

A-3-2 ドラフト調査団の関係者リスト (ドラフト・ファイナル・レポート説明)

<u>Name</u>	<u>Position</u>
1) Yolanda Ma. de Leon	Assistant Secretary, DILG (地方自治省大臣補佐)
2) Jose Miguel R. de La Rosa	Director, DILG (地方自治省、部長)
3) Fern C. Ariola	Devt. Management Officer V, LGDO / DILG (地方自治省、地方自治体開発室、開発管理室V)
4) Jesus G. Fontecha	DMO V, LGDO / DILG (地方自治省、地方自治体開発室、開発管理室V)
5) Haezel M. Barber	DMO V, LGDO / DILG (地方自治省、地方自治体開発室、開発管理室V)
6) Aurelio P. Espinosa	City Mayor - Toledo City (トレド市長)
7) Ernest H. Weigel, Jr.	Mayor, Lapu-Lapu City (ラプラプ市長)
8) Rey M. Yap	Mayor, Sapang Dalaga, Mis. Occ. (サパン・ダラガ町長)
9) Wills P. Delgado	Project Dev't. Coordinator (サパン・ダラガ町長事業開発調整員)
10) Ernie F. Bandala	City Mayor, Oroquieta City (オロキエタ市長)
11) Edmund S. Elardo	Chief of Staff of Cong. P. Catane (議員秘書長)
12) Severino A. Escobido, Jr.	Mayor, Car-Car, Cebu (カルカル町長)

MINUTES OF DISCUSSION
BASIC DESIGN STUDY ON THE PROJECT FOR
REHABILITATION OF PUBLIC MARKETS
IN THE TYPHOON RUPING-AFFECTED AREA

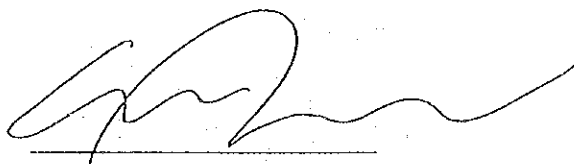
Based on the results of the Preliminary Study, the Japan International Cooperation Agency (JICA) decided to conduct a Basic Design Study on the Project for Rehabilitation of Public Markets in the Typhoon Ruping-Affected Area (hereinafter referred to as the "Project").

JICA sent to the Republic of the Philippines a study team, which is headed by Mr. Satoshi Machida, Deputy Director of 2nd Basic Design Study Division, Grant Aid Study & Design Department, JICA, and is scheduled to stay in the country from March 16 to April 15, 1992.

The team held discussions with the officials concerned of the Government of the Republic of the Philippines and conducted a field survey of the study area.

In the course of discussions and field survey, both parties have confirmed the main items described on the attached sheets, the team will proceed to further works and prepare the Basic Design Study report.

March 27, 1992



Mr. Satoshi Machida

Leader

Basic Design Study Team



Mr. Andres V. Sanchez, Jr.

Undersecretary

Department of Interior
and Local Govt. (DILG)

I. Objective

The objective of the project is to rehabilitate and improve public markets and their operational conditions in selected sites in the typhoon Ruping-affected area.

II. Responsible and Executing Organization

1. The Department of Interior and Local Government (DILG) is responsible for overall administration and execution of the Project.
2. After project completion and turnover, the local governments of the target public markets shall be in charge of operating and maintaining the markets.

III. Requested Public Markets

After discussions with the Basic Design Study team, the following markets were finally requested by the Philippines side. Requested components of each market and their location maps are attached as Attachment I & II respectively.

1. New public market in Lapu-Lapu City
2. Carcar public market in Carcar town, Cebu
3. New public market in Danao City
- 4, 5. Poblacion market and Don Andres Soriano (DAS) Market in Toledo City
6. Oroquieta City public market in Misamis Occidental
7. Sapang Dalaga public market in Misamis Occidental

IV. Major Points in Discussion

1. The study team pointed out that the following matters would be very important in planning the Basic Design of the Project. In this regard, information and documents concerning following Items (1), (2), (3) are required by the end of June 1992.

(1) For public markets requiring new site, land acquisition and relocation of residents are indispensable. DILG is requested to submit to JICA office in the Philippines official documents which show acquisition of land and agreements with residents for relocation.

(2) For public markets to be reconstructed on the same site, temporary relocation of stalls during implementation of the project is required. It is also indispensable to submit a relocation plan indicating the temporary relocation site, stall lay-out, terms and conditions for relocation (i.e. relocation fees,



construction arrangements). DILG is requested to submit the relocation plan and agreements for temporary relocation between stallholders and concerned local government units.

- (3) In case a slaughterhouse component is included in a Project site, the concerned local government unit is requested to secure necessary clearance for its construction at the site.
- (4) DILG and the local government units (cities and municipalities) should secure the budget for each item in the agreement and plan, as soon as possible.

2. Requirements and observations for the Proposed Sites

(1) Lapu-Lapu Market (Cebu)

- Land acquisition and relocation of residents.
- Site preparation including land filling.
- Installation of utilities up to the site (electricity, water supply, drainage etc.).

(2) Carcar Market (Cebu)

- Temporary relocation plan and agreement with all the stallholders in the affected area.
- Appropriate site for slaughterhouse
- Installation of utilities up to the site (especially drainage).

(3) Danao Market (Cebu)

- Agreement with the vendors indicating willingness to occupy stall in the new market.
- Plan for future usage of the existing market place.
- Relocation of residents and land filling of the affected area.
- Assignment of adjacent area for parking lot.
- Installation of utilities up to the site, particularly;
 - 1) Water supply by gravity system combined with supply from the existing market deep-well.
 - 2) Drainage improvement along the Project site.
 - 3) Electricity.

Arlovin

(4) Toledo Market (Cebu)

1) Poblacion Market

Proposed extension of Poblacion Market seems to have the following difficulties.

- Construction of sea wall prior to building facilities on the site is considered indispensable.
- Development of relocation site seems to take a lot of time and cost.

Judging from the above, the study team expressed that it would be difficult to include the proposed rehabilitation of Poblacion Market in the project.

2) DAS Market

Toledo city authority presented three (3) new alternative sites for dry goods market and slaughter house. However these sites seem to have difficulties in land preparation and infrastructural arrangements.

The study team concluded that it would be more appropriate to plan the new slaughter house for DAS Market at the original proposed site in Media Once and the conversion of the existing slaughter house to a dry goods market. The study team will further investigate this possibility from the view point of technical, marketing and operational aspects.

(5) Oroquieta Market (Misamis Occ.)

- Temporary relocation plan for stall holders in the old market place.
- Stall lay-out for the proposed market and existing buildings, as well.
- For the slaughterhouse proposal, the study team finds the cost of land filling and flood protection wall, which is required, to be high. It is, therefore, the judgment of the team that this site is not feasible for the slaughterhouse.

The local government unit proposes to identify an alternative site and present this to the team by the end of March, 1992.

If an appropriate alternative site can not be presented by the above



mentioned date, then the Philippine side agreed to exclude the new slaughterhouse from the Project.

(6) Sapang Dalaga (Misamis Occ.)

- Municipal government plan for temporary relocation (i.e. traffic re-routing, stall lay-out etc.) and agreement between the existing stallholders and the municipal government for temporary relocation during construction period.
- Site preparation for new slaughterhouse.

V Japanese Grant Aid System

1. The Philippine side has understood the system of Japanese Grant Aid as explained by the team.
2. The Philippine side will take the necessary measures described in Attachment III for smooth implementation of the Project, on condition that the Grant Aid by the Government of Japan is extended to the Project.

VI Others

The Philippine side is committed to ensure the safety of Japanese and other individuals who will be involved in this Project.

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PROPOSED MARKET SITES AND REQUESTED COMPONENTSLAPU-LAPU CITY, CEBU

- | | | |
|------------|----|-----------------------------------|
| Components | 1. | Construction of new public market |
| | 2. | Site development |
| | 3. | Cold storage (ice storage) |

CARCAR, CEBU

- | | | |
|------------|----|---------------------------------|
| Components | 1. | Reconstruction of public market |
| | 2. | Site development |
| | 3. | Slaughterhouse |
| | 4. | Ice storage |

DANA O CITY, CEBU

- | | | |
|------------|----|---|
| Components | 1. | Construction of new public market on new site |
| | 2. | Site development |
| | 3. | Ice storage |

TOLEDO CITY, CEBU

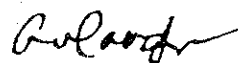
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|------------|----|--|
| Components | 1. | Construction of slaughterhouse |
| | 2. | Construction of wet market in Poblacion |
| | 3. | Cold storage (ice storage) for Poblacion |
| | 4. | Cold storage (ice storage) for Don Andres Soriano (DAS) market |
| | 5. | Additional dry goods stalls for DAS market |

OROQUIETA CITY, MISAMIS OCCIDENTAL

- | | | |
|-----------|----|---------------------------------|
| Component | 1. | Reconstruction of public market |
| | 2. | Site development |
| | 3. | Slaughterhouse |

SAFANG DALAGA, MISAMIS OCCIDENTAL

- | | | |
|------------|----|---------------------------------|
| Components | 1. | Reconstruction of public market |
| | 2. | Site developments |
| | 3. | Slaughterhouse |



