	4	0	0	0	2200	0	0	44320000	n.d.	n.d.
44	FMB 44	CATUBIG R.W.R.	8 NORTHERN SAMAR	Recomnais.	WM	FC		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
45	FMB 45	CANDACAN-TINANE-ULOT R.W.R.	8 EASTERN-WESTERN SAMAR	Recomnais.	WM	FC		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
46	FMB 46	PALOMPON WATERSHED F.R.	8 LEYTE	Pre-F/S	WM	FC		n.d.	2265	46	0	0	4	0	0	0	4000	0	0	84250000	n.d.	n.d.
47	FMB 47	CURUAN W.R.	10 ZAMBOANGA DEL NORTE	Recomnais.	WM	FC		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
48	FMB 48	SICCON W.R.	10 ZAMBOANGA DEL NORTE	Recomnais.	WM	FC		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
49	FMB 49	PASONANCA WATERSHED F.R.	9 ZAMBOANGA DEL SUR	Pre-F/S	WM	FC		n.d.	1212	106	0	0	4	0	0	0	3000	0	0	100255000	n.d.	n.d.
50	FMB 50	UBIANGAN R.W.R.	12 NORTH COTABATO	Recomnais.	WM	FC		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
51	FMB 51	KULAMAN RIVER WATERSHED F.R.	12 NORTH COTABATO	Pre-F/S	WM	FC		n.d.	2238	16	0	0	4	0	0	0	1000	0	0	24255000	n.d.	n.d.
52	FMB 52	LABANGAN W.R.	9 ZAMBOANGA DEL SUR	Recomnais.	WM	FC		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
53	FMB 53	UPPER SALIG W.R.	10 MISAMIS OCCIDENTAL	Recomnais.	WM	FC		n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
54	FMB 54	KINABIANGAN W.R.	10 AGUSAN DEL NORTE	Pre-F/S	WM	FC		n.d.	3115	51	0	0	4	0	0	0	3700	0	0	76345000	n.d.	n.d.
55	FMB 55	DIGOS RIPARAN R.W.R.	11 DAVAO DEL SUR	Pre-F/S	WM	FC		n.d.	1793	58	0	0	4	0	0	0	5500	0	0	114245000	n.d.	n.d.
56	FMB 56	BATUTO W.R.	11 DAVAO DEL NORTE	Recomnais.	WM	FC		n.d.	n.d.	n.d.	0	0	4	0	0	0	15600	0	0	249000000	n.d.	n.d.

Table A.1.1 Inventory of Candidate SWIM Projects (7/10)
- NEA -

No.	AGENCY No.	PROJECT NAME	REGION	PROVINCE	PROJECT STATUS	MAIN PURPOSE	INCIDENTAL PURPOSES	ANNUAL RUNOFF (mm)	ANNUAL RAINFALL (mm)	CATCHMENT AREA (km2)	EFFECTIVE STORAGE CAPACITY (m3)	RESERVOIR AREA (ha)	DAM HEIGHT (m)	EMBANKMENT VOLUME (m3)	IRRIGATION AREA (ha)	INSTALLED CAPACITY (kW)	REFORESTATION AREA (ha)	WATER SUPPLY CAPACITY (m3/day)	ANNUAL FISH PRODUCTION (ton)	PROJECT COST (pesos)	TOTAL BENEFIT (pesos)	IRR (%)
1	NEA 1	BARACBAC RIVER	1	PANGASINAN	D/D	MH		n.d.	2,214	19	0	0	3	0	0	1,200	0	0	0	16,666,000	n.d.	n.d.
2	NEA 2	CABALISIAN RIVER	1	PANGASINAN	F/S	MH		n.d.	2,116	28	0	0	3	0	0	1,890	0	0	0	20,121,000	n.d.	n.d.
3	NEA 3	SAN GABRIEL RIVER	1	LA UNION	F/S	MH		n.d.	2,312	48	0	0	5	0	0	2,800	0	0	0	37,033,000	n.d.	n.d.
4	NEA 4	POGO RIVER	1	LA UNION	F/S	MH		n.d.	2,275	29	0	0	5	0	0	750	0	0	0	8,983,000	n.d.	n.d.
5	NEA 5	PANSIAN RIVER	1	ILOCOS NORTE	D/D	MH		n.d.	2,099	10	0	0	4	0	0	540	0	0	0	10,833,000	n.d.	n.d.
6	NEA 6	SALAZA SWIP	3	ZAMBALES	F/S	MH		n.d.	3,685	31	0	0	3	0	0	3,200	0	0	0	45,708,000	n.d.	n.d.
7	NEA 7	CABALIAN RIVER	3	ZAMBALES	F/S	MH		n.d.	3,685	96	0	0	5	0	0	2,500	0	0	0	39,143,000	n.d.	n.d.
8	NEA 8	USULAN RIVER	3	NUEVA ECIJA	D/D	MH		n.d.	2,042	11	0	0	3	0	0	500	0	0	0	8,111,000	n.d.	n.d.
9	NEA 9	UDIAWAN RIVER	2	NUEVA VIZCAYA	D/D	MH		n.d.	4,620	31	0	0	5	0	0	1,890	0	0	0	19,388,000	n.d.	n.d.
10	NEA 10	BAGSIT RIVER	3	ZAMBALES	F/S	MH		n.d.	3,685	47	0	0	5	0	0	1,000	0	0	0	13,919,000	n.d.	n.d.
11	NEA 11	BANCAL RIVER	3	ZAMBALES	F/S	MH		n.d.	3,685	44	0	0	5	0	0	1,280	0	0	0	21,848,000	n.d.	n.d.
12	NEA 12	MAAPON RIVER	4	QUEZON	F/S	MH		n.d.	3,306	22	0	0	5	0	0	1,280	0	0	0	19,336,000	n.d.	n.d.
13	NEA 13	CAGAYCAY RIVER	5	CAMARINES SUR	F/S	MH		n.d.	2,338	41	0	0	3	0	0	960	0	0	0	18,650,000	n.d.	n.d.
14	NEA 14	TIGMAN RIVER	5	CAMARINES SUR	F/S	MH		n.d.	2,338	30	0	0	3	0	0	2,400	0	0	0	22,166,000	n.d.	n.d.
15	NEA 15	OSIAO RIVER	5	SORSOGON	D/D	MH		n.d.	3,592	9	0	0	5	0	0	2,100	0	0	0	22,172,000	n.d.	n.d.
16	NEA 16	ITBOG FALLS	5	CAMARINES SUR	F/S	MH		n.d.	2,280	1	0	0	3	0	0	750	0	0	0	7,654,000	n.d.	n.d.
17	NEA 17	SOWONG RIVER	5	CAMARINES SUR	F/S	MH		n.d.	2,437	7	0	0	3	0	0	1,890	0	0	0	21,679,000	n.d.	n.d.
18	NEA 18	BINAHUGAN RIVER	5	CAMARINES SUR	D/D	MH		n.d.	2,437	8	0	0	3	0	0	1,500	0	0	0	22,264,000	n.d.	n.d.
19	NEA 19	INARIHAN RIVER	5	CAMARINES SUR	D/D	MH		n.d.	2,338	54	0	0	5	0	0	960	0	0	0	14,101,000	n.d.	n.d.
20	NEA 20	RANGGAS RIVER	5	SORSOGON	F/S	MH		n.d.	3,024	4	0	0	3	0	0	750	0	0	0	8,379,000	n.d.	n.d.
21	NEA 21	RANGGAS RIVER	5	CAMARINES SUR	F/S	MH		n.d.	2,338	9	0	0	3	0	0	2,400	0	0	0	33,998,000	n.d.	n.d.
22	NEA 22	MANITOHAN RIVER	5	ALBAY	F/S	MH		n.d.	1,850	16	0	0	3	0	0	1,890	0	0	0	34,367,000	n.d.	n.d.
23	NEA 23	SIBULAN RIVER	5	SORSOGON	D/D	MH		n.d.	3,592	2	0	0	3	0	0	600	0	0	0	7,083,000	n.d.	n.d.
24	NEA 24	MARAGANDANG RIVER	6	NEGROS OCCIDENTAL	D/D	MH		n.d.	2,500	6	0	0	4	0	0	1,890	0	0	0	24,367,000	n.d.	n.d.
25	NEA 25	DALANAS RIVER	6	ANTIQUE	D/D	MH		n.d.	3,771	132	0	0	3	0	0	2,500	0	0	0	37,641,000	n.d.	n.d.
26	NEA 26	TIBIAO RIVER	6	ANTIQUE	D/D	MH		n.d.	3,530	54	0	0	3	0	0	800	0	0	0	25,876,000	n.d.	n.d.
27	NEA 27	SILAB #2 (AMLAN RIVER)	7	NEGROS ORIENTAL	F/S	MH		n.d.	2,111	19	0	0	4	0	0	900	0	0	0	13,755,000	n.d.	n.d.
28	NEA 28	ANULOD RIVER II	7	NEGROS ORIENTAL	F/S	MH		n.d.	1,940	65	0	0	4	0	0	1,500	0	0	0	35,691,000	n.d.	n.d.
29	NEA 29	BALANAN LAKE	7	NEGROS ORIENTAL	F/S	MH		n.d.	2,111	7	0	0	12	0	0	3,200	0	0	0	28,817,000	n.d.	n.d.
30	NEA 30	CALO RIVER # 1	7	NEGROS ORIENTAL	F/S	MH		n.d.	2,582	11	0	0	3	0	0	1,600	0	0	0	23,886,000	n.d.	n.d.
31	NEA 31	CALO RIVER # 2	7	NEGROS ORIENTAL	F/S	MH		n.d.	2,582	13	2	0	4	0	0	1,600	0	0	0	25,732,000	n.d.	n.d.
32	NEA 32	CALO RIVER # 3	7	NEGROS ORIENTAL	F/S	MH		n.d.	2,582	14	0	0	4	0	0	1,280	0	0	0	24,833,000	n.d.	n.d.
33	NEA 33	BUGTONG FALLS	8	SAMAR	D/D	MH		n.d.	3,194	14	0	0	3	0	0	1,800	0	0	0	118,298,000	n.d.	n.d.
34	NEA 34	CANTINGAS RIVER SWIP	4	ROMBLON	Reconnais.	MH		n.d.	n.d.	42	0	0	n.d.	0	0	800	0	0	0	n.d.	n.d.	n.d.
35	NEA 35	CALABGAN RIVER SWIP	4	AURORA	Pre-F/S	MH		2,365	3,428	22	0	0	3	364	0	960	0	0	0	46,888,000	4,760,000	8.5
36	NEA 36	ESTRELLA FALLS SWIP	4	PALAWAN	Reconnais.	MH		n.d.	n.d.	n.d.	0	0	n.d.	0	0	1,000	0	0	0	n.d.	n.d.	n.d.
37	NEA 37	MANALILI RIVER SWIP	4	PALAWAN	Reconnais.	MH		n.d.	n.d.	n.d.	0	0	n.d.	0	0	900	0	0	0	n.d.	n.d.	n.d.
38	NEA 38	TARABANAN RIVER SWIP	4	PALAWAN	Reconnais.	MH		n.d.	n.d.	35	0	0	n.d.	0	0	800	0	0	0	n.d.	n.d.	n.d.
39	NEA 39	MAGCASA FALLS SWIP	8	SOUTHERN LEYTE	Reconnais.	MH		n.d.	n.d.	19	0	0	2	0	0	810	0	0	0	17,130,000	n.d.	n.d.
40	NEA 40	MAUD RIVER SWIP	8	NORTHERN SAMAR	Reconnais.	MH		n.d.	n.d.	112	0	0	n.d.	0	0	1,800	0	0	0	n.d.	n.d.	n.d.
41	NEA 41	TINUY-AN FALLS SWIP	11	SURIGAO DEL SUR	Reconnais.	MH		n.d.	n.d.	107	0	0	2	0	0	1,050	0	0	0	4,719,000	n.d.	n.d.
42	NEA 42	HUBO RIVER SWIP	11	SURIGAO DEL SUR	Pre-F/S	MH		4,835	4,328	133	0	0	5	7,057	0	5,600	0	0	0	146,183,000	24,510,000	16.0
43	NEA 43	KANAPNAPAN FALLS SWIP	12	LANAO DEL SUR	Reconnais.	MH		n.d.	n.d.	300	0	0	n.d.	0	0	3,000	0	0	0	n.d.	n.d.	n.d.
44	NEA 44	MAITLING RIVER SWIP	12	LANAO DEL SUR	Reconnais.	MH		n.d.	n.d.	300	0	0	3	0	0	5,000	0	0	0	n.d.	n.d.	n.d.
45	NEA 45	BONGABON RIVER SWIP	9	ORIENTAL MINDORO	Pre-F/S	MH		n.d.	1,930	190	0	0	5	2,470	0	8,520	0	0	0	501,723,000	63,300,000	12.2
46	NEA 46	DITUMABO RIVER SWIP	4	AURORA?	Pre-F/S	MH		3,407	3,311	6	0	0	5	370	0	800	0	0	0	44,034,000	5,880,000	12.0
47	NEA 47	BATALAN RIVER SWIP	3	BATAAN	Reconnais.	MH		n.d.	n.d.	37	0	0	n.d.	0	0	1,000	0	0	0	n.d.	n.d.	n.d.

Note: MH:Mini-hydropower, n.d.:no data available.