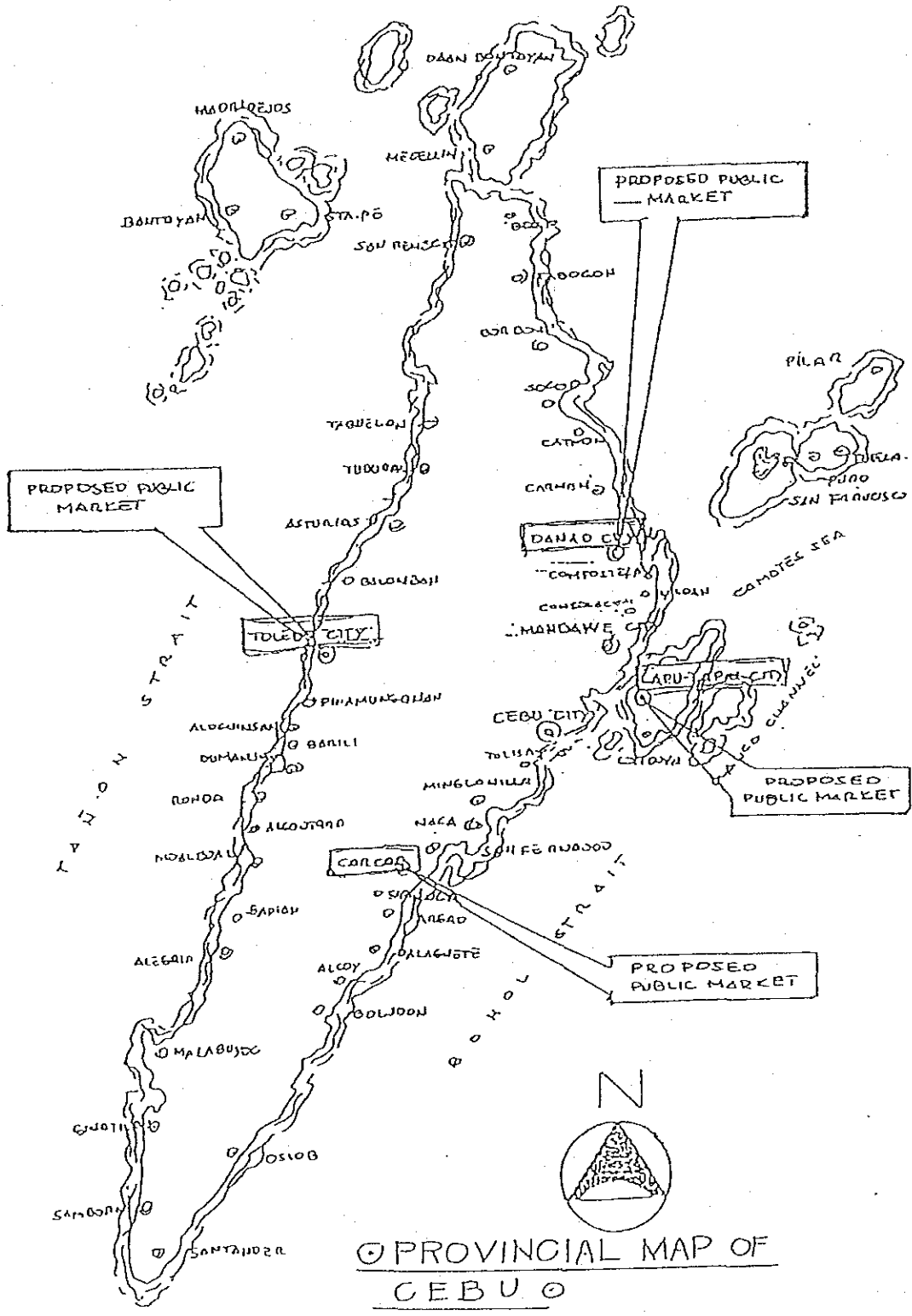
LOCATION MAPS

Site Plans

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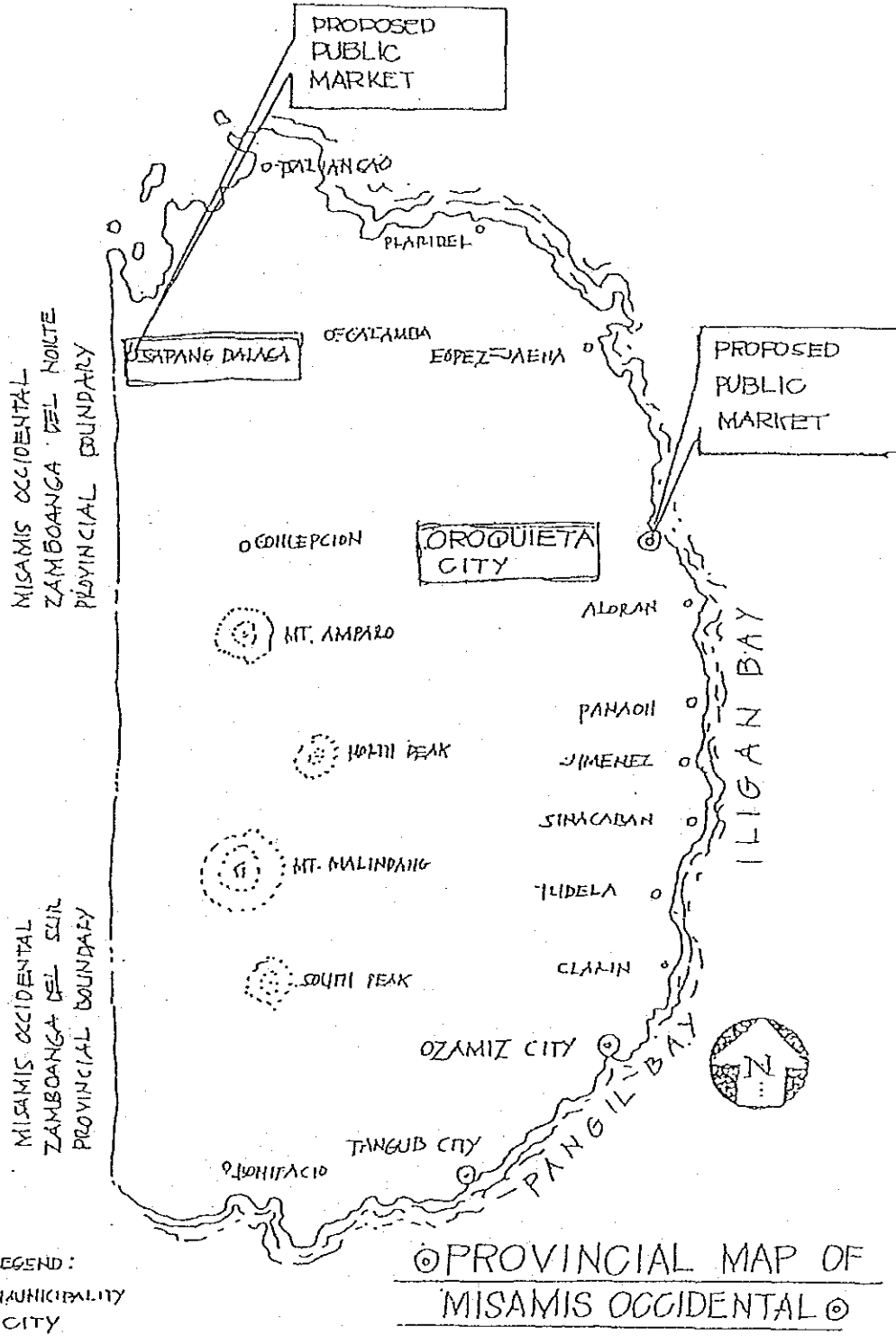
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PROVINCIAL MAP OF CEBU

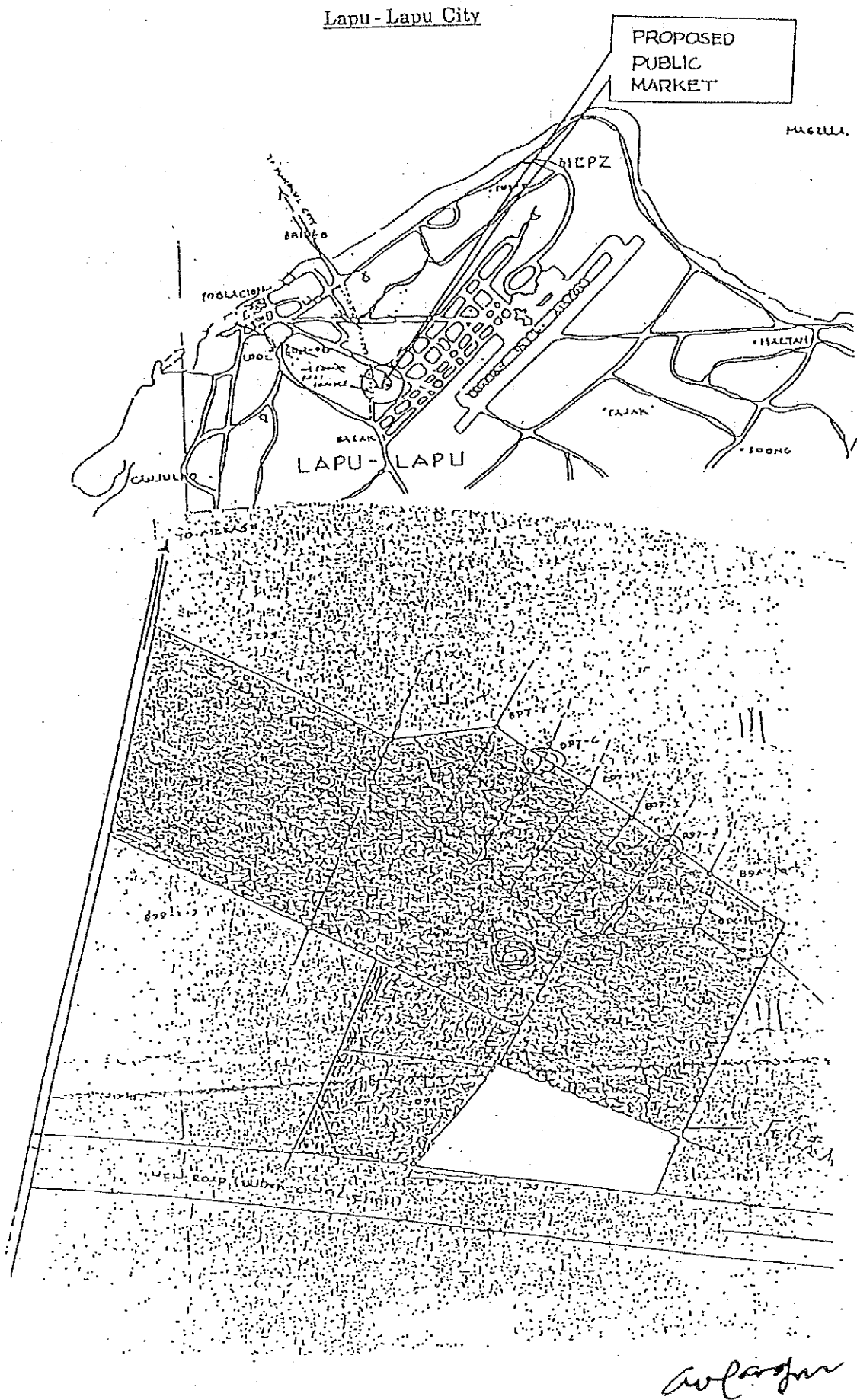


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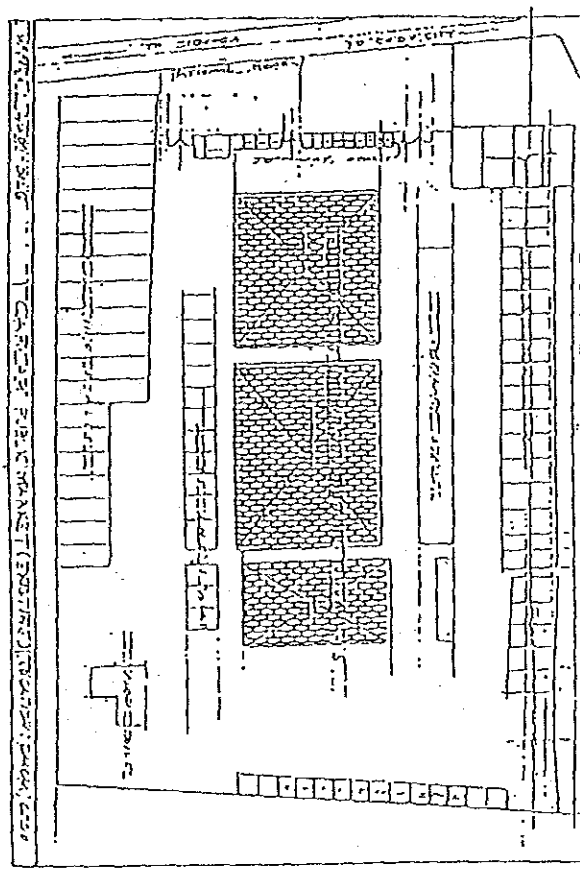
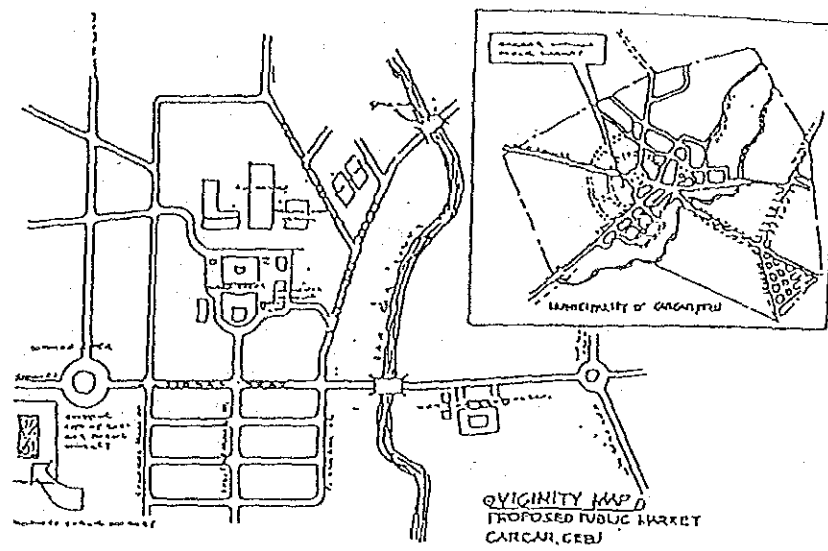
PROVINCIAL MAP OF MISAMIS OCCIDENTAL




Awladan



Carcar

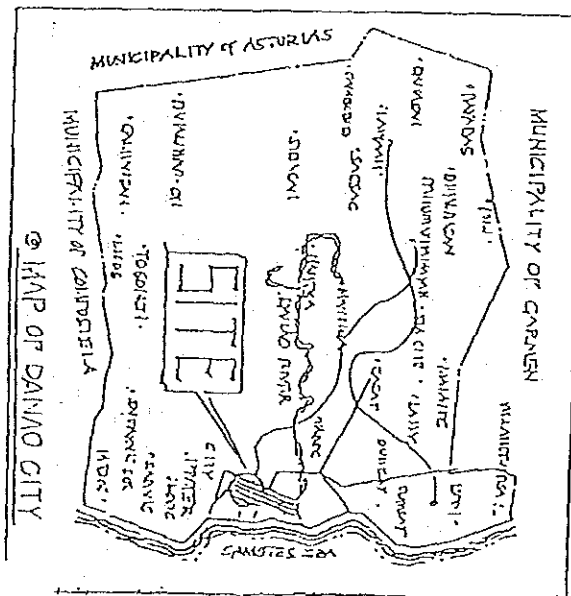
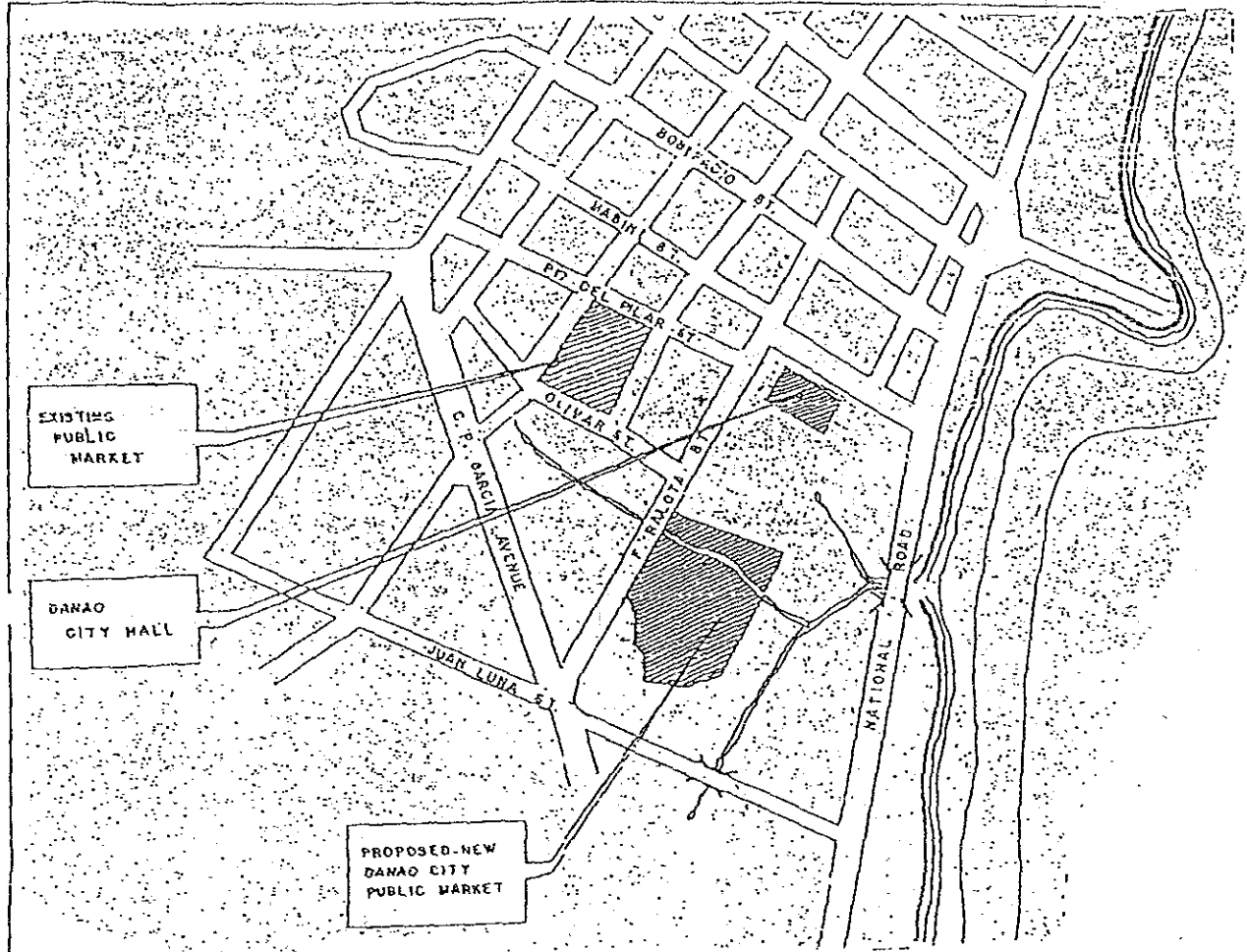



 RECONSTRUCTION

PLAN

Colonna

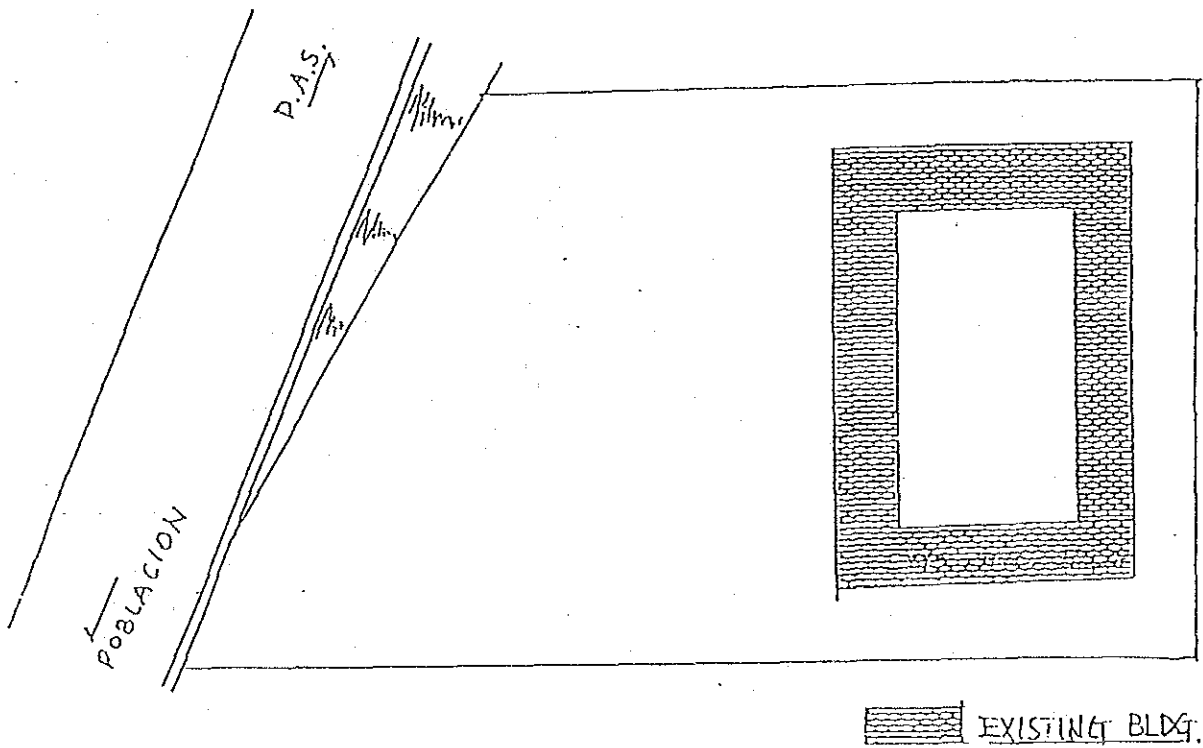
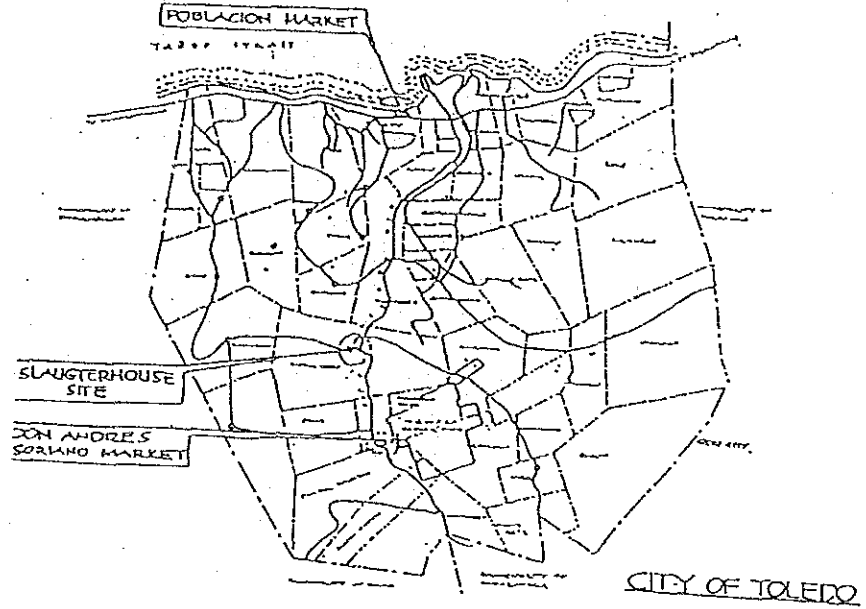
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VICINITY MAP
 PROPOSED PUBLIC MARKET
 DANAOK CITY

Arceaga

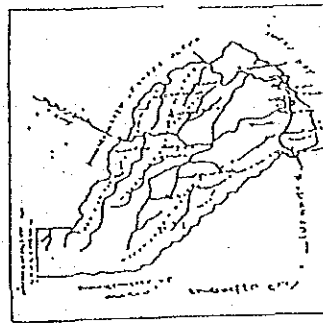
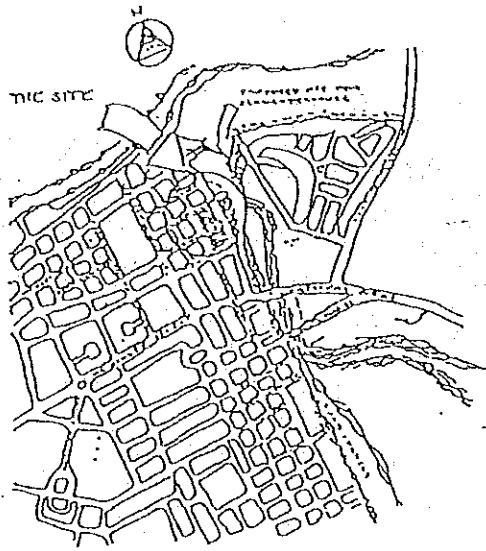
Toledo City