Table A.1.1 Inventory of Candidate SWIM Projects (8/10)
- BSWM No.1 -

No.	AGENCY No.	PROJECT NAME	REGION	PROVINCE	PROJECT STATUS	MAIN PURPOSE	INCIDENTAL PURPOSES	ANNUAL RUNOFF (mm)	ANNUAL RAINFALL (mm)	CATCH-MENT AREA (km2)	EFFECTIVE STORAGE CAPACITY (m3)	RESER-VOIR AREA (ha)	DAM HEIGHT (m)	EMBANKMENT VOLUME (m3)	IRRI-GATION AREA (ha)	INSTALLED CAPACITY (kW)	REFORES-TATION AREA (ha)	WATER SUPPLY CAPACITY (m3/day)	ANNUAL FISH PRODUCTION (ton)	PROJECT COST (pesos)	TOTAL BENEFIT (pesos)	IRR (%)
1	BSWM 1	SUCSUQUEN SWIP	1	ILOCOS NORTE	F/S(1983),D/D	IR	PC,IF,WD	530	1,903	1.1	156,662	4	14	28,000	30	0	108	0	4	1,346,000	579,000	41.5
2	BSWM 2	OLO-OLO I SWIP	1	ILOCOS SUR	F/S(1983),D/D	IR	PC,IF,WD	441	2,336	0.7	168,048	4	14	52,000	35	0	63	0	6	2,516,000	1,100,000	19.9
3	BSWM 3	OLO-OLO II SWIP	1	ILOCOS SUR	F/S(1983),D/D	IR	PC,IF,WD	442	2,336	0.7	68,549	1	12	32,000	30	0	68	0	3	1,827,000	1,470,000	28.4
4	BSWM 4	BALINGCAN SWIP	1	ILOCOS SUR	F/S(1983),D/D	IR	PC,IF,WD	557	2,336	0.4	165,025	3	16	46,000	50	0	32	0	3	1,224,000	587,000	21.0
5	BSWM 5	SAN CRISTOBAL SWIP	1	ILOCOS NORTE	F/S(1983),D/D	IR	PC,IF,WD	407	1,903	2.6	281,432	10	14	32,000	100	0	252	0	21	1,835,000	2,464,000	31.2
6	BSWM 6	SAN AGUSTIN SWIP	1	ILOCOS NORTE	F/S(1983),D/D	IR	PC,IF,WD	559	1,903	0.7	90,082	3	10	22,000	32	0	71	0	4	1,342,000	748,000	28.8
7	BSWM 7	BINGAO II SWIP	1	ILOCOS NORTE	F/S(1983),D/D	IR	PC,IF,WD	410	1,903	1.4	528,958	19	10	30,000	40	0	124	0	18	1,918,000	1,219,000	31.5
8	BSWM 8	ODA SWIP	1	PANGASINAN	F/S(1983),D/D	IR	PC,IF,WD	893	2,275	1.2	360,737	7	11	53,000	100	0	109	0	8	2,361,000	1,997,000	32.4
9	BSWM 9	PUGARO SWIP	1	PANGASINAN	F/S(1983),D/D	IR	PC,IF,WD	480	2,275	0.9	193,995	12	7	10,000	75	0	78	0	15	1,136,000	786,000	47.8
10	BSWM 10	PAMARANUM SWIP	1	PANGASINAN	F/S(1983),D/D	IR	PC,IF,WD	484	2,275	1.2	67,253	2	8	15,000	50	0	113	0	16	786,000	1,159,000	31.1
11	BSWM 11	CAPARISPISAN SWIP	1	ILOCOS NORTE	F/S(1983),D/D	IR	PC,IF,WD	1,324	1,903	0.6	140,707	3	10	31,000	50	0	59	0	6	1,623,000	999,000	20.6
12	BSWM 12	PATONG SWIP	1	ILOCOS SUR	F/S(1983),D/D	IR	PC,IF,WD	444	2,336	0.9	109,554	4	16	38,000	100	0	86	0	5	1,793,000	765,000	23.1
13	BSWM 13	SAMAG SWIP	1	ILOCOAS NORTE	F/S(1983),D/D	IR	PC,IF,WD	436	1,903	0.4	87,990	3	10	32,000	20	0	34	0	3	1,826,000	1,142,000	30.5
14	BSWM 14	MABINI SWIP	1	PANGASINAN	F/S(1983),D/D	IR	PC,IF,WD	647	2,275	1.0	159,683	2	10	13,000	80	0	100	0	7	1,278,000	978,000	27.6
15	BSWM 15	SAN GONZALO SWIP	1	PANGASINAN	F/S(1983),D/D	IR	PC,IF,WD	1,748	2,275	0.7	169,958	2	15	54,800	50	0	30	0	4	1,967,000	1,678,000	23.5
16	BSWM 16	CAMAGSINGALAN SWIP	1	PANGASINAN	F/S(1983),D/D	IR	PC,IF,WD	483	2,275	0.7	56,984	2	8	13,375	55	0	40	0	3	965,000	2,313,000	40.1
17	BSWM 17	BATAR SWIP	1	PANGASINAN	F/S(1983),D/D	IR	PC,IF,WD	837	2,275	0.6	329,656	4	14	32,800	50	0	0	0	6	1,601,000	2,439,000	35.2
18	BSWM 18	MALIMPIN SWIP	1	PANGASINAN	F/S(1983),D/D	IR	PC,IF,WD	826	2,275	2.6	169,869	6	10	23,500	100	0	127	0	10	1,396,000	4,497,000	39.7
19	BSWM 19	VIGA SWIP	1	PANGASINAN	F/S(1983),D/D	IR	PC,IF,WD	826	2,275	0.8	167,670	4	10	18,600	70	0	60	0	7	1,155,000	3,347,000	51.1
20	BSWM 20	CABUSAN	1	ILOCOS NORTE	F/S(1986),D/D	IR	PC,IF,WD	419	1,903	3.0	446,635	9	15	44,000	75	0	296	0	13	2,586,000	1,634,000	44.6
21	BSWM 21	MAGNIANG SWIP	1	ILOCOS NORTE	F/S(1986),D/D	IR	PC,IF,WD	396	1,903	0.4	126,887	4	12	32,000	30	0	51	0	4	1,960,000	978,000	24.0
22	BSWM 22	CAMAGSINGALAN #2 SWIP	1	PANGASINAN	F/S,D/D	IR	PC,IF,WD	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
23	BSWM 23	DAQUIOAG II SWIP	1	ILOCOS NORTE	F/S(1987),D/D	IR	PC,IF,WD	403	1,903	0.5	99,278	2	14	30,800	25	0	50	0	2	2,571,000	1,287,000	20.3
24	BSWM 24	SAN ANDRES SWIP	1	ILOCOS NORTE	F/S(1987),D/D	IR	PC,IF,WD	408	1,903	1.1	105,048	2	16	57,000	40	0	109	0	3	3,187,000	931,000	14.3
25	BSWM 25	PANINAAN SWIP	1	ILOCOS NORTE	F/S(1987),D/D	IR	PC,IF,WD	400	1,903	1.1	212,100	5	15	30,500	50	0	100	0	7	2,550,000	1,946,000	31.8
26	BSWM 26	SAN JUAN I SWIP	CAR.	ABRA	F/S(1988),D/D	IR	PC,IF,WD	544	2,366	0.1	97,637	1	12	26,000	25	0	12	0	1	2,173,000	300,000	19.0
27	BSWM 27	SAN JUAN II SWIP	CAR.	ABRA	F/S(1988),D/D	IR	PC,IF,WD	497	2,366	0.7	192,277	2	14	72,000	25	0	68	0	2	3,462,000	1,558,000	23.0
28	BSWM 28	MACARCARMAY SWIP	CAR.	ABRA	F/S(1988),D/D	IR	PC,IF,WD	550	2,366	0.8	56,921	1	1	27,500	60	0	74	0	1	2,487,000	1,485,000	28.3
29	BSWM 29	PATA SWIP	2	CAGAYAN	F/S(1983),D/D	IR	PC,IF,WD	1,375	2,216	0.6	29,609	1	1	17,700	100	0	0	0	1	1,188,000	905,000	27.1
30	BSWM 30	BALAQUIT SWIP	2	NUEVA VISCAYA	F/S(1983),D/D	IR	PC,IF,WD	1,047	2,038	0.9	102,242	3	10	9,500	100	0	86	0	6	973,000	1,300,000	41.9
31	BSWM 31	CABANNUNGAN SWIP	2	ISABELA	F/S(1983),D/D	IR	PC,IF,WD	1,391	2,038	1.8	254,220	12	7	30,600	70	0	168	0	14	1,519,000	2,789,000	43.2
32	BSWM 32	MARANA SWIP	2	ISABELA	F/S(1983),D/D	IR	PC,IF,WD	1,068	2,038	0.3	66,526	3	9	9,800	30	0	35	0	4	813,000	518,000	22.6
33	BSWM 33	CABULUAN SWIP	2	CAGAYAN	F/S(1983),D/D	IR	PC,IF,WD	892	1,746	1.9	371,049	8	12	50,084	100	0	177	0	6	2,652,000	1,386,000	17.8
34	BSWM 34	DIADI SWIP	2	NUEVA VIZCAYA	F/S(1983),D/D	IR	PC,IF,WD	1,000	2,038	5.6	44,777	4	8	32,000	65	0	553	0	7	1,863,000	865,000	21.6
35	BSWM 35	NAGANACAN SWIP	2	ISABELA	F/S(1983),D/D	IR	PC,IF,WD	842	1,746	3.1	167,451	6	11	17,300	80	0	305	0	10	2,034,000	2,067,000	21.0
36	BSWM 36	BALETE SWIP	2	NUEVA VIZCAYA	F/S(1983),D/D	IR	PC,IF,WD	1,014	2,038	1.4	17,453	2	8	8,000	20	0	142	0	4	810,000	31,000	31.5
37	BSWM 37	MINAGBAG	2	ISABELA	F/S(1983),D/D	IR	PC,IF,WD	889	1,746	0.6	193,684	4	11	34,600	60	0	59	0	6	1,948,000	770,000	17.6
38	BSWM 38	KIRANG SWIP	2	NUEVA VIZCAYA	F/S(1983),D/D	IR	PC,IF,WD	986	2,038	0.5	46,768	2	10	15,800	120	0	44	0	3	999,000	1,067,000	45.3
39	BSWM 39	LANNEG SWIP	2	CAGAYAN	F/S(1983),D/D	IR	PC,IF,WD	851	1,746	0.5	237,027	6	7	19,700	35	0	47	0	7	1,157,000	711,000	22.8
40	BSWM 40	SAN ANTONIO SWIP	2	NUEVA VIZCAYA	F/S(1983),D/D	IR	PC,IF,WD	941	2,038	0.8	188,255	5	10	34,000	100	0	80	0	7	1,686,000	1,693,000	42.0
41	BSWM 41	ABIAN SWIP	2	NUEVA VISCAYA	F/S(1983),D/D	IR	PC,IF,WD	1,068	2,038	0.2	78,215	2	10	14,500	40	0	16	0	3	1,142,000	627,000	18.5
42	BSWM 42	TRINIDAD SWIP	2	ISABELA	F/S(1983),D/D	IR	PC,IF,WD	1,065	1,746	2.6	140,487	5	9	37,600	50	0	254	0	8	2,061,000	1,275,000	20.7
43	BSWM 43	MALALAM SWIP	2	ISABELA	F/S(1983),D/D	IR	PC,IF,WD	955	2,038	0.8	373,000	7	11	21,000	70	0	68	0	7	1,233,000	485,000	21.6
44	BSWM 44	APANG SWIP	2	CAGAYAN CLAVERIA	F/S(1983),D/D	IR	PC,IF,WD	1,374	2,216	0.4	79,574	2	11	32,300	50	0	41	0	3	1,691,000	904,000	21.3
45	BSWM 45	ANNEG SWIP	2	ISABELA	F/S(1983),D/D	IR	PC,IF,WD	882	2,038	4.1	290,838	12	7	31,800	250	0	398	0	13	3,501,000	2,040,000	24.7
46	BSWM 46	VICTORIA SWIP	2	QUIRINO	F/S(1986),D/D	IR	PC,IF,WD	1,066	2,038	0.5	102,550	3	10	15,800	40	0	43	0	4	1,334,000	1,510,000	34.9
47	BSWM 47	SAN MARCOS SWIP	2	QUIRINO	F/S(1986),D/D	IR	PC,IF,WD	1,089	2,038	0.8	111,035	4	11	30,000	70	0	72	0	5	2,264,000	2,683,000	37.8
48	BSWM 48	SAN FRANCISCO SWIP	2	QUIRINO	F/S(1987),D/D	IR	PC,IF,WD	2,963	2,038	1.2	391,700	12	10	26,000	100	0	107	0	14	1,800,000	5,263,000	45.0
49	BSWM 49	STA FILOMENA SWIP	2	ISABELA	F/S(1986),D/D	IR	PC,IF,WD	1,012	2,038	0.2	58,040	3	7	4,333	15	0	22	0	3	621,000	550,000	30.9
50	BSWM 50	OLD SAN MARIANO	2	ISABELA	F/S(1986),D/D	IR	PC,IF,WD	1,014	2,038	0.6	46,480	2	11	18,000	20	0	58	0	2	1,419,000	1,256,000	27.1
51	BSWM 51	YEBAN SWIP	2	ISABELA	F/S(1986),D/D	IR	PC,IF,WD	997	2,038	0.9	213,300	5	13	38,000	55	0	80	0	7	2,690,000	2,196,000	32.1
52	BSWM 52	MINALLO SWIP	2	ISABELA	F/S(1986),D/D	IR	PC,IF,WD	989	2,038	0.7	365,775	10	14	46,000	50	0	60	0	15	3,244,000	1,981,000	25.6
53	BSWM 53	BAGUINGE SWIP	CAR.	IFUGAO	F/S(1986),D/D	IR	PC,IF,WD	n.d.	3,682	4.0	0	0	1	0	25	0	0	0	0	1,200,000	803,000	42.8
54	BSWM 54	BALOG SWIP	CAR.	IFUGAO	F/S(1986),D/D	IR	PC,IF,WD	n.d.	2,038	7.0	0	0	1	0	15	0	0	0	0	673,000	247,000	21.0

Table A.1.1 Inventory of Candidate SWIM Projects (9/10)
- BSWM No.2 -

No.	AGENCY No.	PROJECT NAME	REGION	PROVINCE	PROJECT STATUS	MAIN PURPOSE	INCIDENTAL PURPOSES	ANNUAL RUNOFF (mm)	ANNUAL RAINFALL (mm)	CATCH-MENT AREA (km2)	EFFECTIVE STORAGE CAPACITY (m3)	RESER-VOIR AREA (ha)	DAM HEIGHT (m)	EMBANKMENT VOLUME (m3)	IRRI-GATION AREA (ha)	INSTALLED CAPACITY (kW)	REFORES-TATION AREA (ha)	WATER SUPPLY CAPACITY (m3/day)	ANNUAL FISH PRODUCTION (ton)	PROJECT COST (pesos)	TOTAL BENEFIT (pesos)	IRR (%)
55	BSWM 55	PAKU SWIP	CAR. IFUGAO		F/S(1986),D/D	IR	FC,IF,WD	n.d.	2,038	0.5	0	0	1	0	10	0	0	0	0	187,000	225,000	35.7
56	BSWM 56	AFUSING DAGA SWIP	2	CAGAYAN	F/S(1987),D/D	IR	FC,IF,WD	932	1,746	1.3	421,600	8	14	50,000	80	0	117	0	7	2,975,000	1,598,000	24.2
57	BSWM 57	MASIN SWIP	2	CAGAYAN	F/S(1987),D/D	IR	FC,IF,WD	893	1,746	0.9	136,000	5	10	23,625	43	0	82	0	6	1,965,000	1,215,000	35.8
58	BSWM 58	CARALLANGAN SWIP	2	CAGAYAN	F/S(1987),D/D	IR	FC,IF,WD	1,024	2,216	0.4	133,412	4	13	30,000	38	0	36	0	5	2,491,000	875,000	17.2
59	BSWM 59	GANZANO SWIP	2	CAGAYAN	F/S(1987),D/D	IR	FC,IF,WD	1,026	2,216	1.0	250,369	6	13	50,740	40	0	89	0	9	3,594,000	1,933,000	25.0
60	BSWM 60	SAMPALOC SWIP	3	NUEVA ECIJA	F/S(1983),D/D	IR	FC,IF,WD	560	1,880	0.8	279,354	7	11	29,000	100	0	73	0	9	1,823,000	1,999,000	29.7
61	BSWM 61	STO. DOMINGO III SWIP	3	NUEVA ECIJA	F/S(1983),D/D	IR	FC,IF,WD	544	1,880	0.8	395,424	16	9	26,080	100	0	80	0	21	1,536,000	1,203,000	38.3
62	BSWM 62	MASAUPIT SWIP	3	BULACAN	F/S(1983),D/D	IR	FC,IF,WD	645	1,880	2.2	495,745	21	9	12,500	100	0	190	0	29	1,358,000	1,661,000	44.2
63	BSWM 63	VILLA BOADO SWIP	3	NUEVA ECIJA	F/S(1983),D/D	IR	FC,IF,WD	518	1,880	0.8	212,799	6	11	15,500	100	0	69	0	9	1,241,000	1,504,000	29.8
64	BSWM 64	BUTID SWIP	3	NUEVA ECIJA	F/S(1983),D/D	IR	FC,IF,WD	521	1,880	0.7	306,078	6	10	22,000	100	0	65	0	10	1,580,000	1,248,000	34.3
65	BSWM 65	MANINGOG SWIP	3	TARLAC	F/S(1983),D/D	IR	FC,IF,WD	1,248	1,909	2.0	42,302	1	14	23,300	50	0	199	0	2	1,437,000	1,150,000	25.6
66	BSWM 66	VILLA ISLA SWIP	3	NUEVA ECIJA	F/S(1983),D/D	IR	FC,IF,WD	516	1,880	0.8	227,278	11	8	17,500	100	0	70	0	14	1,056,000	1,346,000	61.9
67	BSWM 67	STA. CATALINA SWIP	3	NUEVA ECIJA	F/S(1983),D/D	IR	FC,IF,WD	507	1,880	0.4	154,717	4	11	29,000	50	0	32	0	5	1,731,000	803,000	23.8
68	BSWM 68	PULO SWIP	3	BULACAN	F/S(1983),D/D	IR	FC,IF,WD	567	1,880	0.8	94,030	4	11	39,000	50	0	71	0	4	1,649,000	799,000	22.1
69	BSWM 69	STO DOMINGO II SWIP	3	NUEVA ECIJA	F/S(1983),D/D	IR	FC,IF,WD	526	1,880	0.4	281,663	8	13	21,000	50	0	35	0	5	1,430,000	962,000	40.2
70	BSWM 70	BITUNGOL SWIP	3	BULACAN	F/S(1983),D/D	IR	FC,IF,WD	589	1,880	0.6	190,049	5	13	44,000	100	0	56	0	6	2,033,000	1,012,000	14.9
71	BSWM 71	MAASIN SWIP	3	NUEVA ECIJA	F/S(1983),D/D	IR	FC,IF,WD	542	1,880	2.4	367,690	9	11	42,500	100	0	277	0	16	2,962,000	1,771,000	24.9
72	BSWM 72	STO DOMINGO I SWIP	3	NUEVA ECIJA	F/S(1983),D/D	IR	FC,IF,WD	518	1,880	0.6	266,700	9	10	11,500	70	0	52	0	12	1,119,000	1,518,000	43.8
73	BSWM 73	MANGANDINGAY SWIP	3	NUEVA ECIJA	F/S(1983),D/D	IR	FC,IF,WD	473	1,880	0.5	202,132	5	11	44,000	80	0	45	0	6	1,678,000	1,297,000	31.9
74	BSWM 74	NAMULANDAYAN SWIP	3	NUEVA ECIJA	F/S(1987),D/D	IR	FC,IF,WD	687	1,880	7.2	1,098,613	27	19	30,200	400	0	693	0	32	5,282,000	3,680,000	51.9
75	BSWM 75	PARISTA SWIP	3	NUEVA ECIJA	F/S(1987),D/D	IR	FC,IF,WD	607	1,880	3.4	222,656	6	14	35,938	80	0	334	0	8	2,670,000	859,000	25.5
76	BSWM 76	BALBALINGAO SWIP	3	NUEVA ECIJA	F/S(1987),D/D	IR	FC,IF,WD	552	1,880	0.9	365,540	6	19	110,500	50	0	83	0	6	5,695,000	1,165,000	16.7
77	BSWM 77	LAGUNLONG SWIP	4	ORIENTAL MINDORO	F/S(1983),D/D	IR	FC,IF,WD	1,713	1,855	0.3	219,182	5	12	38,600	50	0	20	0	8	1,670,000	523,000	18.9
78	BSWM 78	PAKALA II SWIP	4	ORIENTAL MINDORO	F/S(1983),D/D	IR	FC,IF,WD	1,713	1,855	0.3	155,640	3	10	28,000	75	0	23	0	4	1,603,000	519,000	21.7
79	BSWM 79	BAYUIN SWIP	4	ORIENTAL MINDORO	F/S(1983),D/D	IR	FC,IF,WD	1,724	1,854	0.2	91,323	2	11	19,300	45	0	17	0	3	1,113,000	263,000	16.7
80	BSWM 80	CAMBURAY SWIP	4	OCCIDENTAL MINDORO	F/S(1983),D/D	IR	FC,IF,WD	254	1,646	1.1	285,055	7	12	43,800	50	0	107	0	11	2,095,000	782,000	18.9
81	BSWM 81	SAYAB SWIP	4	PALAWAN	F/S,D/D	IR	FC,IF,WD	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
82	BSWM 82	BUENASUERTE SWIP	5	MASBATE	F/S(1983),D/D	IR	FC,IF,WD	2,594	1,879	0.4	82,064	3	10	18,200	80	0	34	0	4	1,237,000	414,000	25.4
83	BSWM 83	BULNAO SWIP	5	CAMARINES NORTE	F/S(1983),D/D	IR	FC,IF,WD	3,059	3,443	0.5	64,180	2	10	18,900	100	0	49	0	4	1,136,000	833,000	34.1
84	BSWM 84	DALNAC SWIP	5	CAMARINES NORTE	F/S(1983),D/D	IR	FC,IF,WD	2,486	3,443	0.5	76,545	3	9	15,300	50	0	47	0	5	1,241,000	1,217,000	32.8
85	BSWM 85	GABAWAN	5	ALBAY	F/S(1983),D/D	IR	FC,IF,WD	2,329	3,175	0.8	153,007	9	6	13,100	100	0	67	0	16	1,071,000	662,000	25.4
86	BSWM 86	BURCOS SWIP	5	CATANDUANES	F/S(1983),D/D	IR	FC,IF,WD	2,979	4,029	0.3	13,990	1	7	20,700	25	0	32	0	2	1,408,000	232,000	15.8
87	BSWM 87	F.ARCANGEL SWIP	6	AKLAN	F/S(1983),D/D	IR	FC,IF,WD	1,579	3,312	0.7	53,214	2	9	26,600	50	0	72	0	4	1,221,000	648,000	20.3
88	BSWM 88	PINONOY SWIP	6	AKLAN	F/S(1983),D/D	IR	FC,IF,WD	1,681	3,311	0.4	60,811	2	9	13,000	25	0	42	0	4	1,030,000	666,000	27.4
89	BSWM 89	SIBALIW-TORALBA SWIP	6	AKLAN	F/S(1983),D/D	IR	FC,IF,WD	1,628	3,312	0.7	51,767	3	7	12,200	25	0	77	0	5	1,085,000	779,000	26.2
90	BSWM 90	PANLAGANGAN SWIP	6	ANTIQUE	F/S(1983),D/D	IR	FC,IF,WD	1,888	3,749	0.2	14,205	2	12	24,200	50	0	16	0	3	1,273,000	728,000	22.4
91	BSWM 91	TRACIANO SWIP	6	CAPIZ	F/S(1983),D/D	IR	FC,IF,WD	1,803	2,212	0.6	18,412	1	10	11,800	50	0	64	0	2	1,061,000	2,048,000	31.7
92	BSWM 92	SAN ROQUE SWIP	6	AKLAN	F/S(1983),D/D	IR	FC,IF,WD	2,165	2,212	0.6	60,512	2	3	28,400	40	0	65	0	3	971,000	777,000	30.2
93	BSWM 93	ARANAG SWIP	6	AKLAN	F/S(1983),D/D	IR	FC,IF,WD	1,642	3,312	0.9	82,544	4	11	36,500	100	0	46	0	4	1,691,000	1,073,000	23.7
94	BSWM 94	BUENAVISTA SWIP	6	ANTIQUE	F/S(1983),D/D	IR	FC,IF,WD	2,025	3,749	0.2	58,856	2	7	16,000	50	0	12	0	4	953,000	534,000	22.8
95	BSWM 95	DITA I SWIP	7	BOHOL	F/S(1983),D/D	IR	FC,IF,WD	1,569	1,244	0.5	119,321	4	14	23,200	50	0	44	0	3	1,922,000	851,000	21.1
96	BSWM 96	DITA II SWIP	7	BOHOL	F/S(1983),D/D	IR	FC,IF,WD	1,437	1,244	0.3	109,672	4	13	14,000	35	0	30	0	4	1,191,000	524,000	23.8
97	BSWM 97	SAN JOSE SWIP II	7	BOHOL	F/S(1983),D/D	IR	FC,IF,WD	1,568	1,244	0.6	35,679	2	10	11,900	30	0	59	0	1	1,161,000	724,000	28.8
98	BSWM 98	STO. NINO SWIP	7	BOHOL	F/S(1983),D/D	IR	FC,IF,WD	1,475	1,244	1.7	176,495	8	11	26,600	110	0	131	0	9	1,927,000	1,152,000	19.4
99	BSWM 99	NANGKA SWIP	7	NEGROS ORIENTAL	F/S(1983),D/D	IR	FC,IF,WD	1,435	1,782	0.2	71,336	1	16	26,000	35	0	21	0	2	1,521,000	450,000	17.6
100	BSWM 100	BAGTIC SWIP	7	NEGROS ORIENTAL	F/S(1983),D/D	IR	FC,IF,WD	1,476	1,216	2.5	17,359	2	14	19,500	100	0	247	0	5	1,882,000	2,156,000	43.9
101	BSWM 101	NABULOG SWIP	7	NEGROS ORIENTAL	F/S(1983),D/D	IR	FC,IF,WD	1,463	1,215	1.3	19,567	2	13	45,000	50	0	131	0	5	1,819,000	1,116,000	23.8
102	BSWM 102	BONG-BONG I SWIP	7	BOHOL	F/S(1983),D/D	IR	FC,IF,WD	1,481	1,244	1.0	79,439	4	7	8,800	100	0	96	0	6	1,103,000	879,000	25.8
103	BSWM 103	BONG-BONG II SWIP	7	BOHOL	F/S(1983),D/D	IR	FC,IF,WD	1,566	1,244	0.5	106,019	3	12	10,250	100	0	43	0	4	948,000	749,000	33.1
104	BSWM 104	CALANGGAMAN I SWIP	7	BOHOL	F/S(1983),D/D	IR	FC,IF,WD	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
105	BSWM 105	KATIPUNAN SWIP	7	BOHOL	F/S(1985),D/D	IR	FC,IF,WD	n.d.	n.d.	0.5	10,250	1	6	5,450	n.d.	n.d.	n.d.	n.d.	n.d.	913,000	n.d.	n.d.
106	BSWM 106	BUYOG SWIP	7	BOHOL	F/S(1985),D/D	IR	FC,IF,WD	n.d.	n.d.	0.2	14,771	n.d.	n.d.	30,000	n.d.	n.d.	n.d.	n.d.	n.d.	1,207,000	n.d.	n.d.
107	BSWM 107	CALINGANAY SWIP	7	BOHOL	F/S(1985),D/D	IR	FC,IF,WD	n.d.	n.d.	0.9	41,077	n.d.	n.d.	9,500	n.d.	n.d.	n.d.	n.d.	n.d.	1,066,000	n.d.	n.d.
108	BSWM 108	JUBASAN SWIP	8	NORTHERN SAMAR	F/S(1983),D/D	IR	FC,IF,WD	1,568	3,030	0.6	55,717	2	10	33,400	25	0	54	0	3	1,082,000	685,000	16.1