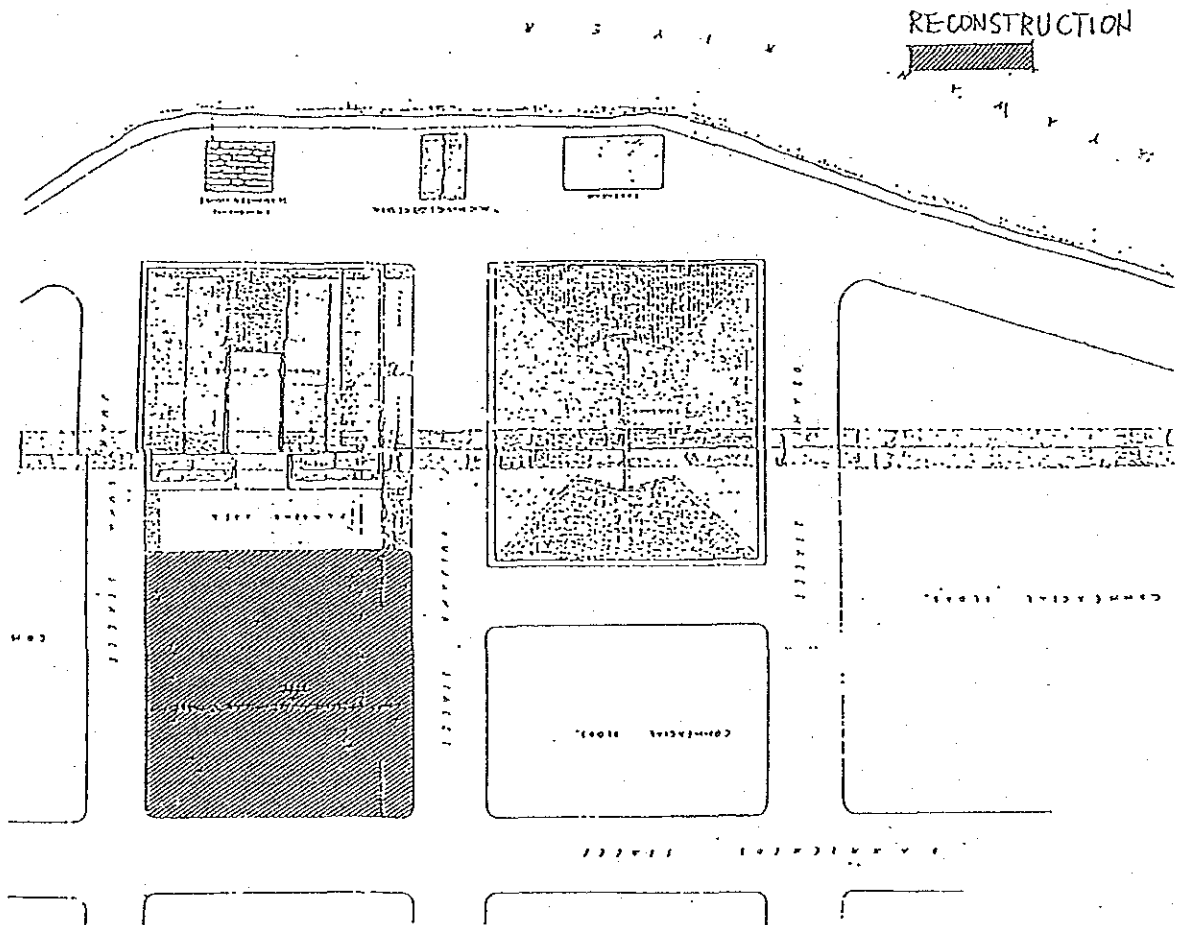
PROPOSED SITE for SLAUGHTER HOUSE

Galardo

Oroquieta City



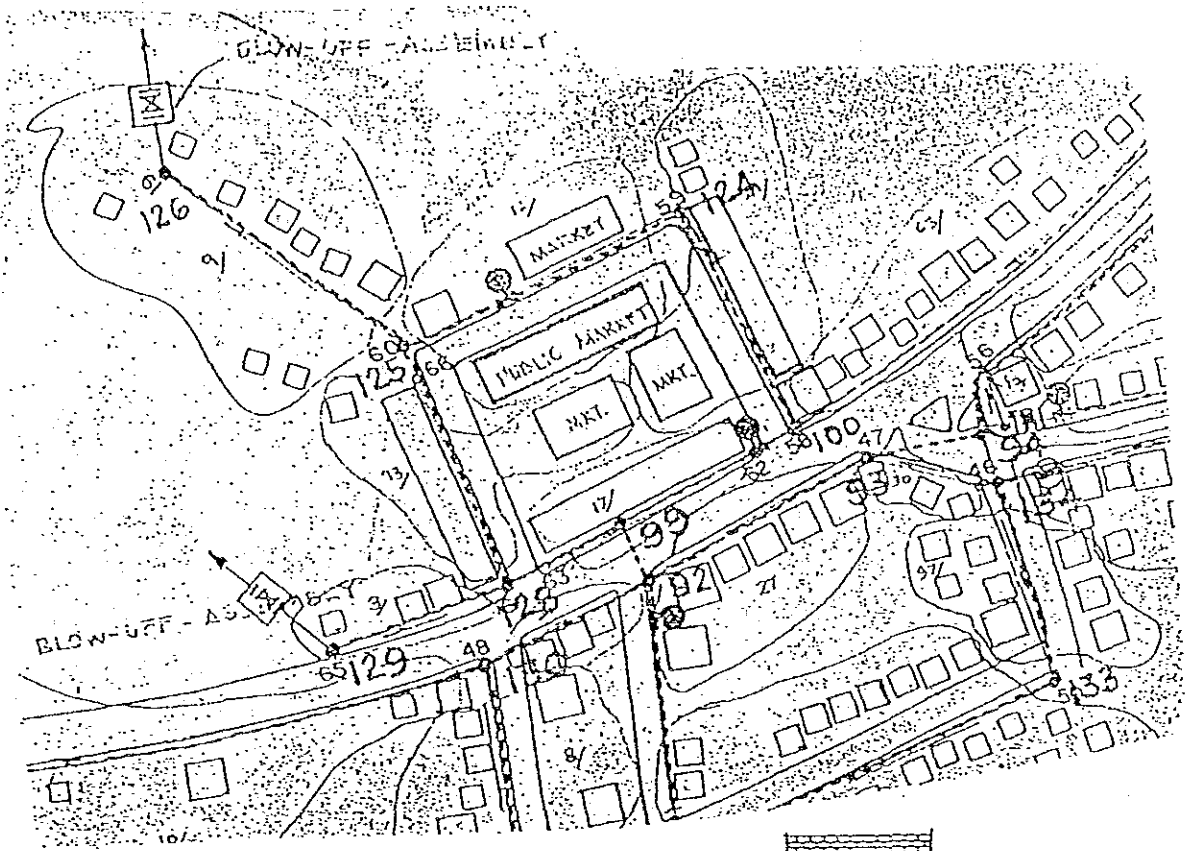
VICINITY MAP
PROPOSED PUBLIC MARKET
OROQUIETA CITY



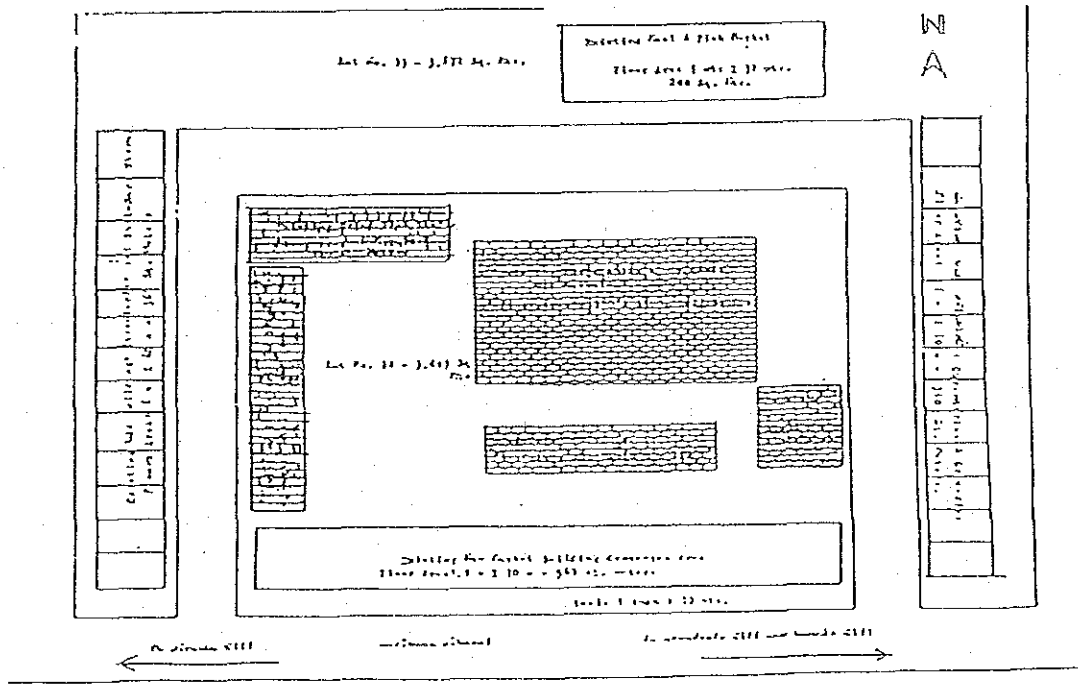
OROQUIETA

Avila

Sapang Dalaga



 RECONSTRUCTION



SAPANG DALAGA *Calacagan*

Necessary measures to be taken by each government in case Japan's Grant Aid is executed.

No.	Items	Japanese Side	Recipient Side
1.	To secure a lot of land		○
2.	To clear, level and reclaim the site when needed		○
3.	To construct the gate and fence in and around the site		○
4.	To construct the parking lot	○	
5.	To construct the road	○	
	1) Within the site	○	
	2) Outside the site		○
6.	To construct the building	○	
7.	To provide facilities for distribution of electricity, water supply, drainage and other incidental facilities		
	1) Electricity		
	a. The distributing line to the site		○
	b. The drop wiring and internal wiring within the site	○	
	c. The main circuit breaker and transformer	○	
	2) Water Supply		
	a. The city water distribution main to the site		○
	b. The supply system within the site (receiving and elevated tanks)	○	
	3) Drainage		
	a. The drainage city main (for storm, sewer and others) to the site		○
	b. The drainage system (for toilet sewer, ordinary waste, storm drainage and others) within the site	○	
	4) Gas Supply		
	a. The city gas main to the site		○
	b. The gas supply system within the site	○	
	5) Telephone System		
	a. The telephone trunk line to the main distribution frame/panel (MDF) of the building		○
	b. The MDF and the extension after the frame/panel	○	
	6) Furnitures and Equipment		
	a. General furnitures (carpet, curtain, table, chair and others)		○
	b. Project equipment	○	
8.	To bear the following commissions to the Japanese foreign exchange bank for the banking services based upon the B/A		
	1) Advising commission of A/P		○
	2) Payment commission		○
9.	To ensure unloading and customs clearance at port of disembarkation in recipient country		
	1) Marine (Air) transportation of the products from Japan to the recipient country	○	
	2) Tax exemption and custom clearance of the products at the port of disembarkation		○
	3) Internal transportation from the port of disembarkation to the project site	○	
10.	To accord Japanese nationals whose services may be required in connection with the supply of the products and the services under the verified contract such facilities as may be necessary for their entry into recipient country and stay therein for the performance of their work		○
11.	To maintain and use properly and effectively that the facilities constructed and equipment purchased under the Grant		○
12.	To bear all the expenses other than those to be borne by the Grant, necessary for construction of the facilities as well as for the transportation and the installation of the equipment		○

MINUTES OF DISCUSSIONS

BASIC DESIGN STUDY

ON

THE PROJECT FOR REHABILITATION OF PUBLIC MARKETS

IN THE TYPHOON RUPING AFFECTED AREA

IN

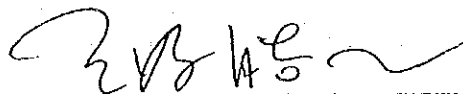
THE REPUBLIC OF THE PHILIPPINES

(CONSULTATION ON DRAFT REPORT)

In March 1992, the Japan International Cooperation Agency (JICA) dispatched a Basic Design Study team on the Project for Rehabilitation of Public Markets in the Typhoon Ruping Affected Area (hereinafter referred to as "the Project") to the Republic of the Philippines, and through discussions, field survey, and technical examination of the results in Japan, has prepared the draft report of the study.

In order to explain and to consult the Philippine side on the components of the draft report, JICA sent to the Philippines a study team, which is headed by Mr. Koichi Miyoshi, Director, Second Basic Design Study Division, Grant Aid Study & Design Department, JICA, and is scheduled to stay in the country from September 10 to 19, 1992.

Manila
September 17, 1992



Mr. Koichi Miyoshi
Leader, Basic Design Study
Team
JICA



Ms. Yolanda Ma. de Leon
Assistant Secretary
Department of the Interior and
Local Government
Republic of the Philippines



ATTACHMENT

1. Components of Draft Report

The Government of the Philippines has agreed and accepted in principle the components of the Draft Report proposed by the team.

The components of the Project agreed on by both sides are as follows:

- (1) New Construction of Danao Market
- (2) Reconstruction of sections of Oroquieta Market
- (3) Reconstruction of sections of Sapang Dalaga Market and new construction of a slaughterhouse

The above components were based on the Modular Approach system developed by the Government of the Philippines through the DILG.

2. Responsible and Executing Organization

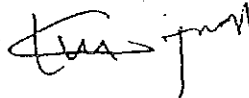
- (1) The Department of the Interior and Local Government (DILG) is responsible for overall administration and execution of the Project.
- (2) The proposed Public Market Development Program Office (PMDPO) will take over the functions of the existing implementing unit, the Local Government Development Office (LGDO).
- (3) After project completion and turn-over, the local governments of the target public markets shall be in-charge of operating and maintaining the markets.

3. Japan's Grant Aid System

- (1) The Government of the Philippines has understood the system of Japanese Grant Aid explained by the team
- (2) The Government of the Philippines will take necessary measures, described in Annex I, for smooth implementation of the Project on condition that the Grant Aid assistance by the Government of Japan is extended to the Project.

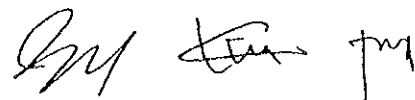
4. Further schedule

The team will make the Final report in accordance with the confirmed items, and send it to the Government of the Philippines by the end of October 1992.

By 

5. Other Issues

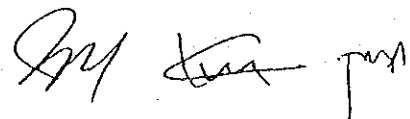
- (1) The Government of the Philippines will take the necessary steps to facilitate the early implementation of the Project such as securing clearance from the Philippine Investment Coordination Committee (ICC).
- (2) In spite of the above-mentioned results of the study, further requests for rehabilitation of public markets have been made by other municipalities and cities for consideration for future grant-aid assistance.



Annex I.

Necessary measures to be taken by the Government of the Philippines in case Japan's Grant Aid is executed.

1. To secure the site for the Project.
2. To clear, level and reclaim the site prior to commencement of the construction.
3. To undertake site development activities such as landscaping, construction of perimeter fence and gates and provide adequate lighting in and around the site.
4. To construct access road to the site prior to commencement of the construction.
5. To provide facilities for distribution of electricity, water supply, telephone, drainage, sewage and other incidental facilities to the Project site.
 - 1) Electricity distributing line to the site.
 - 2) Water distribution main to the site.
 - 3) Drainage main to the site.
 - 4) Telephone trunk line to the main distribution panel of building.
 - 5) General furniture such as carpets, curtains, tables, chairs and others.
 - 6) Space for field office, materials storage, and construction equipment during construction phase
6. To bear commissions to the Japanese foreign exchange bank for the banking services based upon the Banking Arrangement.
7. To exempt taxes and to take necessary measures for customs clearance of the materials and equipment brought for the project at the port of disembarkation.
8. To accord Japanese Nationals whose services may be required in connection with the supply of products and the services under the verified contract such facilities as may be necessary for their entry into the Philippines and stay therein for the performance of their work.



9. To maintain and use properly and effectively the facilities constructed and equipment purchased under the Grant.
10. To bear all the expenses other than those to be borne by the Grant.

By *[Signature]* *[Signature]*



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF LOCAL GOVERNMENT
 PNCC Bldg., EDSA Corner Reliance St.
 Mandaluyong, Metro Manila

September 15, 1992

MR. KOICHI MIYOSHI
 LEADER, BASIC DESIGN TEAM
 Japan International Cooperation Agency

Subject: Sapang Dalaga Slaughterhouse

Dear Dir. Miyoshi:

Per initial recommendation of the Basic Design Team, the slaughterhouse component of the Sapang Dalaga market cannot be considered because the site proposed is within the 300 meter radius recommended as unsuitable for construction of a slaughterhouse.

As a result of consultations with the appropriate agencies, we are citing the provisions of the National Meat Inspection Commission "Design Criteria for Slaughterhouses" (copy attached) which provides legal basis for allowing the construction within the 300 meter radius, particularly on DCS page 9 letters F and G.

In view of the above, may we request that the slaughterhouse component for the Sapang Dalaga Market be included under the package recommended.

Thank you.

Very truly yours,

YOLANDA MA. DE LEON
 ASSISTANT SECRETARY

cc: Takuya Ikeda
 First Secretary
 Embassy of Japan



REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF AGRICULTURE
NATIONAL MEAT INSPECTION COMMISSION

7/7

September 15, 1992

DIRECTOR JOSE MIGUEL DELA ROSA
Asst. Director, OPDS
Local Government Development Office
FNCC Bldg., EDSA Cor. Reliance St.
Mandaluyong, Metro Manila

Dear Director dela Rosa:

In response to your request regarding the NMIC criteria in the selection of site for an abattoir, please be inform that slaughterhouses should not be adjacent to markets due to congestion. The site of location shall be at least 100 meters from residential area, schools, churches and places of assembly and should be accessible to transportation. If located near rivers and lakes it should be of some reasonable distance from the banks (at least 10 meters) to prevent water pollution. Prevailing wind direction should be taken into account.

I hope that this information could help in your program.

Thank you and regards.

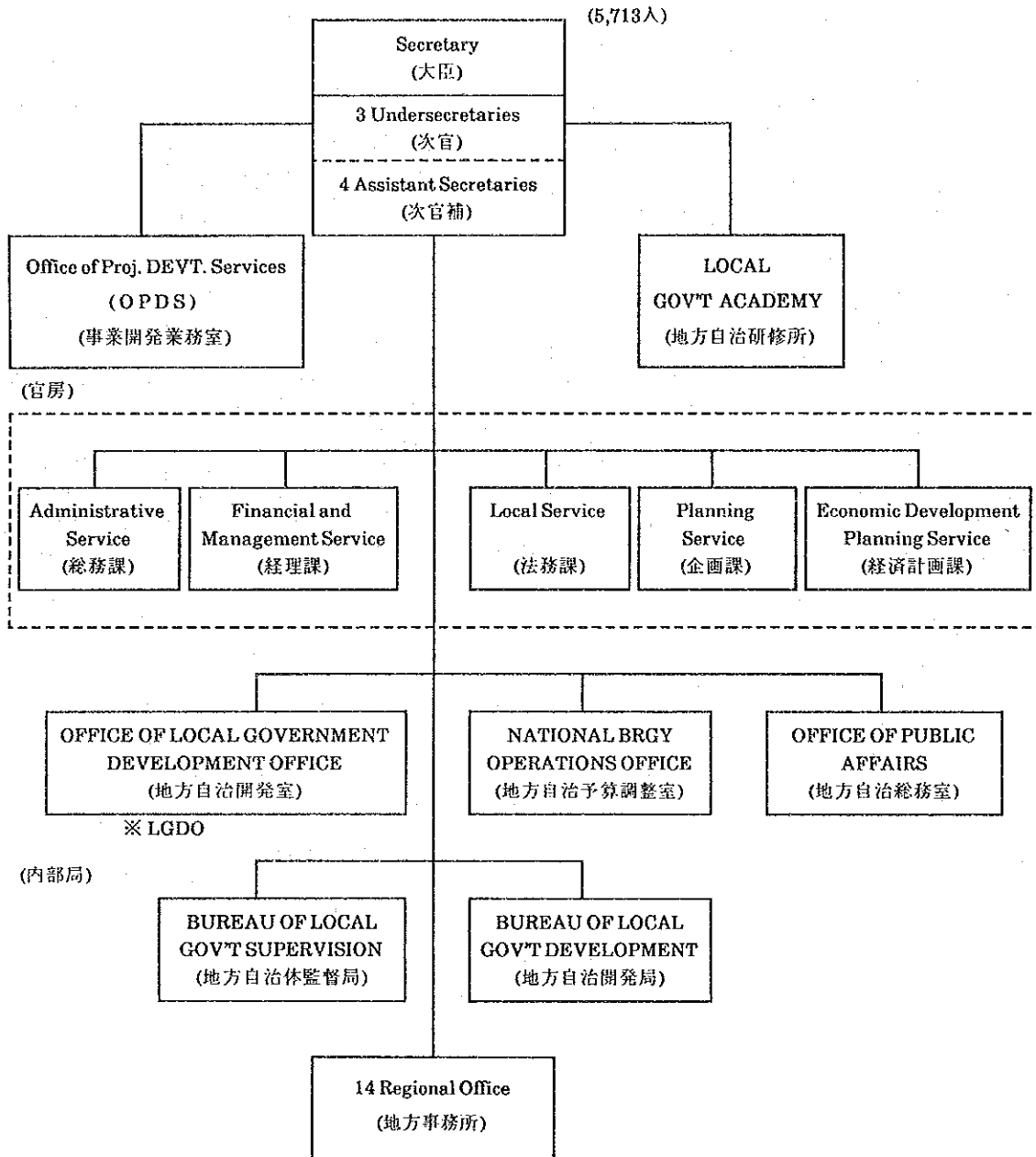
Very truly yours,

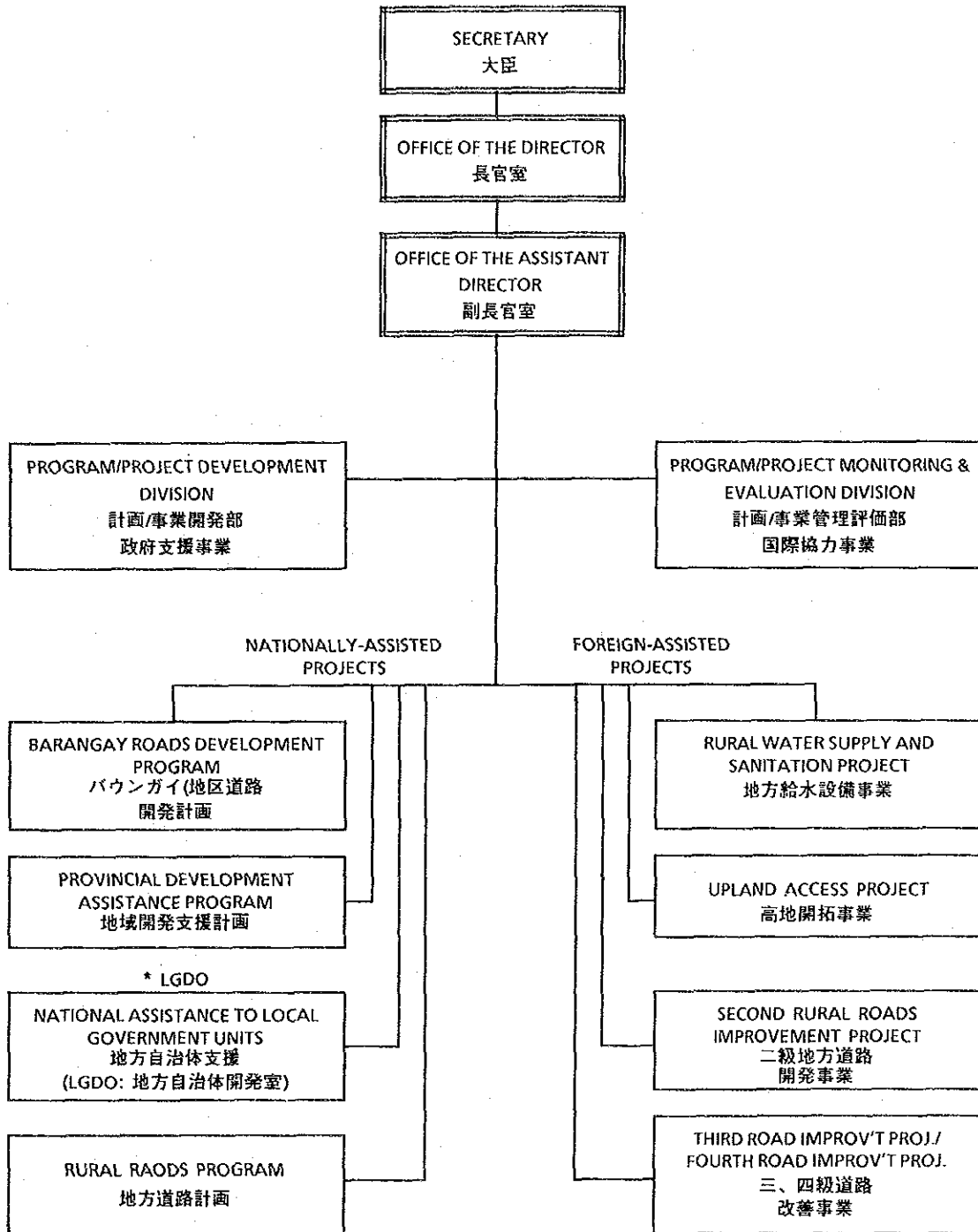
MANUEL D. ROCHA
DIC, Executive Director

The production of clean, wholesome, healthy and sound meat for food is the concern of everyone.

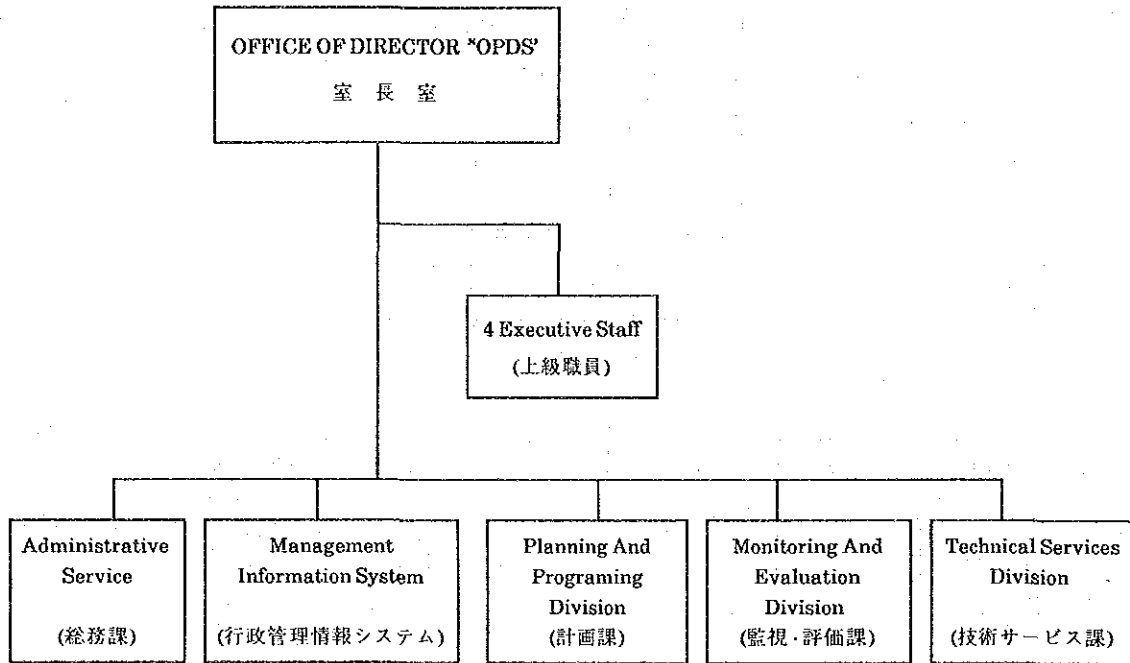
A-5 地方自治省組織図

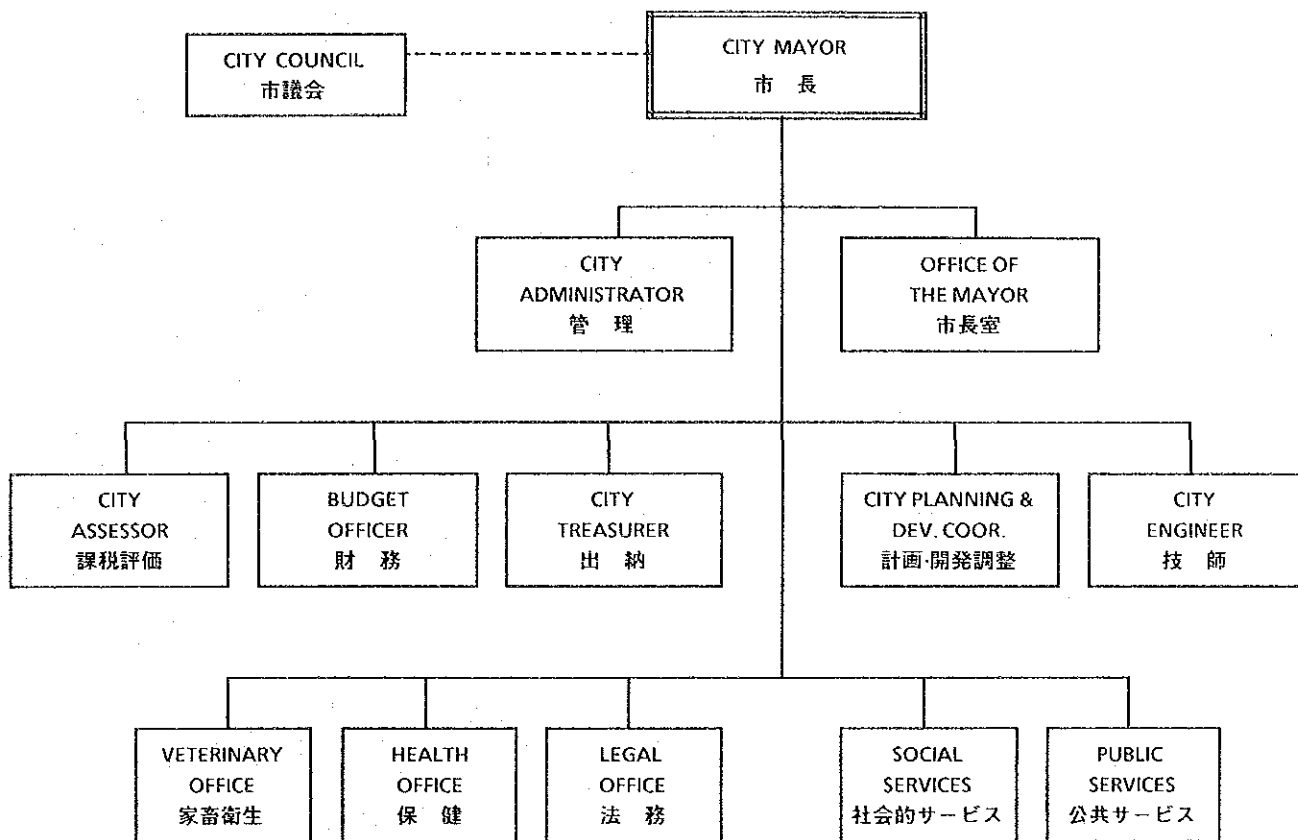
DILG組織図
(Department of Interior and Local Government : 地方自治省)