Note: IR:Irrigation; FC:Flood Control; IF:Inland Fishery; WS:Water Supply; WD:Watershed Development
n.d.:no data available.

Table A.1.1 Inventory of Candidate SWIM Projects (10/10)
- BSWM No.3 -

No.	AGENCY No.	PROJECT NAME	REGION	PROVINCE	PROJECT STATUS	MAIN PURPOSE	INCIDENTAL PURPOSES	ANNUAL RUNOFF (mm)	ANNUAL RAINFALL (mm)	CATCH-MENT AREA (km2)	EFFECTIVE STORAGE CAPACITY (m3)	RESER-VOIR AREA (ha)	DAM HEIGHT (m)	EMBANKMENT VOLUME (m3)	IRRI-GATION AREA (ha)	INSTALLED CAPACITY (kW)	REFORES-TATION AREA (ha)	WATER SUPPLY CAPACITY (m3/day)	ANNUAL FISH PRODUCTION (ton)	PROJECT COST (pesos)	TOTAL BENEFIT (pesos)	IRR (%)
109	BSWM 109	CASABAHAN SWIP	8	WESTERN SAMAR	F/S(1983),D/D	IR	FC,IF,WD	3,415	2,912	0.5	75,320	6	6	36,600	100	0	46	0	10	1,870,000	1,458,000	42.3
110	BSWM 110	INAMBURACAY SWIP	8	NORTHERN SAMAR	F/S(1983),D/D	IR	FC,IF,WD	1,393	3,030	0.3	114,866	4	10	31,000	50	0	24	0	5	1,875,000	860,000	34.8
111	BSWM 111	STA. FE SWIP	8	EASTERN SAMAR	F/S(1983),D/D	IR	FC,IF,WD	1,710	4,020	0.7	191,491	3	8	13,500	125	0	63	0	4	1,098,000	1,084,000	43.5
112	BSWM 112	CAMPIN SWIP	8	LEYTE	F/S(1983),D/D	IR	FC,IF,WD	2,154	2,130	0.5	396,065	9	10	16,800	58	0	36	0	9	1,244,000	1,555,000	49.4
113	BSWM 113	LABOON SWIP	8	SOUTHERN SAMAR	F/S(1983),D/D	IR	FC,IF,WD	2,849	3,906	0.2	59,845	2	10	17,200	25	0	16	0	3	1,040,000	349,000	28.5
114	BSWM 114	POLANQUI SWIP	8	EASTERN SAMAR	F/S(1983),D/D	IR	FC,IF,WD	1,706	4,020	0.5	70,331	4	6	9,600	50	0	44	0	5	778,000	656,000	52.4
115	BSWM 115	TABAHAN SWIP	8	WESTERN SAMAR	F/S(1985),D/D	IR	FC,IF,WD	1,408	2,593	1.3	58,000	2	13	28,430	100	0	0	0	0	4,646,000	1,050,000	20.4
116	BSWM 116	DAU-CRAS SWIP	8	EASTERN SAMAR	F/S, D/D	IR	FC,IF,WD	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.
117	BSWM 117	WOODLAND SWIP	9	ZAMBOANGA DEL SUR	F/S(1983),D/D	IR	FC,IF,WD	1,694	2,996	2.0	66,389	4	11	12,400	100	0	193	0	6	1,654,000	1,871,000	28.5
118	BSWM 118	SUMADAT SWIP	9	ZAMBOANGA DEL SUR	F/S(1983),D/D	IR	FC,IF,WD	1,644	2,996	0.3	55,235	1	14	19,400	70	0	27	0	2	1,352,000	799,000	18.8
119	BSWM 119	LUNGMOT SWIP	9	ZAMBOANGA DEL SUR	F/S(1983),D/D	IR	FC,IF,WD	1,773	2,996	0.6	98,125	3	12	17,040	60	0	53	0	5	1,497,000	1,210,000	24.7
120	BSWM 120	LAMARE I SWIP	9	ZAMBOANGA DEL SUR	F/S(1983),D/D	IR	FC,IF,WD	1,656	2,511	0.7	61,871	2	11	15,600	80	0	66	0	3	1,062,000	1,258,000	27.7
121	BSWM 121	LAMARE II SWIP	9	ZAMBOANGA DEL SUR	F/S(1983),D/D	IR	FC,IF,WD	1,652	2,511	0.5	60,734	2	12	26,200	60	0	50	0	2	1,400,000	1,075,000	20.5
122	BSWM 122	BUENAVISTA SWIP	9	ZAMBOANGA DEL SUR	F/S(1983),D/D	IR	FC,IF,WD	2,001	2,511	0.5	40,204	2	13	20,200	100	0	50	0	3	1,689,000	1,009,000	18.1
123	BSWM 123	GOLING SWIP	9	ZAMBOANGA DEL SUR	F/S(1983),D/D	IR	FC,IF,WD	1,642	2,511	0.2	76,566	2	11	20,400	100	0	20	0	2	1,186,000	854,000	34.3
124	BSWM 124	LABUAGON SWIP	10	BUKIDNON	F/S(1983),D/D	IR	FC,IF,WD	2,657	5,056	1.0	48,210	3	6	6,000	150	0	93	0	4	933,000	678,000	30.9
125	BSWM 125	ALUBLIJD SWIP	10	AGUSAN DEL NORTE	F/S(1983),D/D	IR	FC,IF,WD	1,579	2,316	0.7	78,549	4	8	20,000	105	0	63	0	5	1,277,000	562,000	24.4
126	BSWM 126	BALIBAYON SWIP	10	SURIGAO DEL NORTE	F/S(1983),D/D	IR	FC,IF,WD	3,361	3,906	0.7	48,210	1	13	41,200	80	0	67	0	1	2,099,000	643,000	16.2
127	BSWM 127	APULANG SWIP	10	BUKIDNON	F/S(1983),D/D	IR	FC,IF,WD	2,686	5,056	0.3	158,448	7	6	9,000	140	0	27	0	9	739,000	894,000	42.4
128	BSWM 128	TALO-AO SWIP	10	AGUSAN DEL NORTE	F/S(1983),D/D	IR	FC,IF,WD	2,143	2,316	0.8	295,439	7	13	58,000	155	0	80	0	9	2,670,000	1,532,000	24.4
129	BSWM 129	DIMALAGAN SWIP	10	AGUSAN DEL NORTE	F/S(1983),D/D	IR	FC,IF,WD	1,611	2,316	1.6	208,932	8	7	34,000	170	0	86	0	9	1,886,000	1,557,000	25.1
130	BSWM 130	MINTU-OD SWIP	10	AGUSAN DEL NORTE	F/S(1983),D/D	IR	FC,IF,WD	2,380	2,316	0.8	118,557	4	7	19,600	100	0	75	0	7	1,221,000	1,072,000	43.6
131	BSWM 131	MALAPONG SWIP	10	AGUSAN DEL NORTE	F/S(1983),D/D	IR	FC,IF,WD	1,609	2,316	0.8	63,430	2	9	10,900	200	0	74	0	3	1,095,000	1,321,000	46.2
132	BSWM 132	TALAGANAHAO SWIP	10	AGUSAN DEL NORTE	F/S(1983),D/D	IR	FC,IF,WD	2,193	2,316	0.6	84,919	3	12	18,300	60	0	42	0	3	1,161,000	1,274,000	21.6
133	BSWM 133	KITAO-TAO SWIP	10	BUKIDNON	F/S(1983),D/D	IR	FC,IF,WD	1,673	5,056	2.1	88,993	4	9	20,000	200	0	209	0	6	1,265,000	2,918,000	57.6
134	BSWM 134	SAN RAFAEL SWIP	11	DAVAO ORIENTAL	F/S(1983),D/D	IR	FC,IF,WD	624	2,639	0.6	206,731	5	12	44,600	35	0	59	0	6	1,876,000	601,000	15.9
135	BSWM 135	BUKAY-PATT SWIP	11	SOUTH COTABATO	F/S(1983),D/D	IR	FC,IF,WD	826	951	2.9	146,733	4	11	41,000	135	0	284	0	6	2,189,000	1,127,000	20.4
136	BSWM 136	LISUDON SWIP	11	DAVAO ORIENTAL	F/S(1983),D/D	IR	FC,IF,WD	451	2,639	0.3	17,750	1	7	6,100	30	0	29	0	1	701,000	335,000	20.5
137	BSWM 137	DIMADALIG SWIP	11	SOUTH COTABATO	F/S(1983),D/D	IR	FC,IF,WD	546	951	2.5	68,848	2	11	2,400	40	0	241	0	3	1,680,000	819,000	18.2
138	BSWM 138	LIBASAN SWIP	11	DAVAO DEL NORTE	F/S(1983),D/D	IR	FC,IF,WD	633	2,639	4.1	551,755	11	12	47,000	190	0	401	0	14	2,874,000	1,997,000	20.5
139	BSWM 139	FLORIDA SWIP	11	DAVAO DEL NORTE	F/S(1983),D/D	IR	FC,IF,WD	601	2,639	1.5	313,912	8	10	31,800	150	0	139	0	11	2,022,000	1,470,000	29.4
140	BSWM 140	DAUMAN SWIP	11	DAVAO DEL NORTE	F/S(1983),D/D	IR	FC,IF,WD	629	2,639	0.5	134,163	4	12	11,700	40	0	46	0	3	994,000	457,000	18.8
141	BSWM 141	SAN NICOLAS SWIP	11	DAVAO DEL SUR	F/S(1983),D/D	IR	FC,IF,WD	456	2,639	2.8	111,316	4	11	39,400	80	0	279	0	0	2,521,000	2,238,000	25.3
142	BSWM 142	BOLTON SWIP	11	DAVAO DEL SUR	F/S(1983),D/D	IR	FC,IF,WD	471	2,639	2.3	49,963	1	16	43,250	120	0	228	0	2	3,013,000	575,000	26.2
143	BSWM 143	PEDTAP SWIP	12	NORTH COTABATO	F/S(1983),D/D	IR	FC,IF,WD	2,397	1,571	0.5	67,053	2	15	39,000	80	0	48	0	2	2,329,000	1,227,000	21.2
144	BSWM 144	LOOY SWIP	12	MAGUINDANAO	F/S(1983),D/D	IR	FC,IF,WD	2,428	1,256	1.0	89,613	6	7	49,200	85	0	93	0	8	1,722,000	1,570,000	35.5
145	BSWM 145	DALINGAWEN SWIP	12	NORTH COTABATO	F/S(1983),D/D	IR	FC,IF,WD	2,441	1,571	1.0	241,742	9	9	37,000	250	0	89	0	9	2,299,000	2,926,000	39.8
146	BSWM 146	TINIBTIBAN SWIP	12	NORTH COTABATO	F/S(1983),D/D	IR	FC,IF,WD	2,443	1,571	0.9	100,789	4	8	34,000	120	0	38	0	4	2,110,000	3,522,000	18.9
147	BSWM 147	SUSOK SWIP	12	SULTAN KUDARAT	F/S(1983),D/D	IR	FC,IF,WD	2,314	1,256	0.8	78,125	2	14	19,000	100	0	75	0	3	1,170,000	1,041,000	31.0
148	BSWM 148	KALANDANGAN SWIP	12	SULTAN KUDARAT	F/S(1983),D/D	IR	FC,IF,WD	2,305	1,256	3.3	740,471	22	11	55,000	530	0	311	0	30	4,138,000	5,575,000	49.9
149	BSWM 149	LANCHETA SWIP	12	SULTAN KUDARAT	F/S(1983),D/D	IR	FC,IF,WD	2,068	1,256	0.2	55,973	2	6	11,400	20	0	21	0	8	1,029,000	467,000	29.8
150	BSWM 150	NEW CARMEN	12	SULTAN KUDARAT	F/S(1983),D/D	IR	FC,IF,WD	2,159	1,256	1.0	286,642	14	8	20,000	175	0	86	0	13	1,780,000	1,888,000	60.1
151	BSWM 151	MALAGAKIT SWIP	12	NORTH COTABATO	F/S(1983),D/D	IR	FC,IF,WD	2,503	1,256	0.9	93,607	6	7	9,740	100	0	87	0	8	1,357,000	4,504,000	70.0
152	BSWM 152	SAN JUAN OVERFLOW	8	SOUTHERN LEYTE	D/D	WS	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.	n.d.