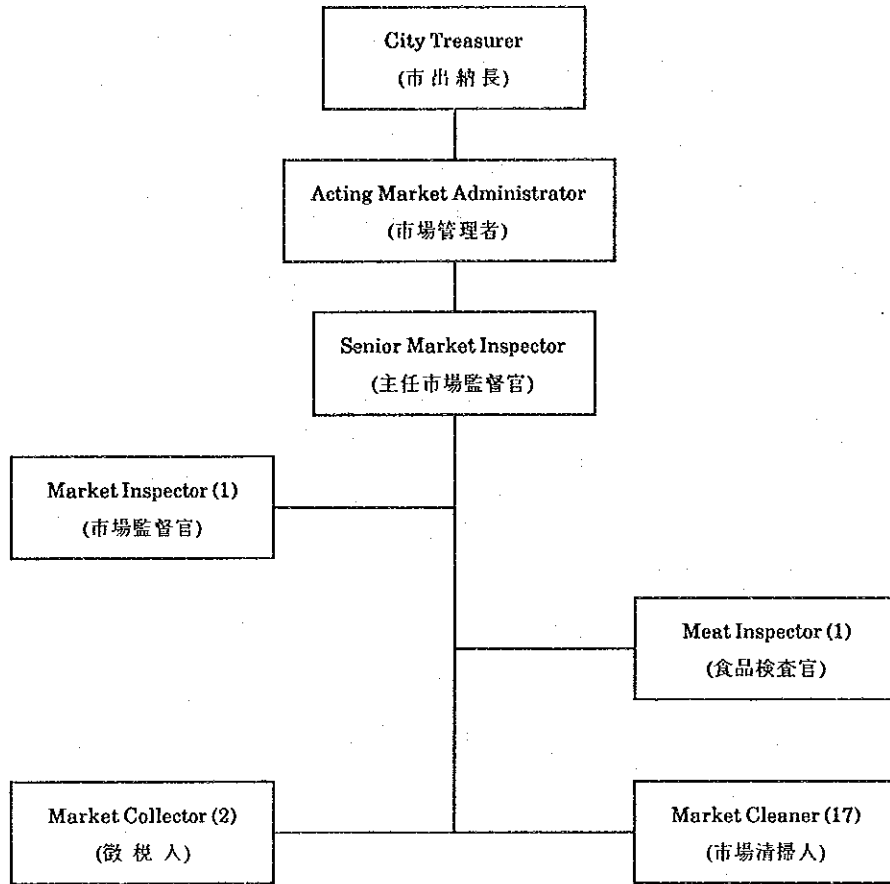


LGDO 組織図
(LOCAL GOVERNMENT DEVELOPMENT OFFICE : 地方自治体開発室)





公共市場管理運營體制圖 (基本)



A-8 実施評価/管理情報システム-情報の流れ

PERFORMANCE EVALUATION/MANAGEMENT INFORMATION SYSTEM FLOW OF INFORMATION

8. DILG provides technical assistance training and institutional development for poor performers through MEPs

7. DILG recommends incentives for top performers

6. Issue Annual Report

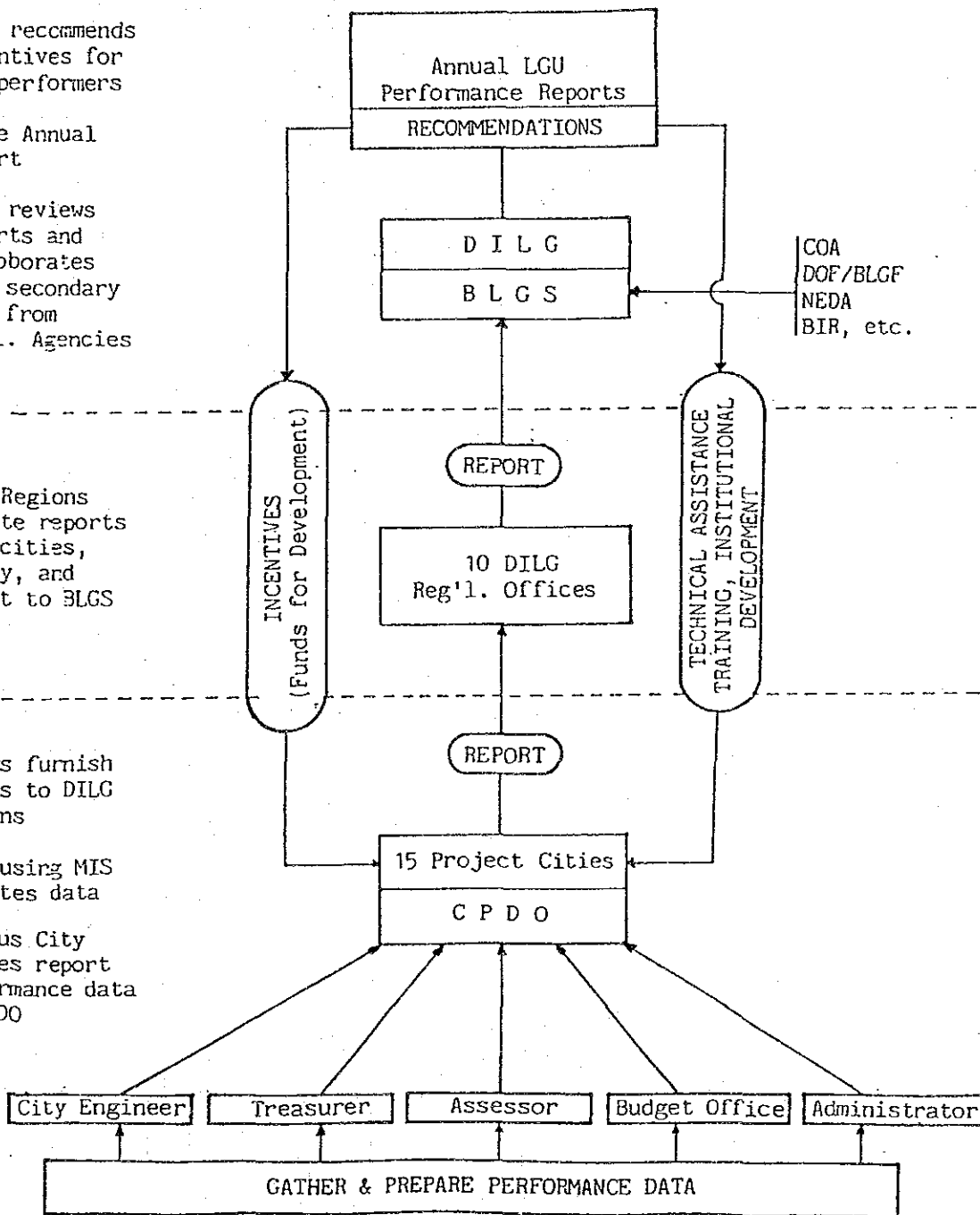
5. BLGS reviews reports and corroborates with secondary data from Nat'l. Agencies

4. DILG Regions collate reports from cities, verify, and submit to BLGS

3. Mayors furnish copies to DILG Regions

2. CPDO using MIS collates data

1. Various City offices report performance data to CPDO

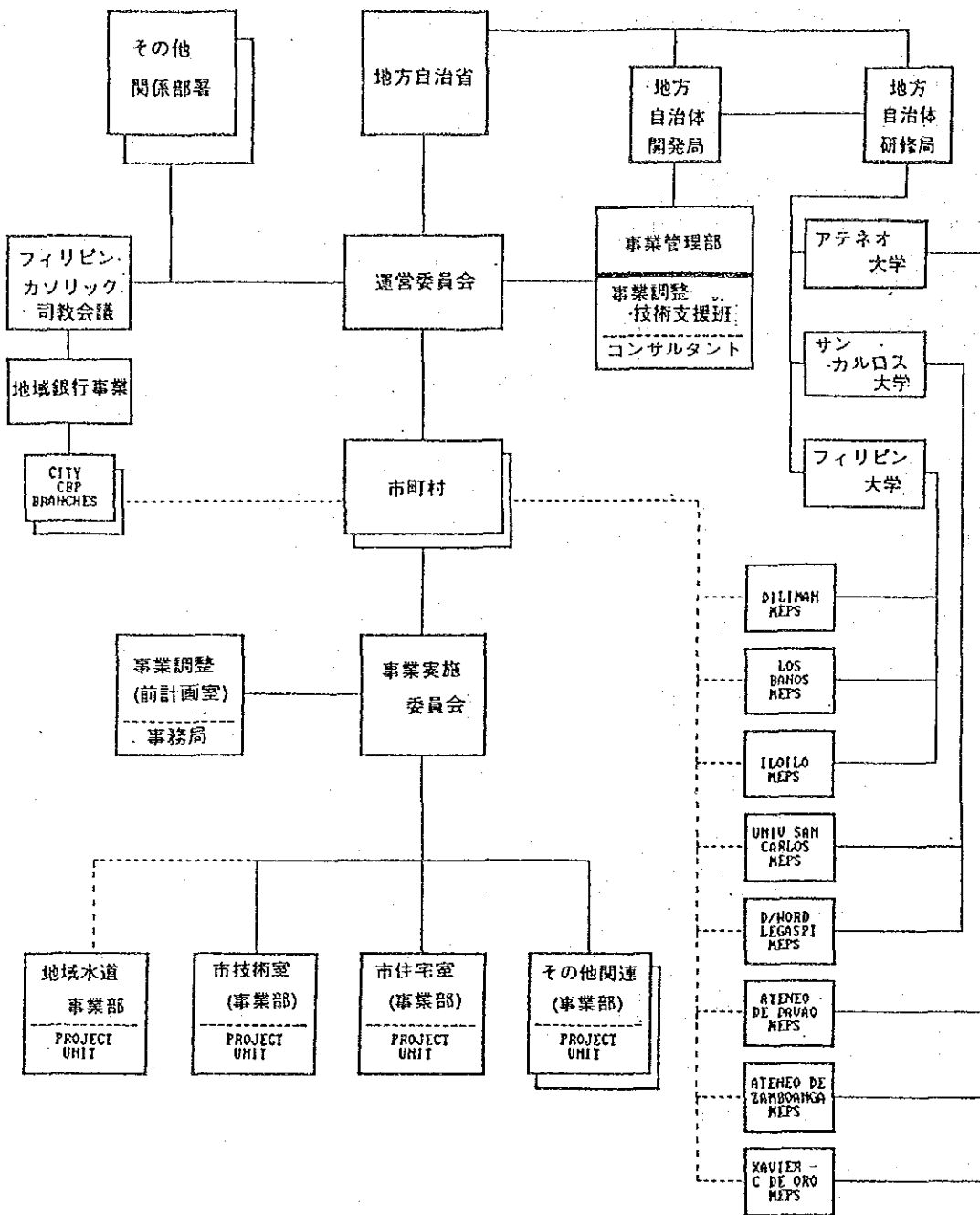


3. NATIONAL LEVEL

2. REGIONAL

1. LOCAL LEVEL

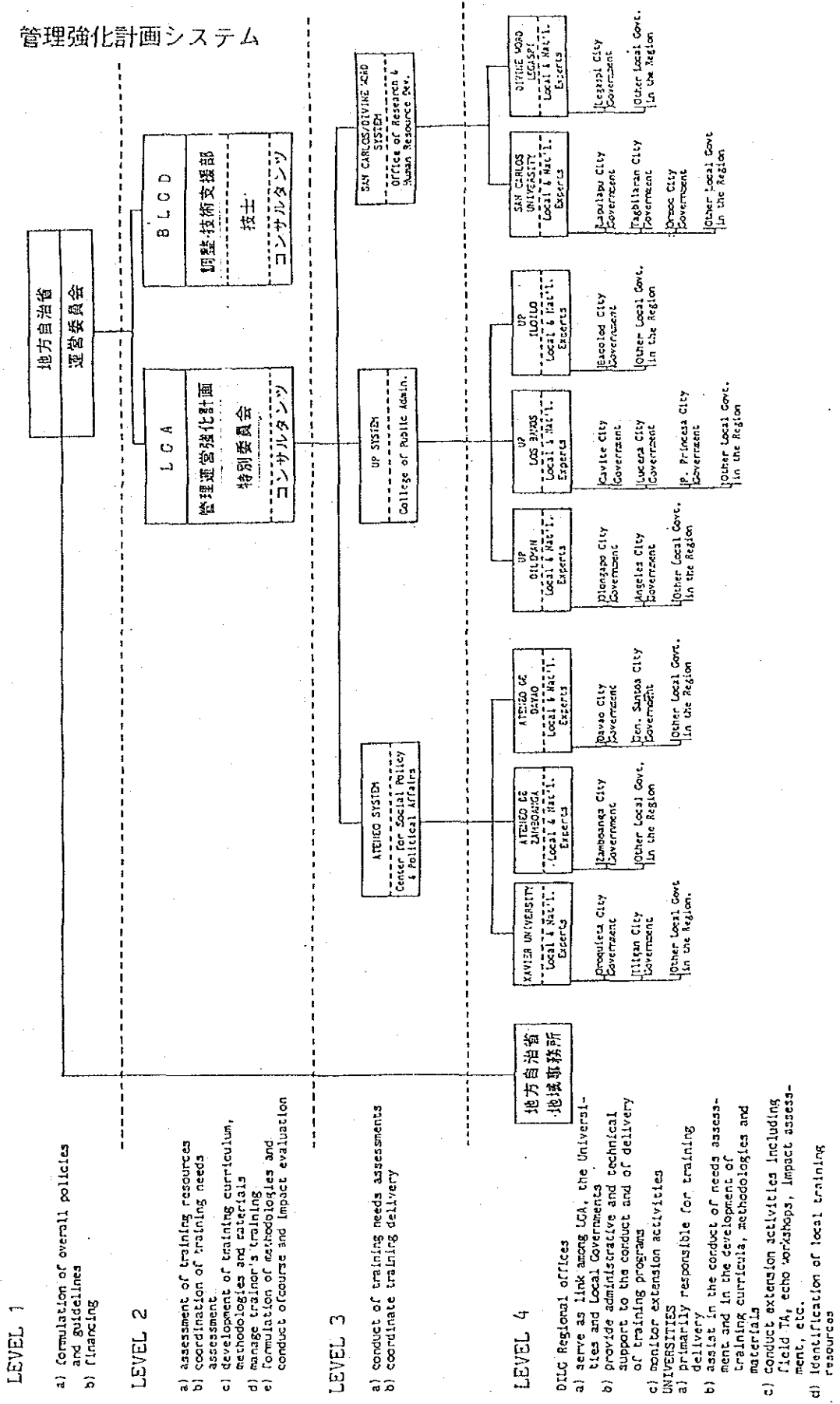
事業組織構造案



委員会構成員及び事業担当		
事業運営委員会	事業実施委員会	調整及び技術支援部
1. Secretary of DLG as Chairman. 2. Members from DPWH, HUDCC, DOF, DBM, HEDA, DENR, LGUA, CBCP, and 1 Mayor from LGUs	1. Mayor as Chairman. 2. Members - the following City Officers: Planning, Engineer, Housing, Treasurer and Budget DLG Representative, Representatives from other agencies as appropriate.	1. Project Coordinator. 2. Technical Support Group comprising: a planner, engineer, economist/ financial analyst and municipal finance specialist. 3. Technical Support Group for training comprising training development, evaluation and local government specialists.