Note: IR:Irrigation; FC:Flood Control; IF:Inland Fishery; WS:Water Supply; WD:Watershed Development
n.d.:no data available.

Table A.1.2 Major Features of Completed/on-going SWIM Projects (1/2)
- Completed Projects -

No.	Imple. Agency	Name of Project	Region	Type of Dam	Dam Height (m)	Crest Length (m)	Dam Volume (cu.m)	Reserv. Area (ha)	Storage Capacity (cu.m)	Irri. Area (ha)	Const. Cost (Peso T.)	Date Started	Date Comple.	Period (Month)	Remarks
1	PSDC	Kakarong	III	Adobe Stone Masonry	3.5	200	?	3.5	87,400	109	200	Jul-76	Aug-77	13	No information is available on present condition
2	PSDC	Paguidpid	I	Homogenous Earthfill	21.5	120	80,000	3.8	200,000	60	1,300	Apr-77	Apr-78	12	No information is available on present condition
3	PSDC	Matinik	III	Adobe Stone Masonry	3.8	170	?	0.5	56,600	125	500	Jun-79	Jun-80	12	No information is available on present condition
4	PSDC	Sta. Cruz	III	Homogenous Earthfill	13.0	206	40,111	4.3	120,500	140	1,902	Jun-79	Mar-80	9	Functioning
5	DPWH	Nabintumgan	II	?	?	?	?	?	?	?	2,140	?	1981	?	Available information is very limited
6	PSDC	San Roque	VII	Zoned Earthfill	14.0	120	53,100	9.9	1,300,000	108	5,499	Oct-80	Sep-81	11	No information is available on present condition
7	BSWM	Pamucutan	IX	Check dam	2.1	3.5	9,418	?	?	200	332	Jul-81	Sep-81	2	Functioning (F/S & D/D reports are available)
8	BSWM	Calapan	IX	Check dam	1.0	3.6	?	?	?	87	164	Sep-81	Nov-81	2	Functioning (F/S & D/D reports are available)
9-1	PSDC	Fort Magsaysay #3	III	Zoned Earthfill	7.0	145	77,900	1.3	133,500	?	4,039	Dec-81	Oct-82	10	No information is available on present condition
9-2	PSDC	Fort Magsaysay #4	III	Zoned Earthfill	15.0	92	77,900	11.9	369,000	?	4,039	Nov-81	Sep-83	22	No information is available on present condition
9-3	PSDC	Fort Magsaysay #5	III	Zoned Earthfill	15.0	92	24,300	11.9	369,000	?	3,676	Jan-82	Jan-83	12	No information is available on present condition
10	NIA	Ilihan *	VII	Zoned Earthfill	25.0	145	95,000	22.0	775,000	150	13,379	Jan-80	Jan-83	37	Functioning (detailed designs are available)
11	DPWH	Palscol	III	Boulder filled	1.5		2,250	?	?	76	1,500	?	Mar-83	?	Damaged and not functioning (No report is available)
12	PSDC	Manayon	I	Zoned Earthfill	10.0	100	21,200	8.0	100,000	80	2,850	Dec-81	Jun-83	18	No information is available on present condition
13	PSDC	Sta. Barbara	I	Overflow Concrete	4.5	40	15,300	11.0	330,000	130	3,325	Dec-81	Dec-83	24	No information is available on present condition
14	PSDC	Si-Uton	V	Zoned Earthfill	15.0	68	25,500	1.8	?	33	7,461	Nov-82	Nov-83	12	No information is available on present condition
15	BSWM	Nagsabaran	II	Earthfill	7.0	180	31,695	2.6	60,320	70	1,994	Mar-83	Dec-83	9	Functioning (F/S & D/D reports are available)
16	BSWM	Dampidap *	II	Earthfill	12.9	130	70,257	2.1	90,090	30	1,805	Feb-83	Dec-83	10	Functioning (F/S & D/D reports are available)
17	DPWH	Benadeo	V	Concrete Masonry	4.0	25	?	-	-	-	797	Feb-84	Feb-85	12	Damaged and not functioning (No report is available)
18	BSWM	Malineo *	VIII	Earthfill	9.0	174	45,144	2.6	76,800	4	2,238	Feb-83	Oct-84	20	Functioning (F/S & D/D reports are available)
19	PMB	Ambukla-Binga	CAR	Check Dams	-	-	-	-	-	-	4,320	Apr-81	Dec-84	45	Functioning (D/D report is available)
20	PMB	Sta. Fe	II	Check Dams	-	-	-	-	-	-	2,091	Apr-82	Dec-84	33	Functioning (D/D report is available)
21	DPWH	Porac *	III	Zoned Earthfill	25.0	188	106,600	12.8	672,500	?	11,813	Jan-83	-	-	Washed away in 1984-86
22	PMB	Pasig-Timbu *	III	Check Dams	-	-	-	-	-	-	1,447	Apr-82	Dec-84	33	Functioning (partly damaged)
23	NEA	Mantayupan *	VII	Concrete	2.0	15	?	-	-	-	12,583	Aug-82	Nov-84	27	Functioning (F/S & D/D reports are available)
24	PSDC	Bacnotan *	I	Zoned Earthfill	24.0	100	190,800	18.0	1,570,000	155	7,400	Oct-80	Mar-86	66	Functioning well (No report is available)
25	DPWH	Caulamnn	III	Concrete Diversion	?	?	?	?	?	?	720	Dec-84	Feb-85	2	Washed out in 1986 (No report is available)
26	DPWH	Kirong *	III	Concrete Diversion	?	?	?	?	?	?	1,181	Dec-84	Jan-87	25	Damaged and not functioning (No report is available)
27	NEA	Basak	VII	Concrete rubble	3.0	15	?	-	-	-	14,138	Jun-82	Jul-85	38	Functioning (F/S & D/D reports are available)
28	DPWH	Dacquicag	I	Homogenous Earthfill	11.8	70	15,500	1.8	105,000	30	1,854	Feb-87	Apr-87	2	Functioning (F/S report is available)
29	DPWH	San Ramon *	III	Homogenous Earthfill	13.0	196	28,000	5.0	91,000	0	3,886	Jan-87	Jun-87	5	Completed but not developed yet for irrigation
30	DPWH	Calanggamnn *	VII	Zoned Earthfill	17.5	140	?	?	390,500	100	6,700	May-87	Aug-88	15	Not yet completed in actual sence due to delayed fund release
31	DPWH	Katipamnn	VII	Earthfill	7.5	72	?	?	?	20	500	May-88	Aug-88	3	Functioning (No report is available)
32	BSWM	Aumbay	XI	Earthfill	6.5	196	28,346	3.5	75,833	70	2,109	Jul-84	May-88	47	Functioning (F/S & D/D reports are available)

Note: ? : no data available.
- : not applicable.
* : projects for post-evaluation study.

Table A.1.2 Major Features of Completed/on-going SWIM Projects (2/2)
- On-going Projects -

No.	Imple. Agency	Name of Project	Region	Type of Dam	Dam Height (m)	Crest Length (m)	Dam Volume (cu.m)	Reserv. Area (ha)	Storage Capacity (cu.m)	Irri. Area (ha)	Const. Cost (Peso T.)	Date Started	Date Comple.	Period (Month)	Current Problem
1	DPWH	Pinsal Fall	I	Earthfill	11.4	275	98,300	22.0	930,000	272	18,377	Mar-86	May-89	39	Difficult land acquisition and frequent bogging down of equipment
2	DPWH	Jaro	VIII	Earthfill	29.3	115	230,000	9.3	630,000	1,950	62,723	Nov-84	Jul-89	57	Frequent typhoons and lack of man-power and equipment
3	FSDC	Sta.Maria	I	Earthfill	18.3	107	50,000	7.0	478,000	50	14,700	Jun-84	Mar-89	58	No fund available for additional works
4	FSDC	Lupao	III	Earthfill	27.5	129	215,437	20.0	1,760,000	200	37,354	May-84	?	?	Contractor abandoned after completing about 26%
5	FSDC	San Julian	VII	Earthfill	17.9	146	104,517	15.0	561,500	99	16,850	May-84	Dec-89	68	Only 3 months dry season recurring for past 4 years
6	PMB	Bangao	CAR	Check Dams	-	-	-	-	-	-	3,776	Jan-83	Dec-88	72	Untimely release of funds
7	PMB	Binanatan	I	Check Dams	-	-	-	-	-	-	3,300	Feb-84	Dec-88	59	Untimely release of funds
8	PMB	Lawaan	IV	Check Dams	-	-	-	-	-	-	2,744	Feb-84	Dec-88	59	Untimely release of funds
9	PMB	Panacan	IV	Check Dams	-	-	-	-	-	-	3,604	Feb-84	Dec-88	59	Untimely release of funds
10	PMB	Epza	III	Check Dams	-	-	-	-	-	-	2,970	Apr-82	Dec-88	81	Untimely release of funds
11	BSWM	Bacsay	CAR	Earthfill	11.8	82	37,890	1.2	7,000	60	1,203	Apr-83	?	?	Security condition in its locality
12	BSWM	Cagdarao	VIII	Earthfill	4.7	15	-	-	-	70	900	May-85	?	?	Security condition in its locality
13	BSWM	Cabanglasan	X	Earthfill	14.5	205	125,588	7.6	350,900	80	3,200	May-87	?	?	No fund available for additional works
14	BSWM	Kadingilan	XII	Earthfill	6.0	110	15,246	4.1	82,800	50	1,257	Oct-84	?	?	Reservoir area privately owned and refused to donate
15	NEA	Kumalarang	IX	Rubble masonry	2.5	75	-	-	-	-	11,971	Jul-88	Apr-89	9	None at present
16	NIA	Miral	IX	Zoned Earthfill	27.0	80	148,300	5.1	390,000	1550	37,000	Jan-88	Jan-90	24	Delayed fund release
17	NIA	Calargo	VII	Zoned Earthfill	26.0	132	140,000	4.0	885,000	675	36,000	Jan-83	Jan-90	85	Delayed fund release

Note: ? : no data available.
- : not applicable.

FIGURES

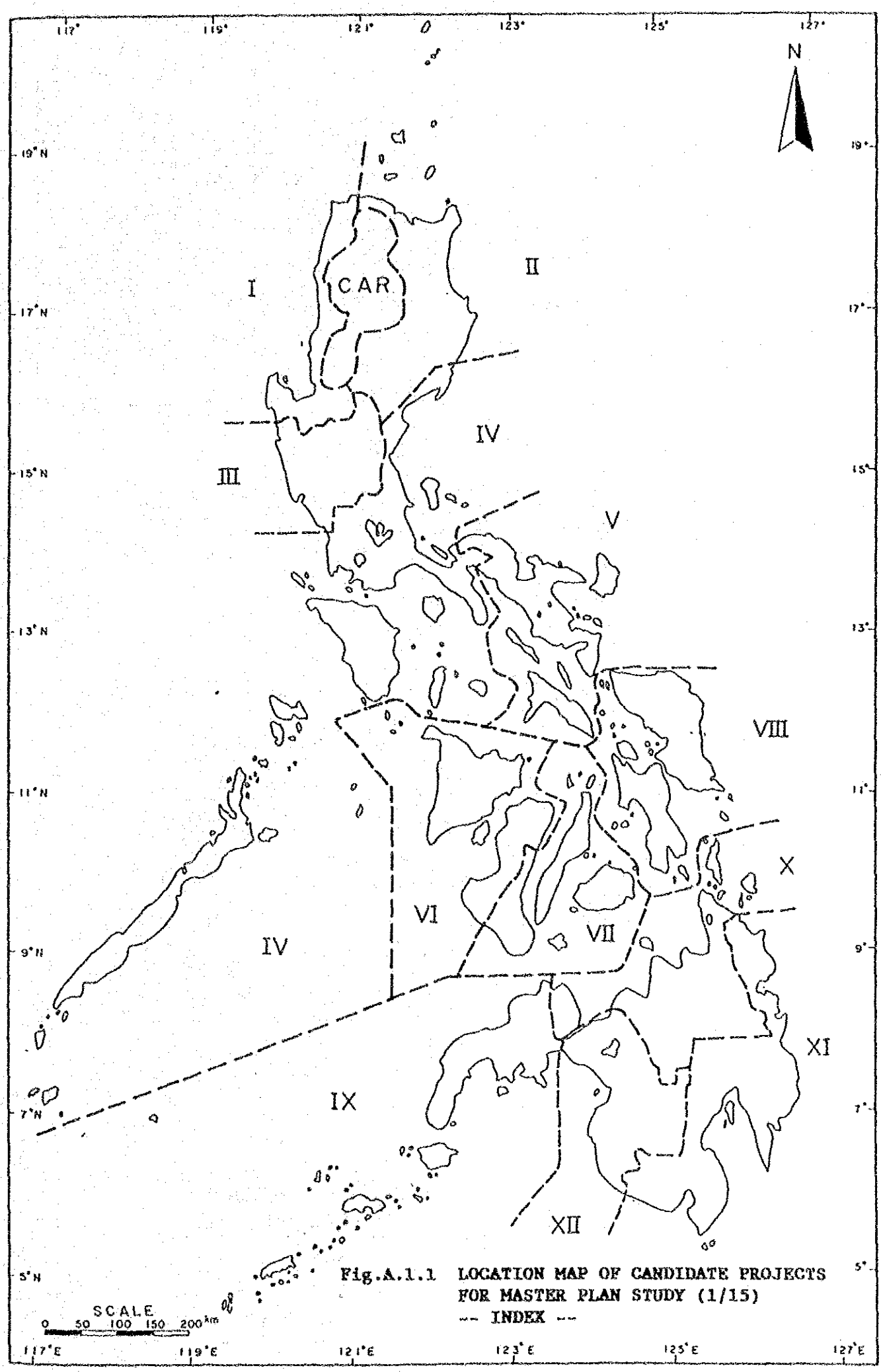


Fig.A.1.1 LOCATION MAP OF CANDIDATE PROJECTS FOR MASTER PLAN STUDY (1/15)
-- INDEX --

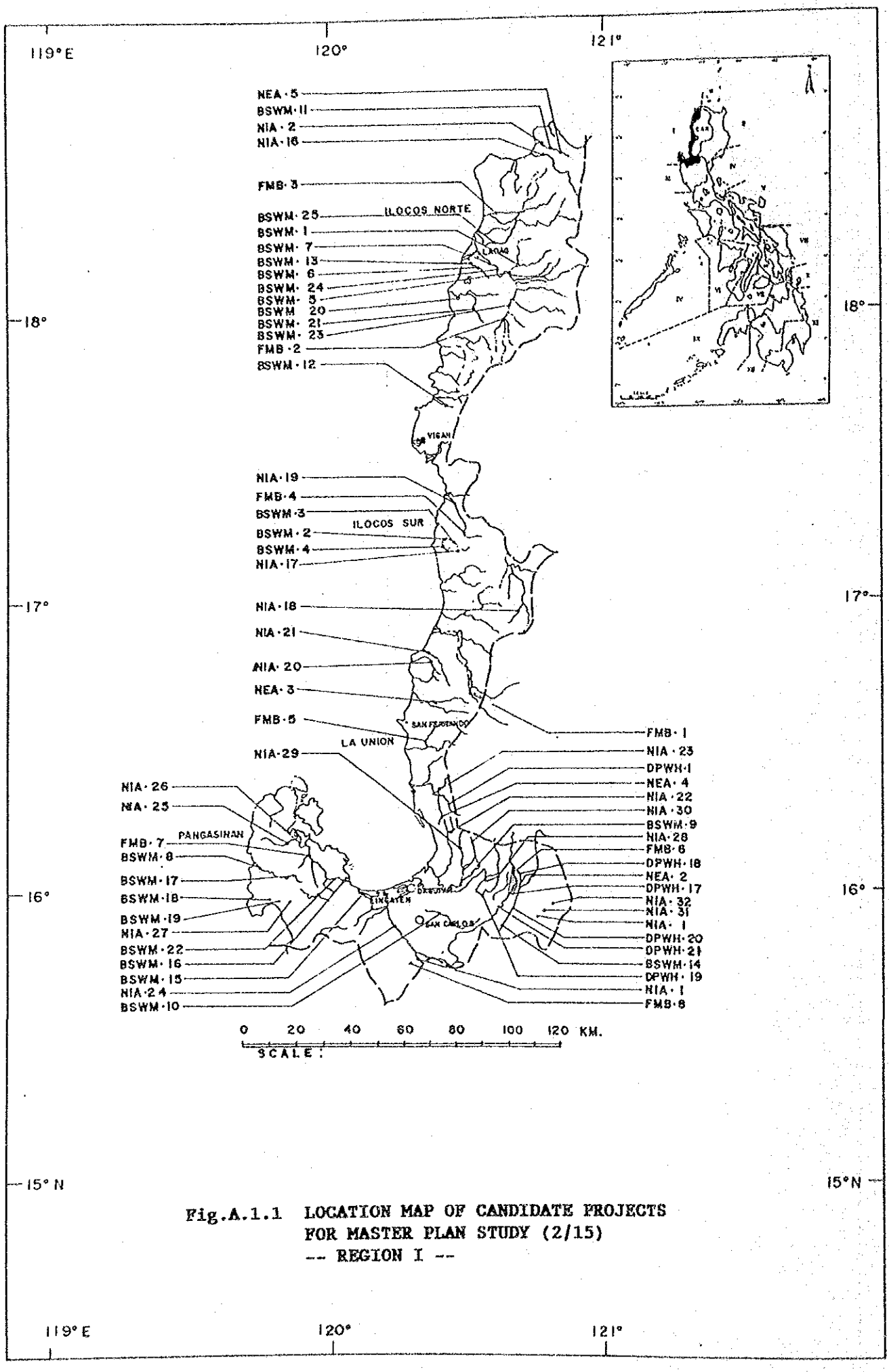


Fig.A.1.1 LOCATION MAP OF CANDIDATE PROJECTS FOR MASTER PLAN STUDY (2/15)
-- REGION I --

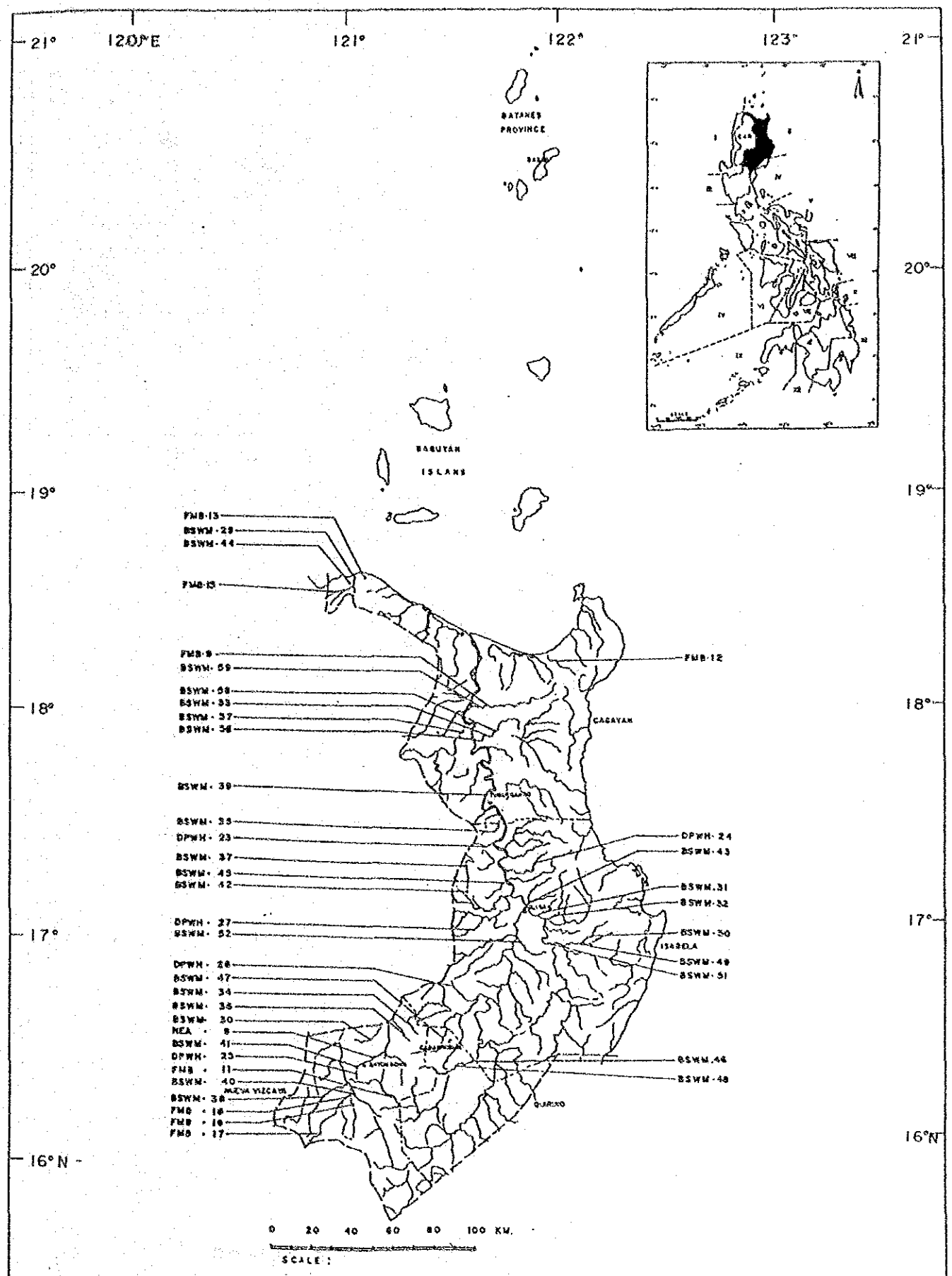


Fig.A.1.1 LOCATION MAP OF CANDIDATE PROJECTS FOR MASTER PLAN STUDY (3/15) -- REGION II --

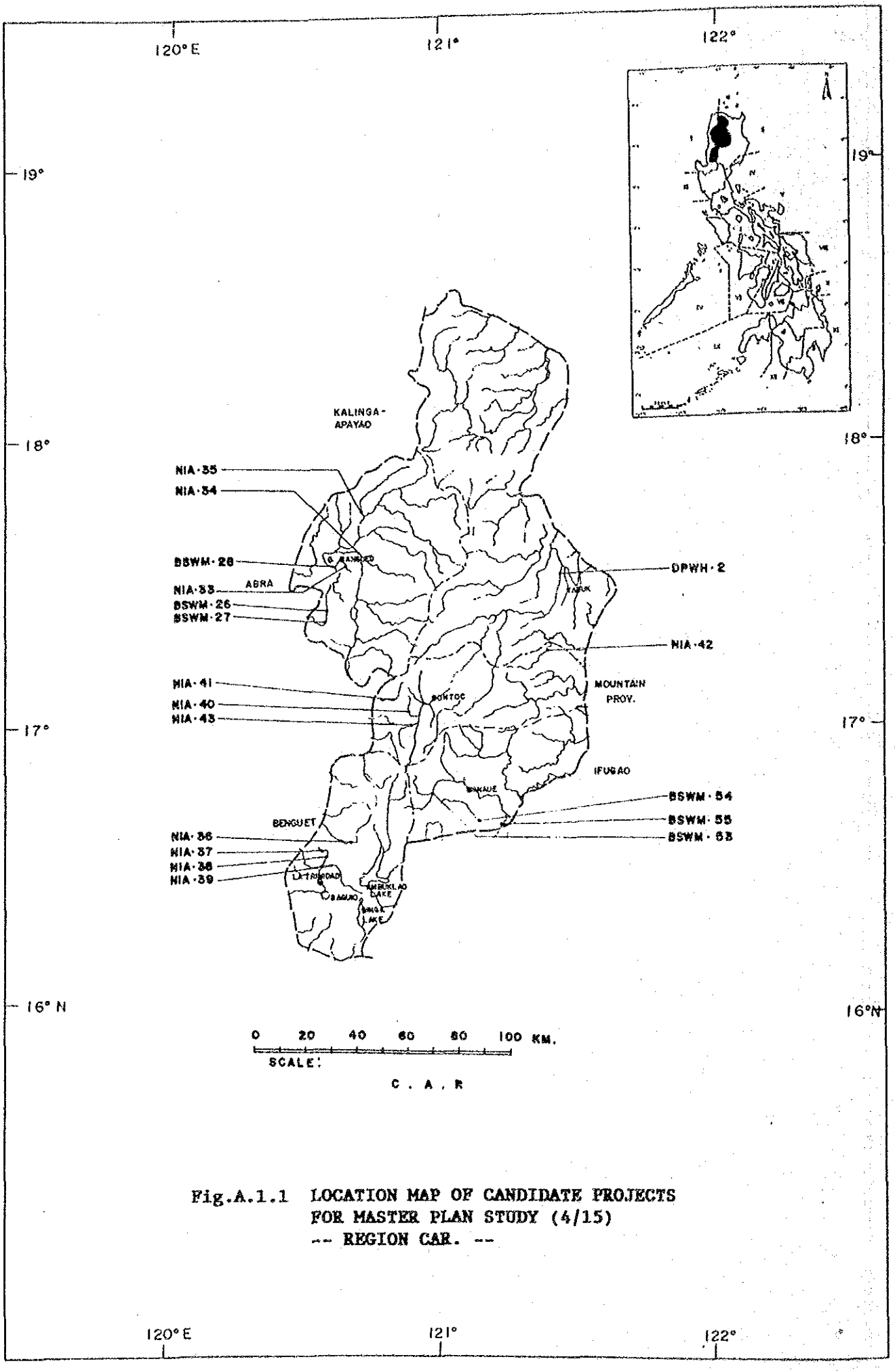


Fig.A.1.1 LOCATION MAP OF CANDIDATE PROJECTS FOR MASTER PLAN STUDY (4/15) -- REGION CAR. --

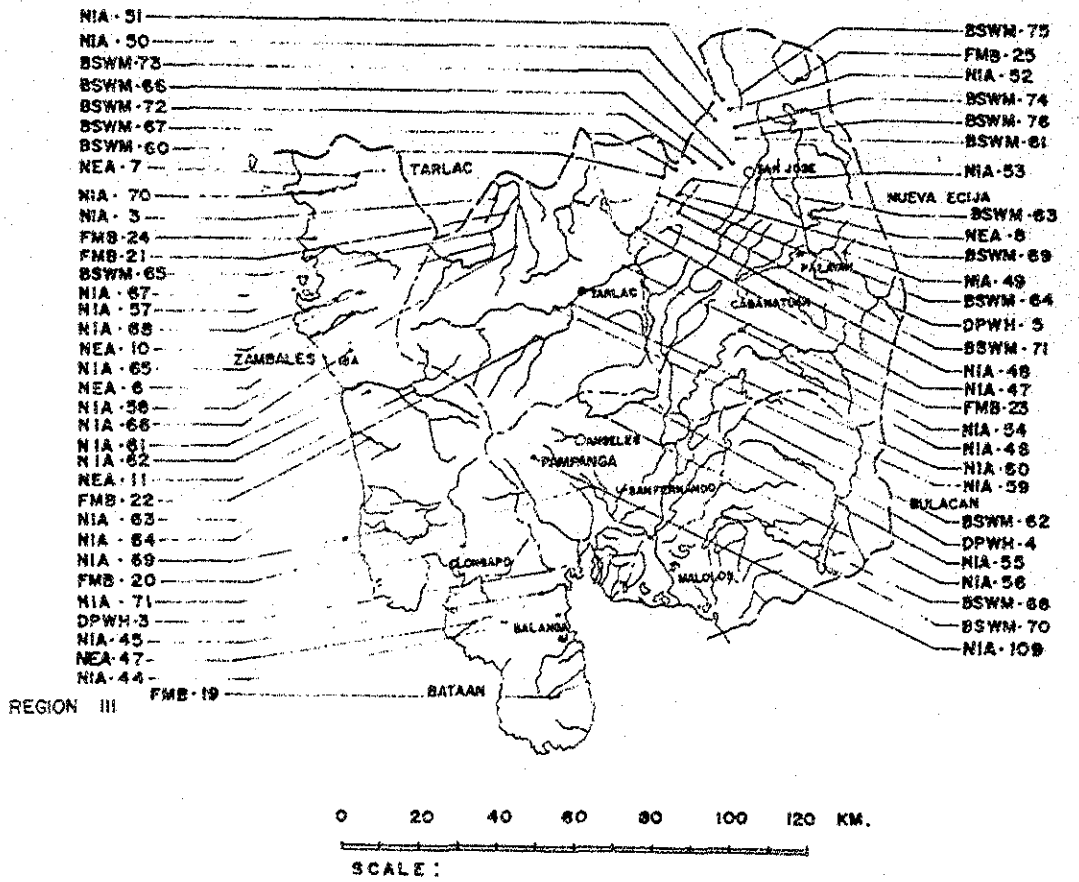


Fig.A.1.1 LOCATION MAP OF CANDIDATE PROJECTS FOR MASTER PLAN STUDY (5/15) -- REGION III --

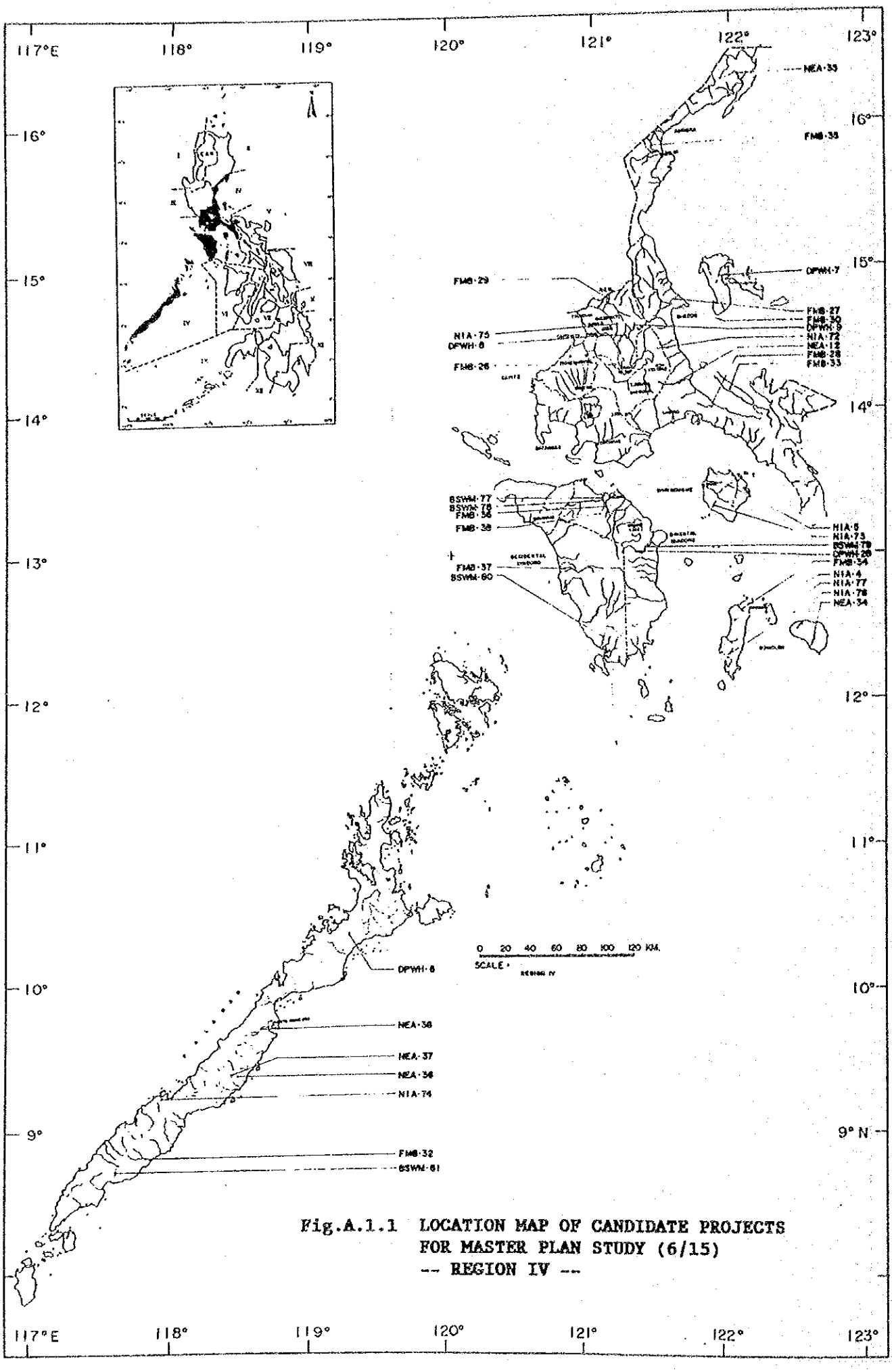


Fig.A.1.1 LOCATION MAP OF CANDIDATE PROJECTS FOR MASTER PLAN STUDY (6/15) -- REGION IV --