A-10 管理強化計画システム

管理運営強化計画システム(案)



LEVEL 1

- a) formulation of overall policies and guidelines
- b) financing

LEVEL 2

- a) assessment of training resources
- b) coordination of training needs assessment
- c) development of training curriculum, methodologies and materials
- d) manage trainer's training
- e) formulation of methodologies and conduct of course and impact evaluation

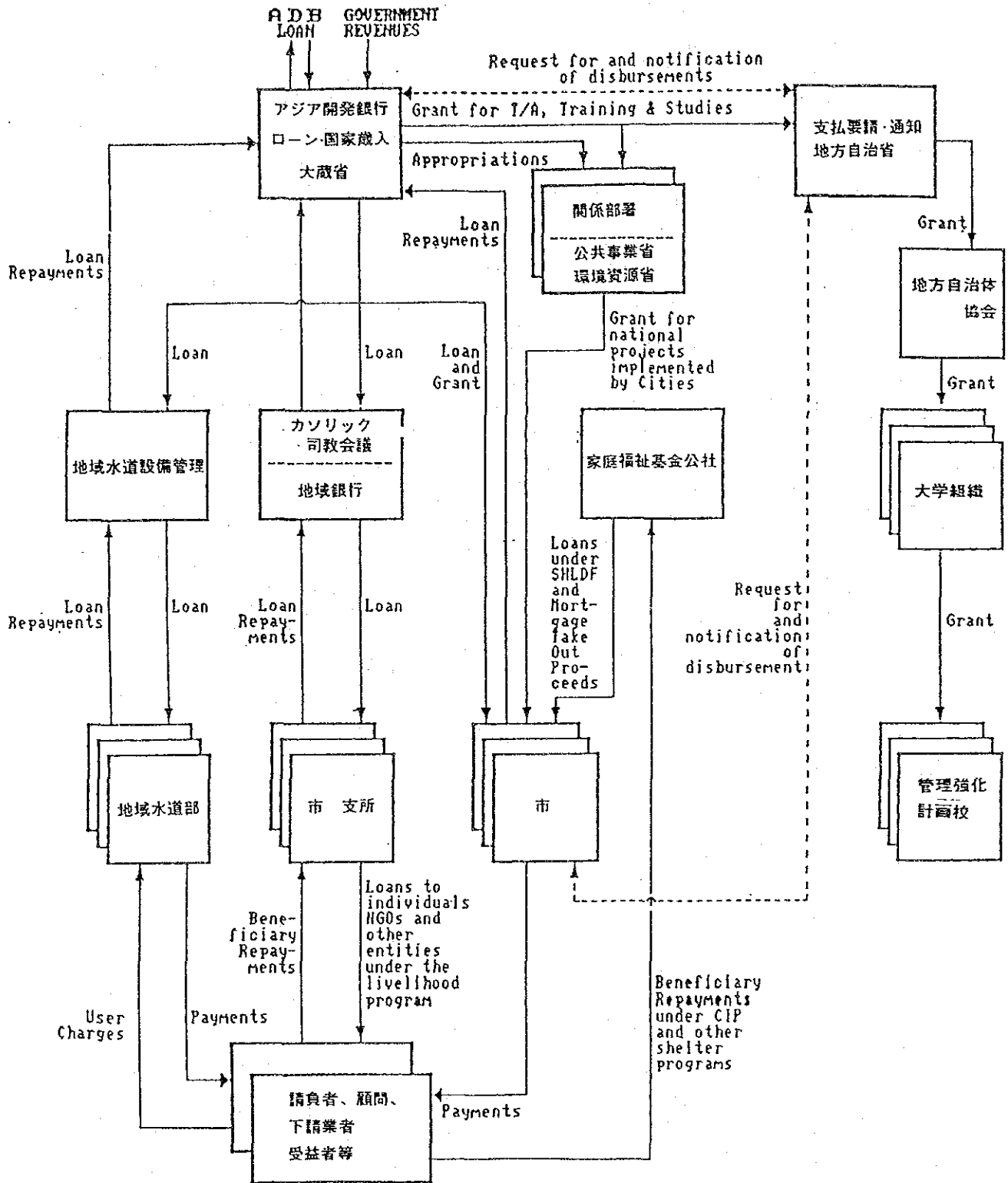
LEVEL 3

- a) conduct of training needs assessments
- b) coordinate training delivery

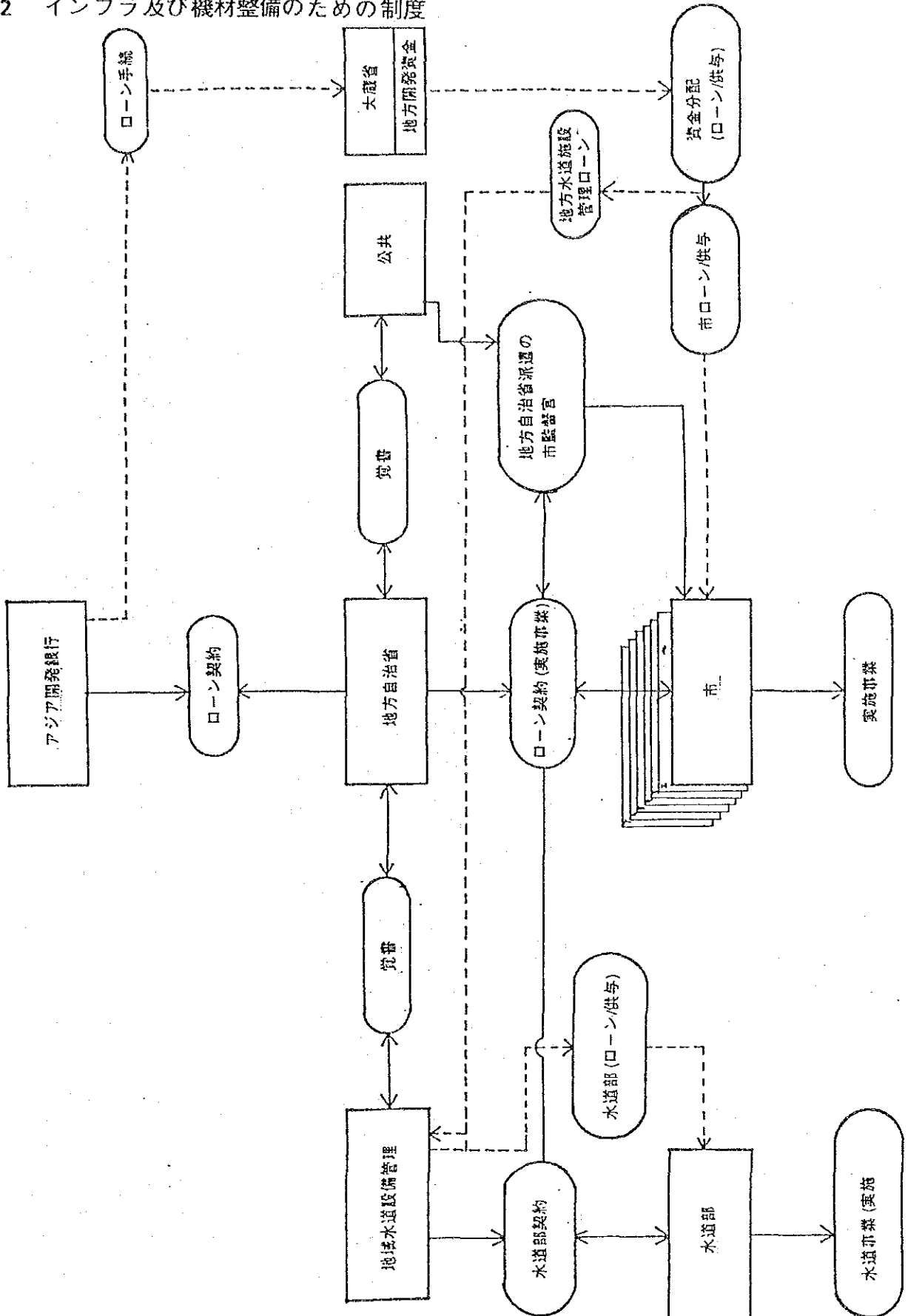
LEVEL 4

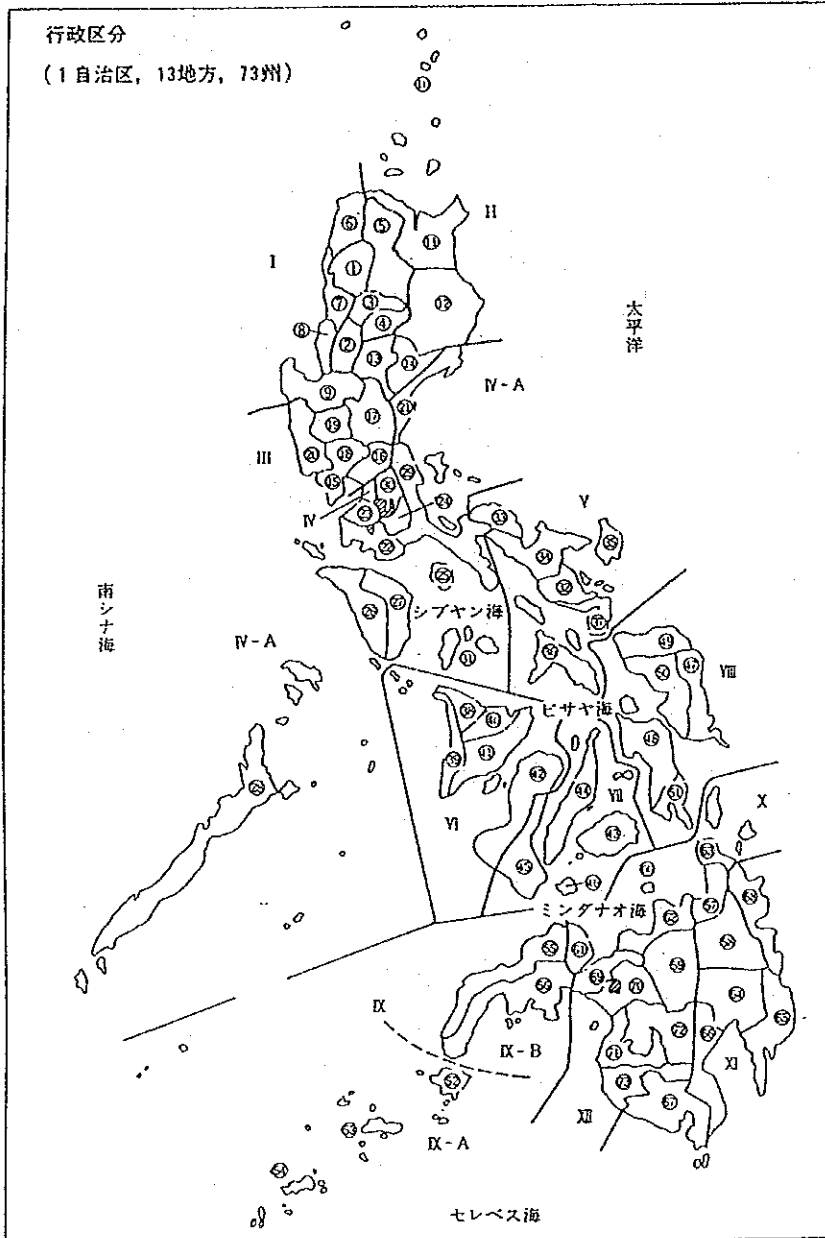
- DLG Regional offices
- a) serve as link among LGA, the Universities and Local Governments
- b) provide administrative and technical support to the conduct and of delivery of training programs
- c) monitor extension activities
- UNIVERSITIES
- a) primarily responsible for training delivery
- b) assist in the conduct of needs assessment and in the development of training curricula, methodologies and materials
- c) conduct extension activities including field TA, echo workshops, impact assessment, etc.
- d) identification of local training resources

A-11 地方自治体開発計画 - 資金の流れ
 PHILIPPINE REGIONAL MUNICIPAL DEVELOPMENT PROJECT
 FLOW OF FUNDS



A-12 インフラ及び機材整備のための制度





コルディリエラ自治区

- ① アブラ
- ② ベンゲット
- ③ マウンテン・プロビンス
- ④ イフガオ
- ⑤ カリンガ・アバヤオ

I. イロコス地方

- ⑥ 北イロコス
- ⑦ 南イロコス
- ⑧ ラ・ウニオン
- ⑨ パンガシナン

II. カガヤン・バレー地方

- 10 バタネス
- 11 カガヤン
- 12 イサベラ
- 13 ヌエバ・ビスカヤ
- 14 キリノ

III. 中部ルソン地方

- 15 バタアン
- 16 ブラカン
- 17 ヌエバ・エシハ
- 18 パンパンガ
- 19 タルラク
- 20 サンバレス

IV. マニラ首都圏

IV-A. 南部タガログ地方

- 21 アウロラ
- 22 バタンガス
- 23 カピテ
- 24 ラグナ
- 25 マリンドウケ
- 26 西ミンドロ
- 27 東ミンドロ
- 28 パラワン
- 29 ケソン
- 30 リサール
- 31 ロンブロン

V. ビコル地方

- 32 アルバイ
- 33 北カマリネス
- 34 南カマリネス
- 35 カタンドゥアネス
- 36 マスベ
- 37 ソルソゴン

VI. 西部ビサヤ地方

- 38 アクラン
- 39 アンテイケ
- 40 カピス
- 41 イロイロ
- 42 西ネグロス

VII. 中部ビサヤ地方

- 43 ボホール
- 44 セブ
- 45 東ネグロス
- 46 シキホル

VIII. 東部ビサヤ地方

- 47 東サマル
- 48 レイテ
- 49 北サマル
- 50 サマル
- 51 南レイテ

IX. 西部ミンダナオ地方

IX-A.