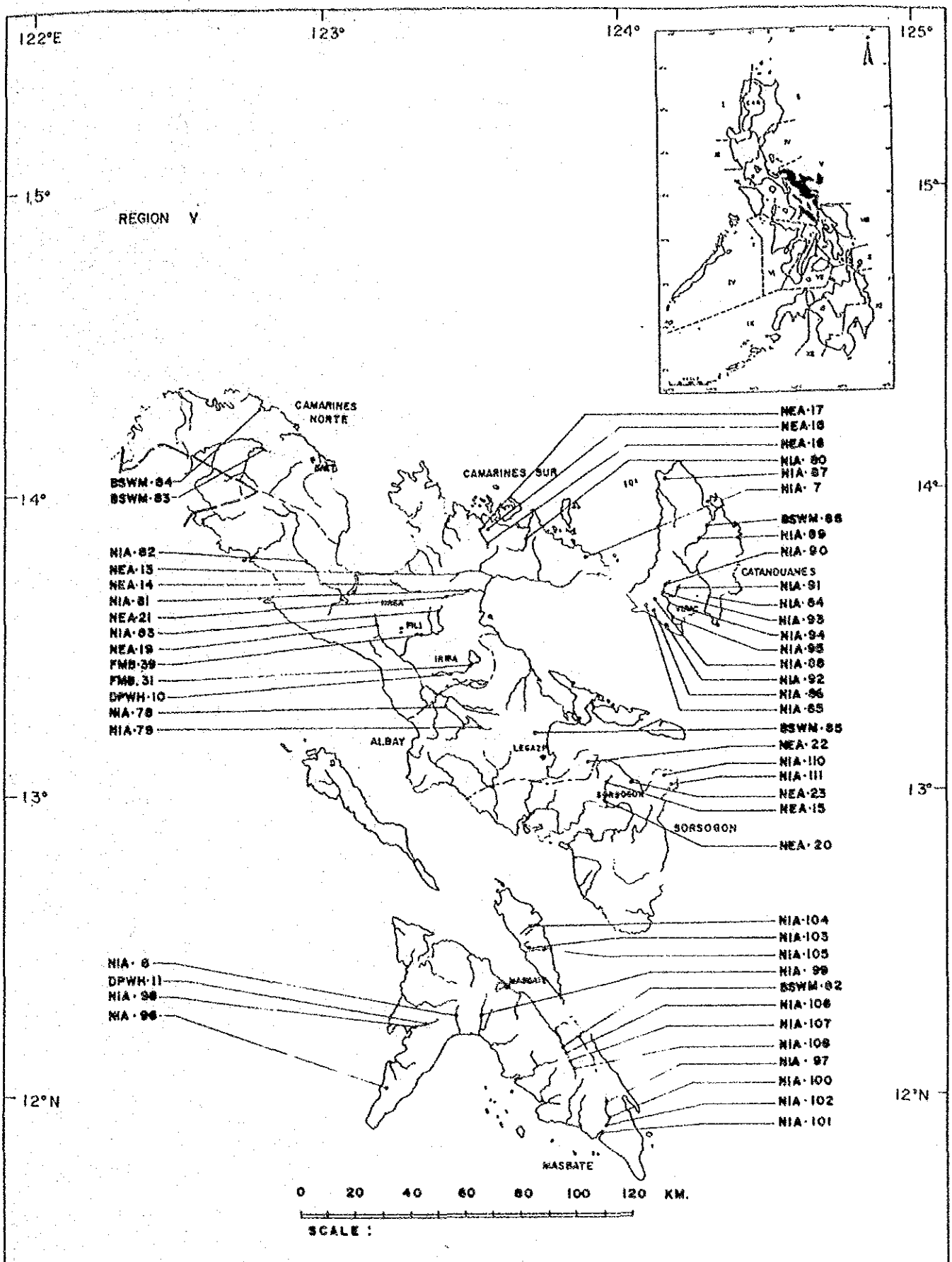


Fig.A.1.1 LOCATION MAP OF CANDIDATE PROJECTS FOR MASTER PLAN STUDY (7/15)
-- REGION V --

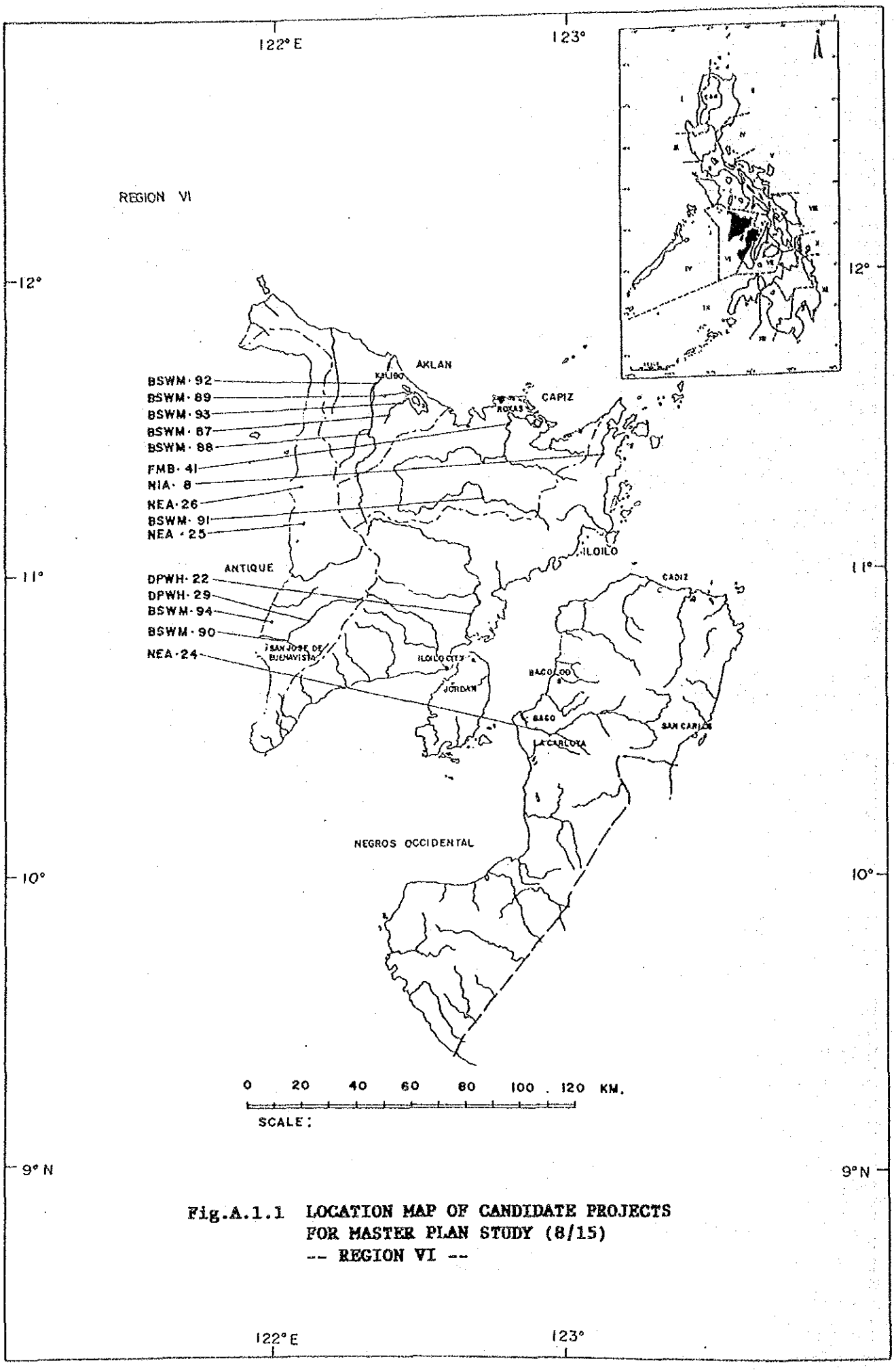


Fig.A.1.1 LOCATION MAP OF CANDIDATE PROJECTS FOR MASTER PLAN STUDY (8/15) -- REGION VI --

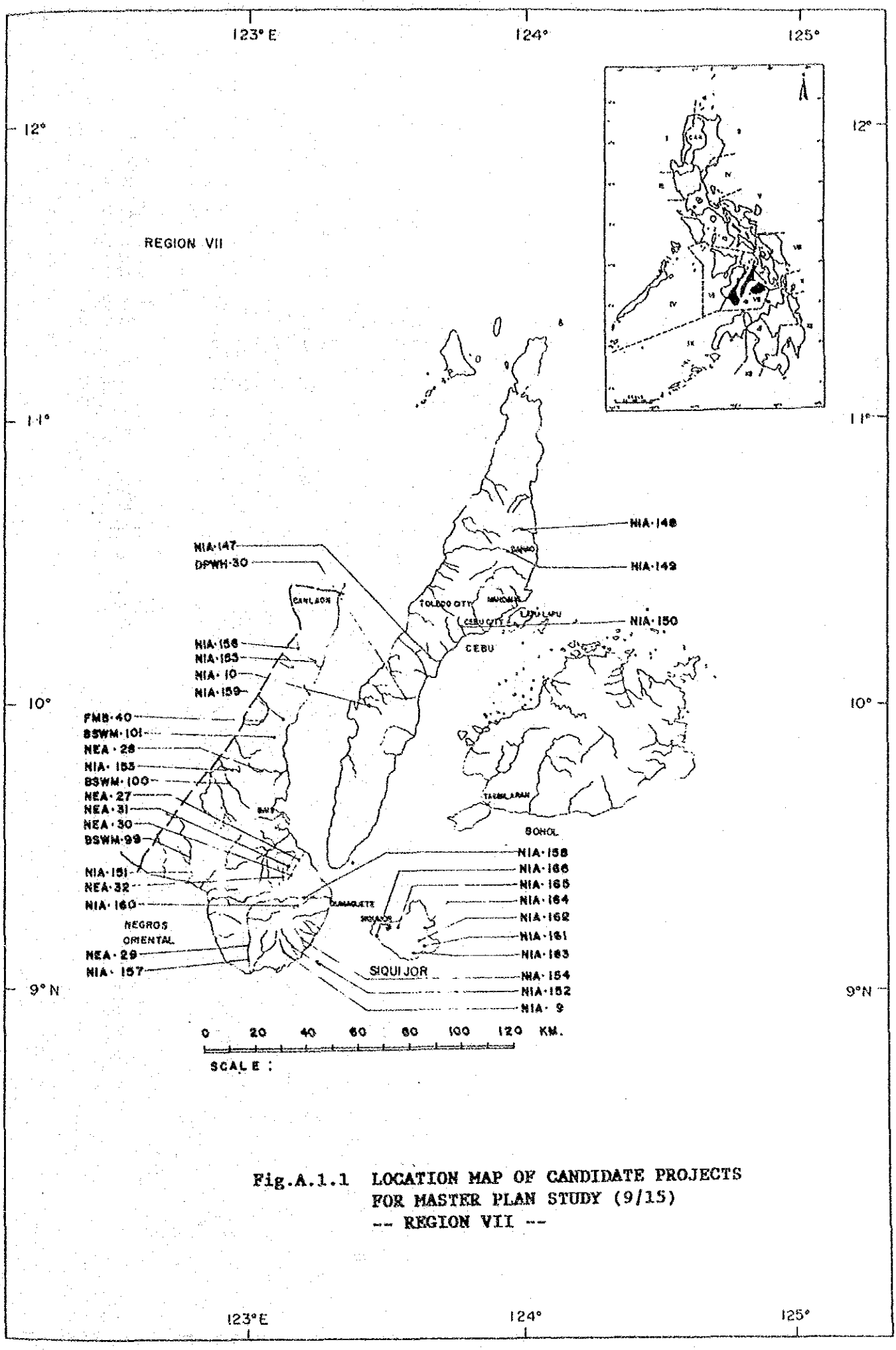


Fig.A.1.1 LOCATION MAP OF CANDIDATE PROJECTS FOR MASTER PLAN STUDY (9/15) -- REGION VII --

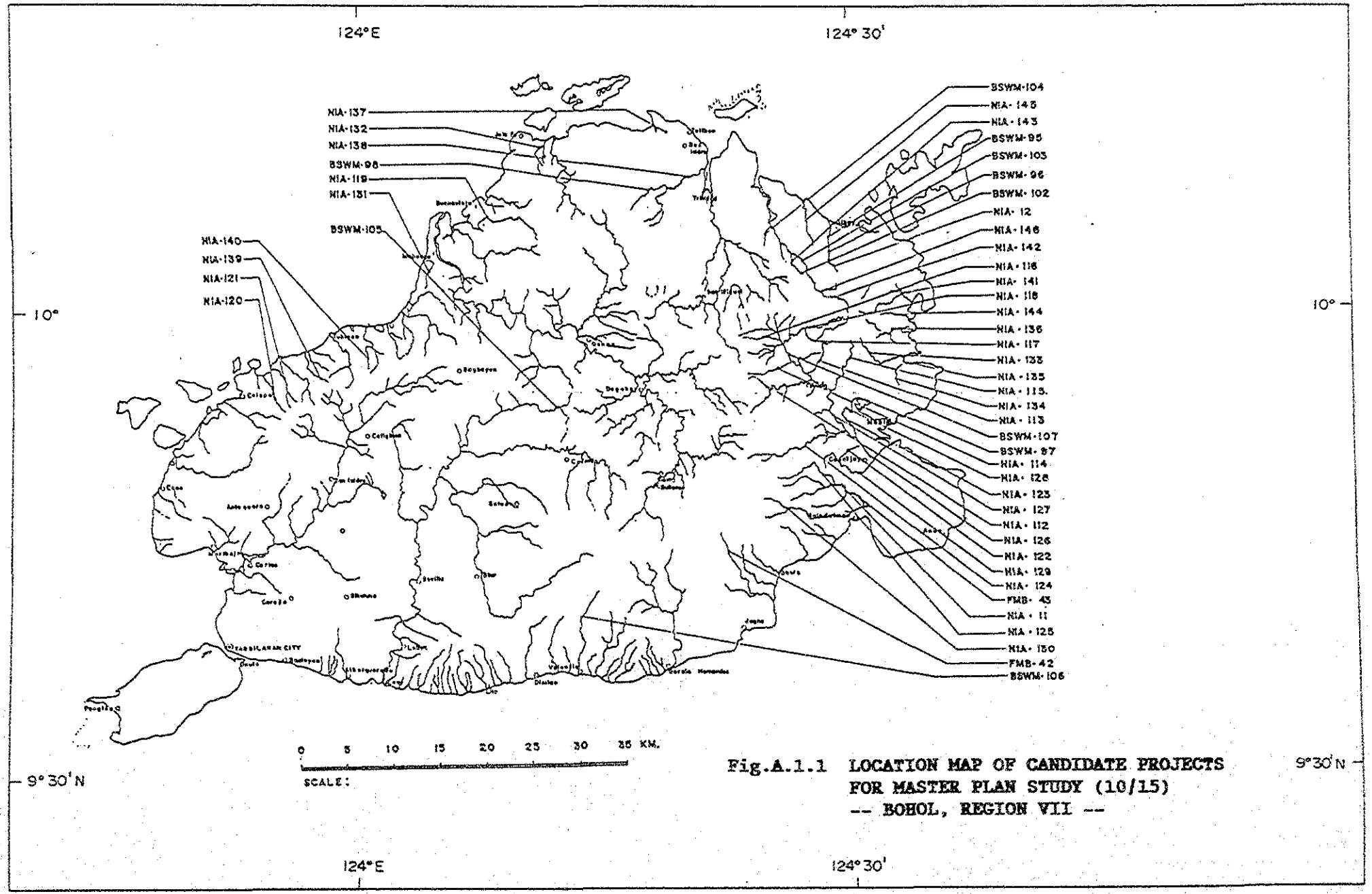


Fig.A.1.1 LOCATION MAP OF CANDIDATE PROJECTS FOR MASTER PLAN STUDY (10/15) -- BOHOL, REGION VII --

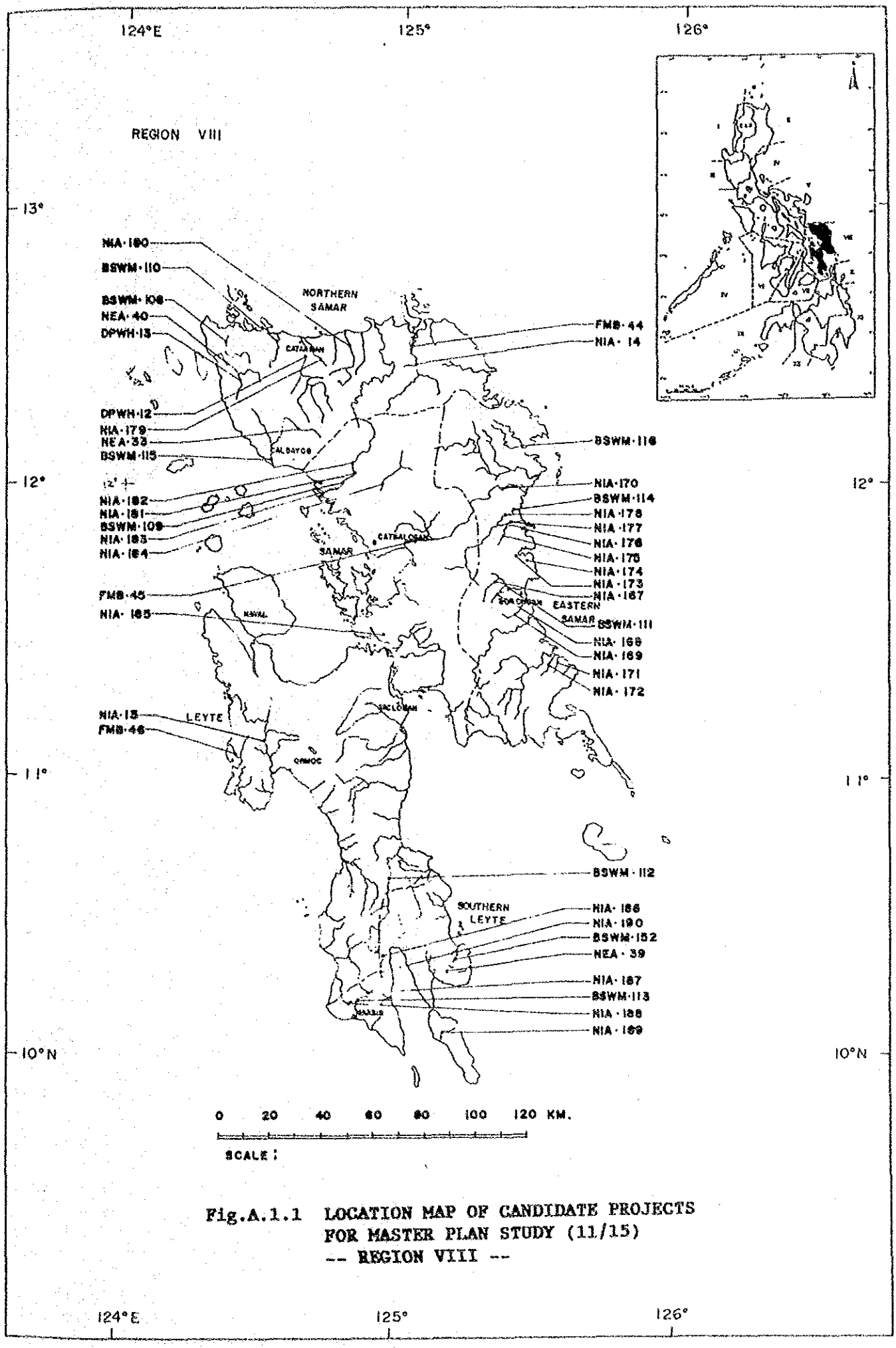


Fig.A.1.1 LOCATION MAP OF CANDIDATE PROJECTS FOR MASTER PLAN STUDY (11/15) -- REGION VIII --

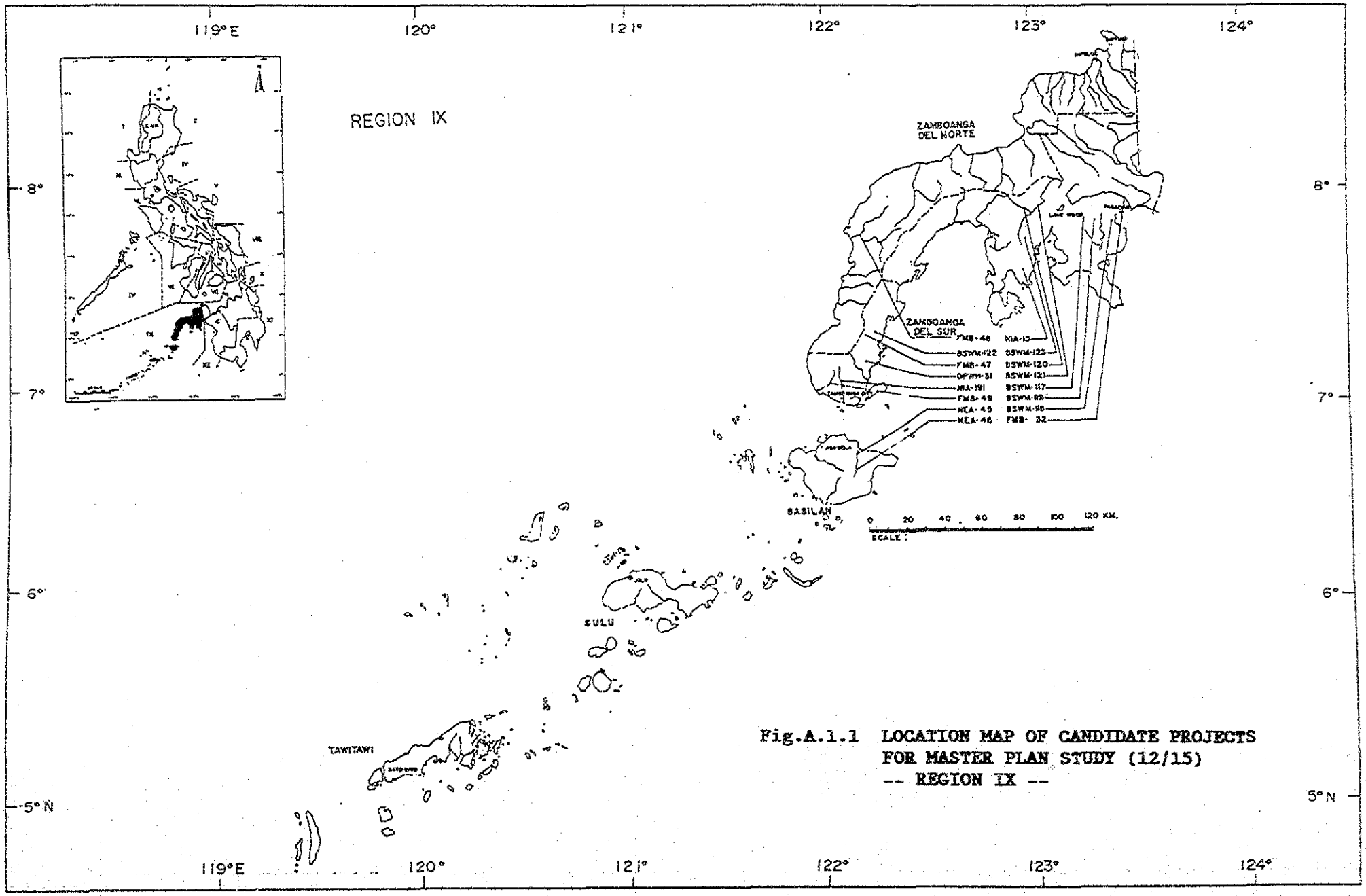


Fig.A.1.1 LOCATION MAP OF CANDIDATE PROJECTS FOR MASTER PLAN STUDY (12/15) -- REGION IX --

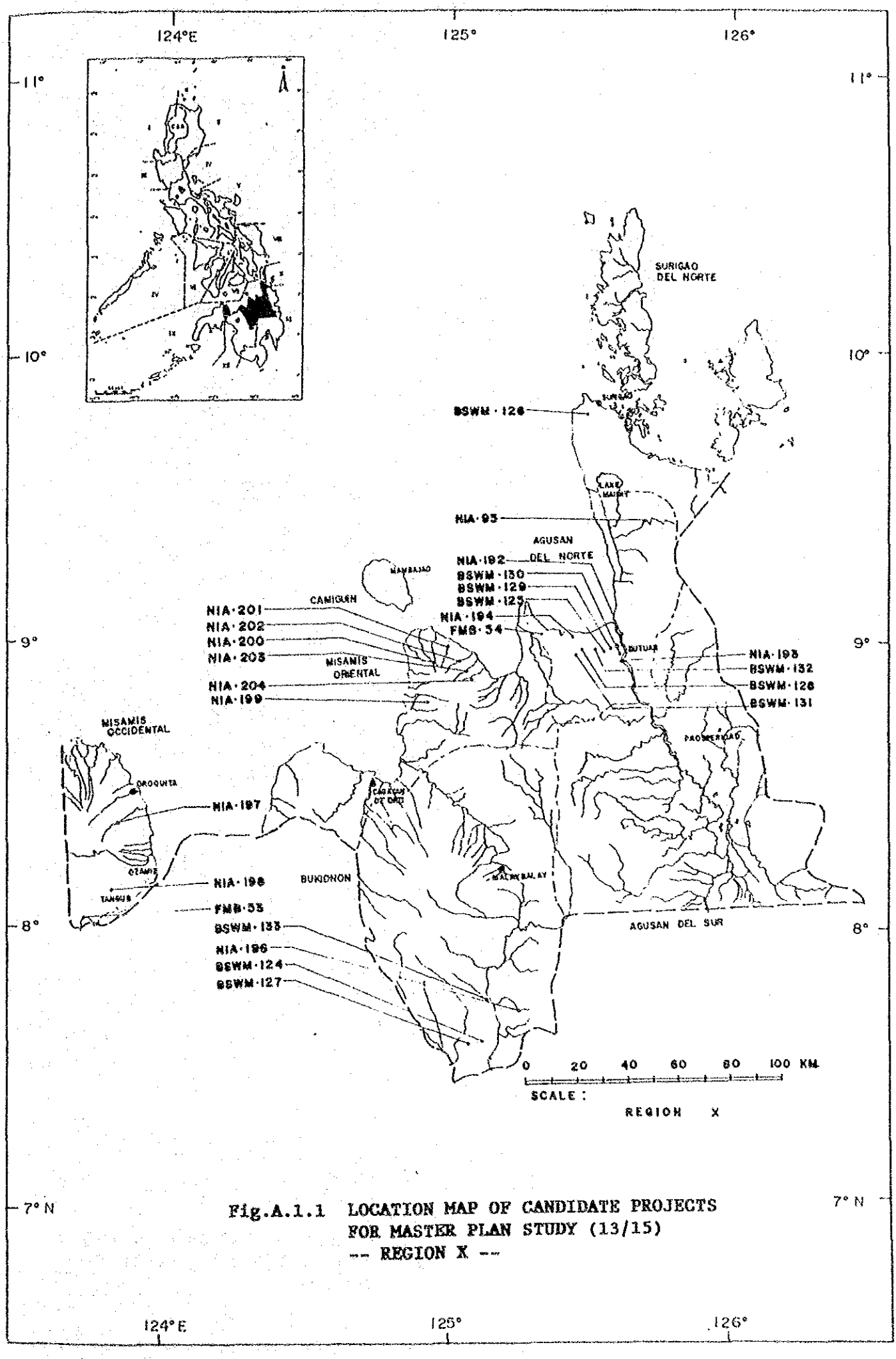


Fig.A.1.1 LOCATION MAP OF CANDIDATE PROJECTS FOR MASTER PLAN STUDY (13/15) -- REGION X --

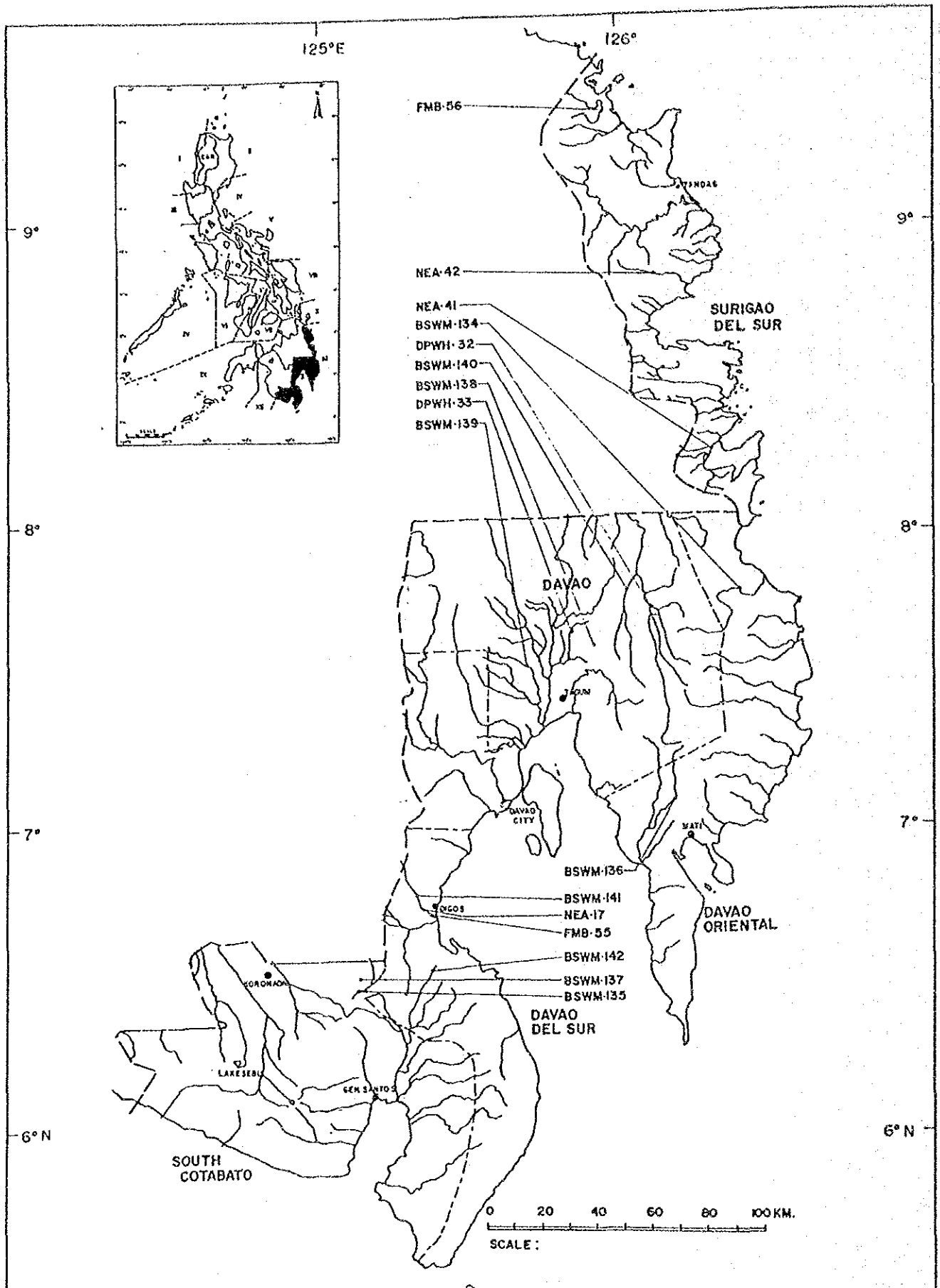


Fig.A.1.1 LOCATION MAP OF CANDIDATE PROJECTS FOR MASTER PLAN STUDY (14/15) -- REGION XI --

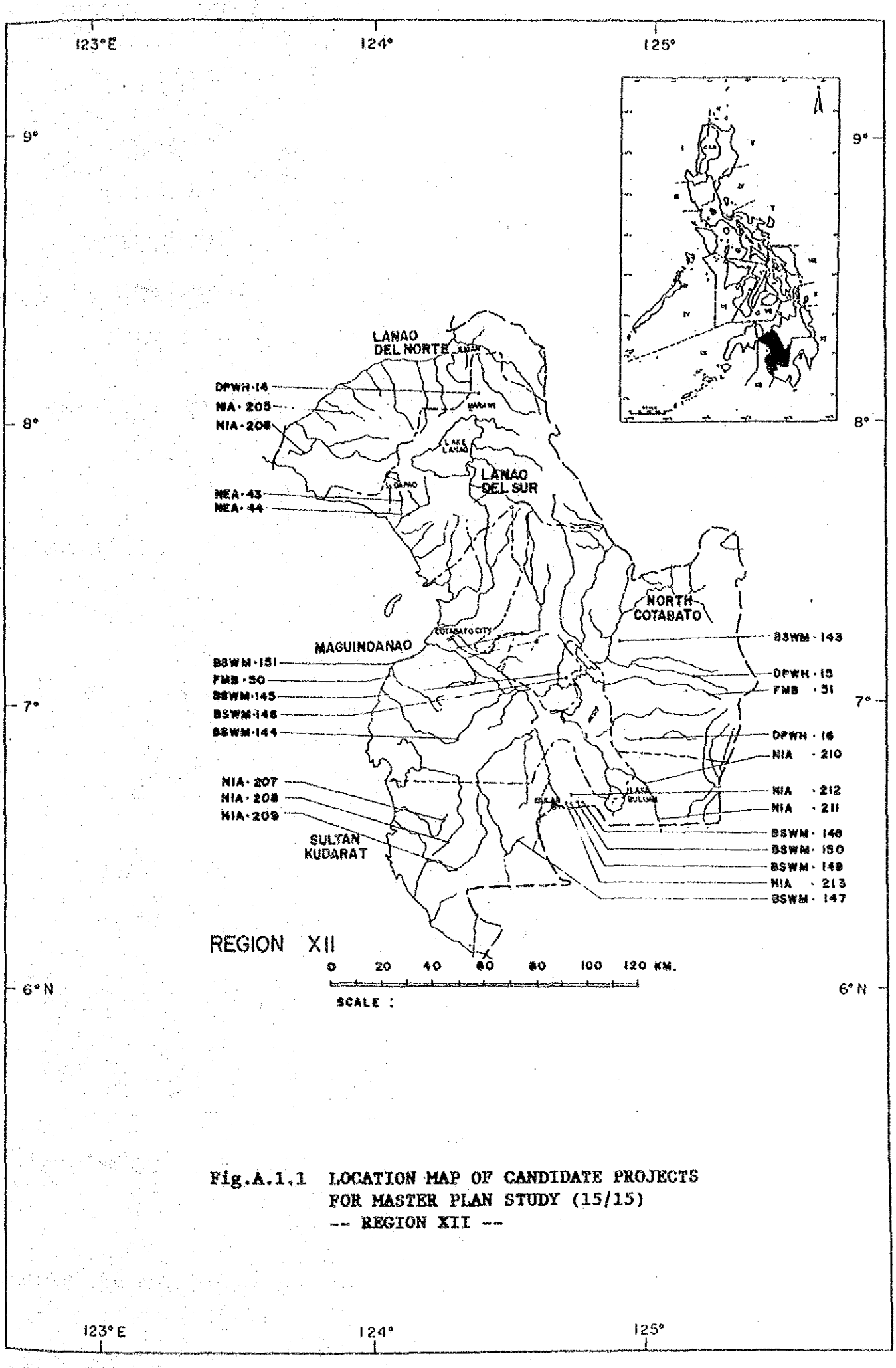


Fig.A.1.1 LOCATION MAP OF CANDIDATE PROJECTS FOR MASTER PLAN STUDY (15/15)
-- REGION XII --

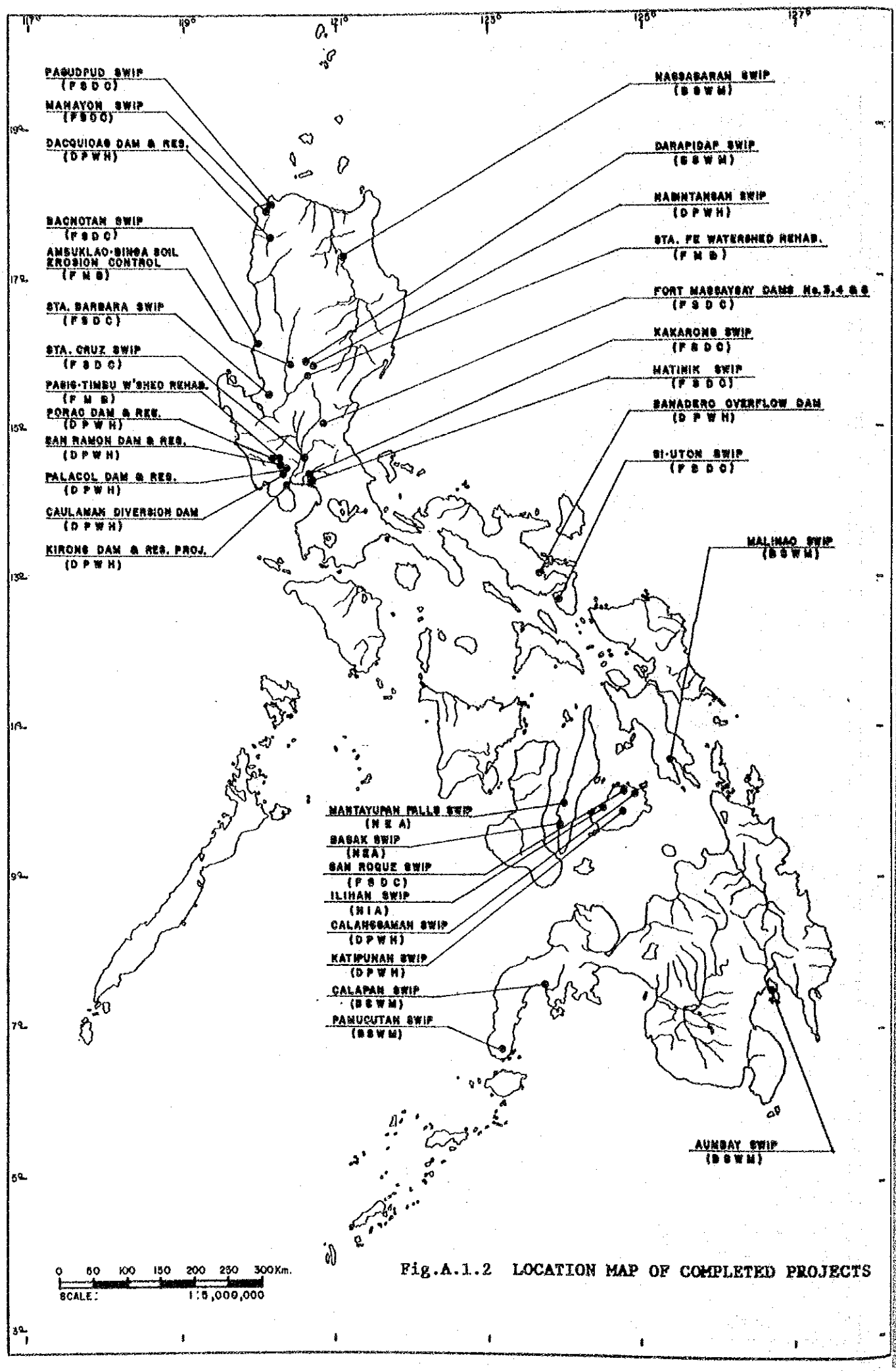


Fig.A.1.2 LOCATION MAP OF COMPLETED PROJECTS

Fig.A.4.1 PROJECT FORMAT FOR REVIEW OF EXISTING DATA AND REPORTS

NO.	NAME OF PROJECT	
	IMPLEMENTING AGENCY	

I. PROJECT PROFILE

LOCATION		REGION:	
LATITUDE:		PROVINCE:	
LONGITUDE:		MUNICIPALITY:	
SOCIO-ECONOMIC FEATURES OF MUNICIPALITY			
LAND AREA (sq. km)		REVENUE CLASS:	
POPULATION		SECURITY CONDITION:	
POPULATION DENSITY		REMARKS:	

PRESENT STATUS				
LEVEL OF PROJECT PREPARATION:		1. RECONNAISSANCE	2. F/S ( )	3. D/D ( )
AVAILABILITY OF REPORTS:		1. NO REPORT	2. RECONNAISSANCE	3. F/S 4. D/D
SCALE OF MAP USED	DAMSITE:	RESERVOIR:	IRRIGATION AREA:	

PURPOSE OF PROJECT				
MAJOR:	1. IRRIGATION	2. MINI-HYDROPOWER	3. WATERSHED MANAGEMENT	4. WATER SUPPLY
	5. INLAND FISHERY	6. FLOOD CONTROL	7. OTHERS:	
INCIDENTAL:	1. IRRIGATION	2. MINI-HYDROPOWER	3. WATERSHED MANAGEMENT	4. WATER SUPPLY
	5. INLAND FISHERY	6. FLOOD CONTROL	7. OTHERS:	

II. OUTLINE OF DAM PLAN AND DESIGN

HYDROLOGY	NAME OF RIVER:			
	WATER RESOURCES REGION:			
	ANNUAL RUNOFF (mm)			
	DESIGN RAINFALL (mm)		RETURN PERIOD (year)	
	DESIGN FLOOD (cms)		RETURN PERIOD (year)	
	SEDIMENT YIELD (cu.m/sq.km/year)			
METEOROLOGY	RAINFALL (mm/year)		EVAPORATION (mm/year)	
	CLIMATE TYPE	I. II.	III. IV.	
GEOLOGY	DAM AXIS		RESERVOIR	

DAM DESIGN	DAM TYPE:	
	CATCHMENT AREA (sq. km)	FREEBOARD
	TOTAL STORAGE CAPACITY (cu. m)	UPSTREAM SLOPE
	EFFECTIVE STORAGE CAPACITY (cu. m)	DOWNSTREAM SLOPE
	DEAD STORAGE CAPACITY (cu. m)	
	RESERVOIR AREA (ha)	
	DAM HEIGHT (m)	
	DAM CREST LENGTH (m)	
	CREST WIDTH (m)	
	EMBANKMENT VOLUME (cu.m)	

FOUNDATION TREATMENT DESIGN			
DAM FOUNDATION			
TREATMENT METHOD:			

SPILLWAY DESIGN		
TYPE		
DESIGN CAPACITY (cu.m/sec)		CREST LENGTH (m)
TYPE OF ENERGY DISSIPATER:		

OUTLET WORKS DESIGN			
TYPE			
DESIGN CAPACITY (cu.m/sec)	DURING CONSTRUCTION:	AFTER CONSTRUCTION:	

III. OUTLINE OF PROJECT FEATURES

IRRIGATION			
TOTAL AREA (ha)		SOIL TYPE:	
BENEFICIARIES (Nos)		LAND CAPABILITY:	
LAND TENURE CONDITION:			
CROPPING PATTERN (ha)			
CROP	WET SEASON	DRY SEASON	PRESENT LAND USE (ha)
			(1) CROP LAND
			(2) BUSHES / FOREST
CROP YIELD (ton/ha)			(3) RESIDENTIAL
CROP	WET SEASON	DRY SEASON	(4) OTHERS
			(5) TOTAL
WATER REQUIREMENT (l/sec/ha):		DESIGN DISCHARGE (cu.m/sec):	
TOTAL CANAL LENGTH (km):		INTAKE METHOD:	

FLOOD CONTROL		
FLOOD PROTECTION AREA (ha)	PROBABILITY:	
AGRICULTURAL LAND (ha)		
MUNICIPAL AREA (ha)		

MINI HYDROPOWER		
INSTALLED CAPACITY (kW)		
DESIGN DISCHARGE (cu. m/sec)		
NET HEAD (m)		
ENERGY GENERATION (MWh)	PRIMARY:	SECONDARY:
PLANT FACTOR (%)		

WATERSHED MANAGEMENT		
WATERSHED AREA (ha):	NOS. OF CHECK DAMS:	
PROTECTION AREA (ha):		
REFORESTATION AREA (ha):	TREE SPECIES	

WATER SUPPLY	
BENEFICIARIES (Nos)	DESIGN SUPPLY CAPACITY (cu.m/day):

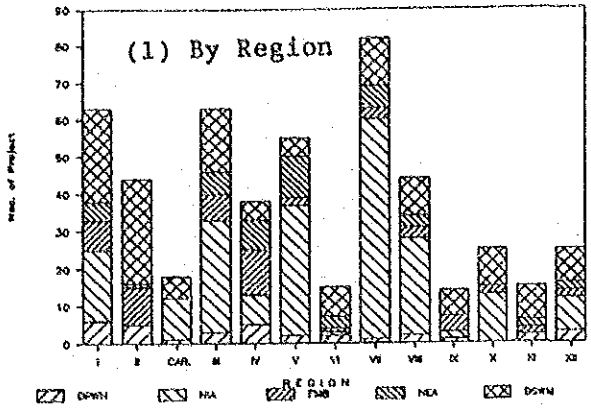
INLAND FISHERY	
FISH SPECIES	METHOD OF FISH CULTURE:
ANNUAL PRODUCTION (ton/year)	

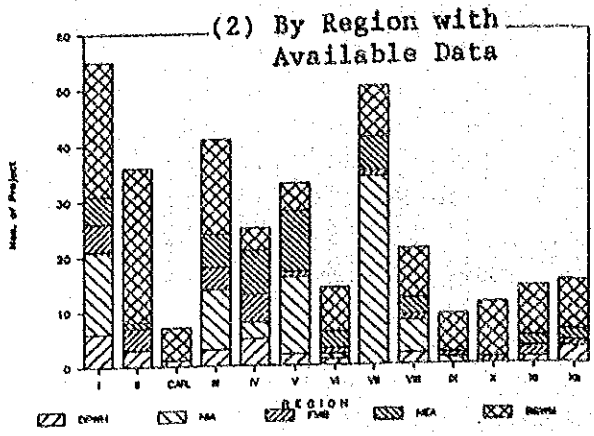
IV. PROJECT COSTS (AS OF) UNIT: pesos

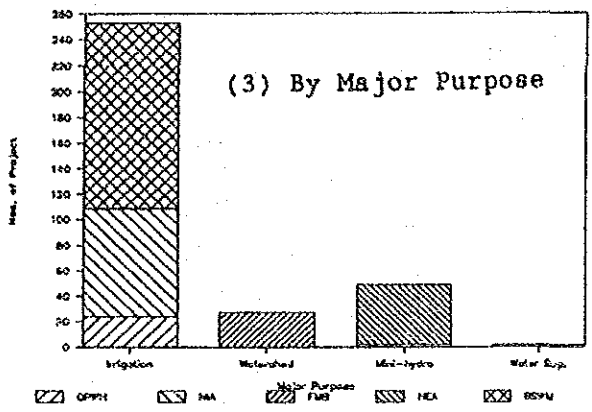
PROJECT COSTS (FINANCIAL BASIS)	UNIT PROJECT COST	O & M COSTS
DAM CONSTRUCTION	per cu. m of embankment	
IRRIGATION WORKS	per ha of irrigation area	
WATERSHED MANAGEMENT	per ha of protection area	
MINI HYDROPOWER	per kW	
WATER SUPPLY	per cu. m of water supply	
INLAND FISHERY	per ton of fish production	
OTHERS		
TOTAL		
CONSTRUCTION PERIOD (year)	REMARKS:	

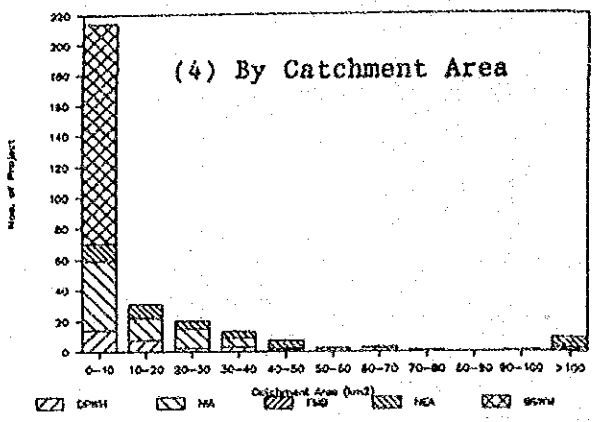
V. PROJECT BENEFITS AND IRR (AS OF) UNIT: pesos

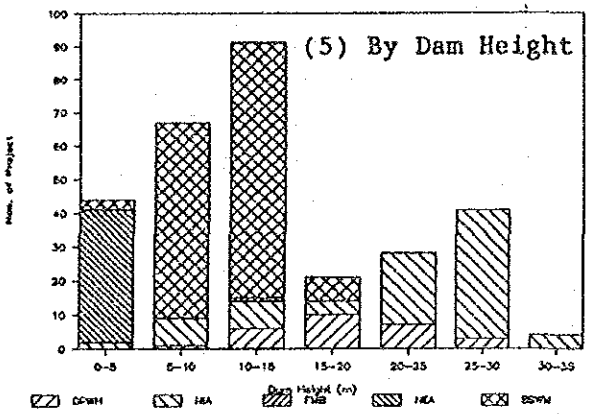
PROJECT BENEFITS (FINANCIAL BASIS)	UNIT PROJECT BENEFITS	IRR (%):
IRRIGATION	per cu. m of embankment	
MINI HYDROPOWER	per cu. m of embankment	
WATERSHED MANAGEMENT	per ha of protection area	B/C:
WATER SUPPLY	per cu. m of embankment	(at discount rate of 15%)
INLAND FISHERY	per cu. m of embankment	
FLOOD CONTROL	per cu. m of embankment	
OTHERS		NPV:
TOTAL	per cu. m of embankment	(at discount rate of 15%)

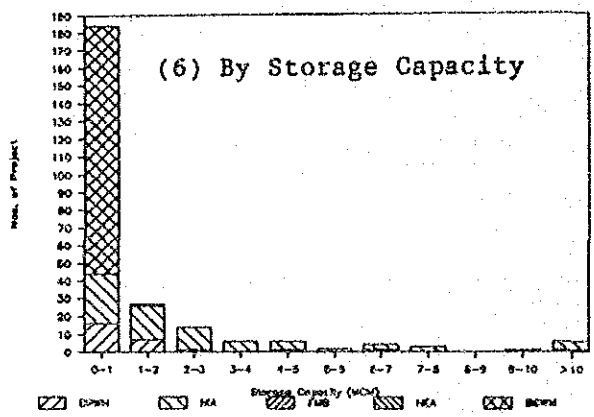












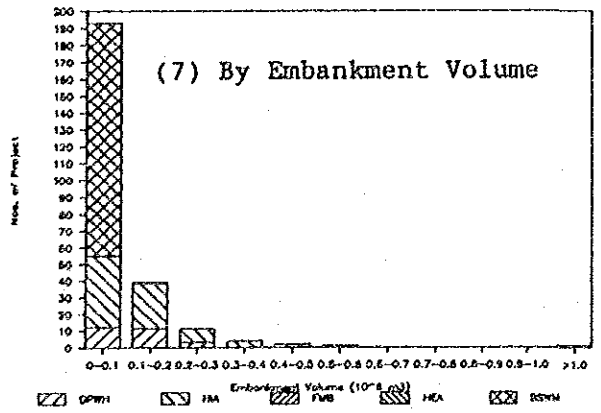


Fig.A.4.2 CLASSIFICATION OF CANDIDATE PROJECTS BY VARIOUS CATEGORIES

ANNEX B

REVIEW OF EXISTING REPORTS AND DESIGNS, AND POST-EVALUATION STUDY OF COMPLETED SWIM PROJECTS

ANNEX B REVIEW OF EXISTING REPORTS AND DESIGN, AND POST-EVALUATION STUDY OF COMPLETED SWIM PROJECT

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ANNEX B REVIEW OF EXISTING REPORTS AND DESIGNS, AND POST-EVALUATION STUDY OF COMPLETED SWIM PROJECTS

1 GENERAL

The existing reports and designs of 331 projects which are supported with data and/or reports, are reviewed to clarify the extent, depth and methods applied to the SWIM projects and thereby to materialize a vague idea of approach to the "Basic Planning Criteria". The individual projects are not therefore reviewed separately in this ANNEX, but a proposed projects as a whole. The existing reports and designs were reviewed in the following three (3) steps of projects preparations:

(1) Project identification
(2) Feasibility study
(3) Detailed design and preparation of tender documents

The technical evaluation of the 230 SWIM projects qualified as candidate for the 10 Year Action Program are individually made in ANNEX I.

In addition to the above, to clarify the current status of the completed SWIM projects and to constitute the baseline for preparation of "Basic Planning Criteria" and implementation procedure of the SWIM projects, the post-evaluation study is made for ten (10) constructed projects.

The results of review of existing reports and designs and post-evaluation study are described hereunder.

2 RESULTS OF TECHNICAL REVIEW

2.1 Project Identification

The SWIM Projects have been identified by the headquarters of each agency, in cooperation with their Regional and/or Provincial Offices. Most

of the project identification is not carried out based on the requests from local inhabitants but based on the results of potential studies by each agency. As for PMO-SWIM, NIA and BSWM projects are concerned, same procedures are taken up for the project identification. NEA and FMB apply a bit different way from them. The present situations and procedures of project identification process are described below:

2.1.1 Map Study

The potential study on development of the SWIM projects is made on the basis of topographic maps with a scale of 1:50,000 prepared by the Bureau of Coast Geodetic Survey (BCGS). All agencies except NEA use those maps for all required work of the project identification. NEA additionally conducts a topographic survey to measure a gross head for mini-hydropower generation.

2.1.2 Site Inspection

After reviewing potentiality on development of projects, each agency conducts a site inspection on reconnaissance level. PMO-SWIM, NIA and BSWM carry out the reconnaissance survey by deploying technical staff of the Main and/or Regional Offices, specially focussing on potentiality of water resources, present condition of damsite, reservoir area and service area.

NEA conducts a profile survey from the proposed intake site to the proposed tailrace to ensure a gross head for hydropower generation, and also conducts a reconnaissance market survey to identify the rural electrification condition.

FMB makes a reconnaissance survey to clarify the physical and biological condition of watershed areas.

2.1.3 Preliminary Data Collection

PMO-SWIM, NIA and BSWM collect the data relating to development of dam and irrigation on the following items:

- Available maps for damsite, reservoir area and irrigation areas
- Climate and hydrology
- Geology
- Soils and land use
- Socio-economic condition

NEA collects the data relating to development of hydropower generation as follows:

- Available maps for damsite and along penstock
- Watershed condition, especially on sediment discharge and water quality
- Hydrology
- Electrification condition in the vicinity

FMB collects the data relating to watershed management, in order to identify necessity of development as follows:

- Available maps of watershed
- Climate and hydrology
- Geology
- Soils and land use
- Vegetative cover
- Water use
- Socio-economic condition

2.1.4 Preliminary Data Analysis and Evaluation

As for PMO-SWIM, NIA, BSWM and NEA, the technical analysis is made based on data collected, and the preliminary economic analysis is also made in terms of IRR for PMO-SWIM, NIA and BSWM and unit power generation cost (cost per kWh) for NEA. However, FMB does not make the economic analysis but only the technical analysis and recommendation on watershed management based on necessity of development.