- 52 バシラン
- 53 スルー
- 54 タウイー・タウイ

IX-B.

- 55 北サンボアンガ
- 56 南サンボアンガ

X. 北部ミンダナオ地方

- 57 北アグサン
- 58 南アグサン
- 59 ブキドノン
- 60 カミギン
- 61 西ミサミス
- 62 東ミサミス
- 63 北スリガオ

XI. 南部ミンダナオ地方

- 64 北ダバオ
- 65 東ダバオ
- 66 南ダバオ
- 67 南コタバト
- 68 南スリガオ

XII. 中部ミンダナオ地方

- 69 北ラナオ
- 70 南ラナオ
- 71 マギンダナオ
- 72 北コタバト
- 73 スルタン・クダラト

地域別人口

	人口 (1,000人)	面積 (1,000 km ²)	人口密度 (人/km ²)
全国	60,477	300,000.0	201.6
マニラ首都圏	7,832	636.0	12,314.5
コルディリェラ自治区	1,150	18,293.6	62.9
イロコス地方	3,548	12,840.2	276.3
カガヤン地方	2,341	26,837.6	87.2
中央ルソン地方	6,191	18,230.8	339.6
南ダガログ地方	8,263	46,924.2	176.1
ビコル地方	3,911	17,632.5	221.8
西ビサヤ地方	5,379	20,223.2	266.0
中央ビサヤ地方	4,593	14,951.4	307.2
東ビサヤ地方	3,048	21,432.7	142.2
西ミンダナオ地方	3,145	18,730.1	167.9
北ミンダナオ地方	3,503	28,327.7	123.7
南ミンダナオ地方	4,454	31,692.8	140.5
中央ミンダナオ地方	3,121	23,323.2	133.8

出典: Philippine Statistical Yearbook 1990, Chap. 1, pp.4 - 9

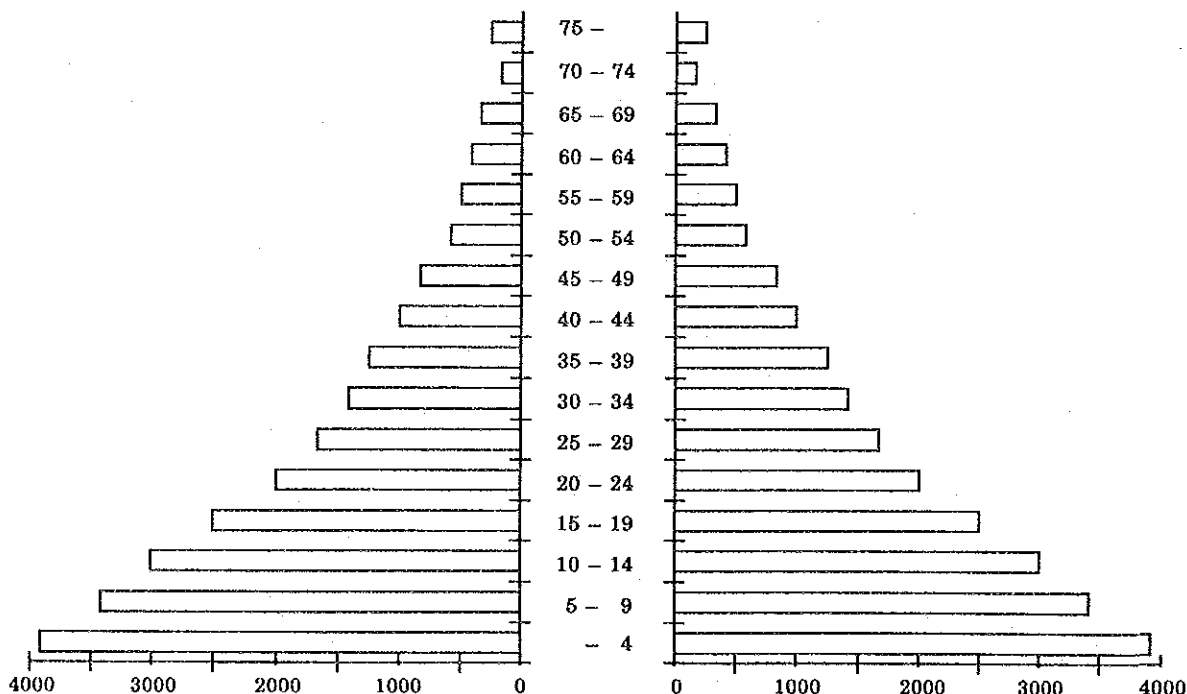
フィリピン総人口の動向

国勢調査年	フィリピン全国			マニラ首都圏			マニラ首都圏の対全国人口比率(%)
	人口(人)	平均増加率(%)	人口密度(人/km ²)	人口(人)	平均増加率(%)	人口密度(人/km ²)	
1903	7,635,426	-	25.5	328,939	-	517.2	4.31
1918	10,314,310	1.90	34.4	461,166	2.13	725.1	4.47
1939	16,000,303	2.22	53.3	993,889	3.91	1,562.7	6.21
1948	19,234,182	1.91	64.1	1,569,128	4.80	2,467.2	8.16
1960	27,087,685	3.06	90.3	2,462,488	4.04	3,871.8	9.09
1970	36,684,486	3.01	122.3	3,966,695	4.78	6,236.9	10.81
1980	48,098,460	2.71	160.3	5,925,884	3.58	9,317.4	12.32
1990	60,477,000	2.32	201.6	7,832,000	2.83	12,314.5	12.95

出典： 1980 Census of Population and Housing, National Economic and Development Authority, National Census and Statistics Office, 2. 1983. フィリピンの事典 1992

全国性別年齢別人口構成 (1980年)

(単位：1,000人)



出典： 1980 Census of Population and Housing : Philippines, National Economic and Development Authority, National Census and Statistics Office, 1983. フィリピンの事典 1992

出生率、死亡率、乳児死亡率 1950~87年

年	出生率 (1,000人当たり)	死亡率 (1,000人当たり)	乳児死亡率 (1歳未満、出生1,000人当たり)
1950	31.6	11.1	101.6
1955	30.9	9.0	84.3
1960	23.7	7.1	84.6
1965	25.0	7.4	72.9
1970	26.4	6.4	60.0
1975	29.1	6.4	53.3
1980	30.3	6.2	45.1
1985	26.3	6.1	38.0
1986	26.7	6.0	35.0
1987	28.0	6.0	32.1

出典：PSY 1990, Chap. 9, p.9. フィリピンの事典 1992

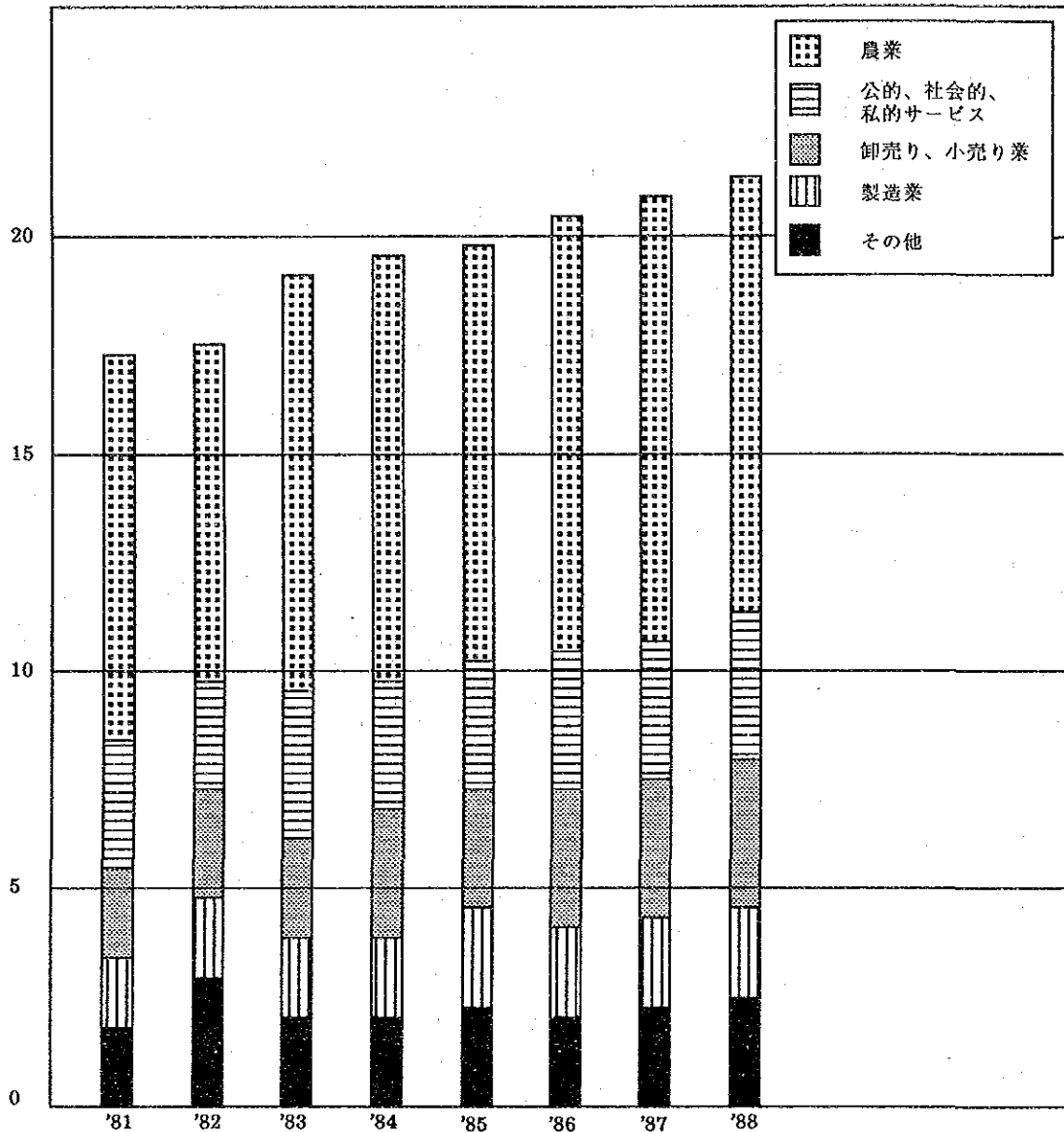
宗教別人口分布 (国勢調査各年)

宗教	1918年	1939年	1948年	1960年	1970年
ローマ・カトリック教	7,790,937 (75.5)	12,603,365 (78.8)	15,941,422 (82.9)	22,686,096 (83.8)	31,169,488 (85.0)
アグリバイ派	1,417,448 (13.7)	1,573,608 (9.8)	1,456,114 (7.6)	1,414,431 (5.2)	1,434,688 (3.9)
プロテスタント諸教派	124,575 (1.2)	378,361 (2.4)	444,491 (2.3)	785,399 (2.9)	1,122,999 (3.1)
イグレスシア・ニ・クリスト	-	-	88,125 (0.5)	270,104 (1.0)	475,407 (1.3)
イスラーム	443,037 (4.3)	677,903 (4.2)	791,817 (4.1)	1,317,475 (4.9)	1,584,963 (4.3)
その他	538,313 (5.2)	767,066 (4.8)	512,213 (2.7)	614,180 (2.3)	896,941 (2.4)
総人口	10,314,310 (100.0)	16,000,303 (100.0)	19,234,182 (100.0)	27,087,685 (100.0)	36,684,486 (100.0)

注：その他は仏教、神道、無宗教などを含む。()内の数字は各年度内での比率(%)。

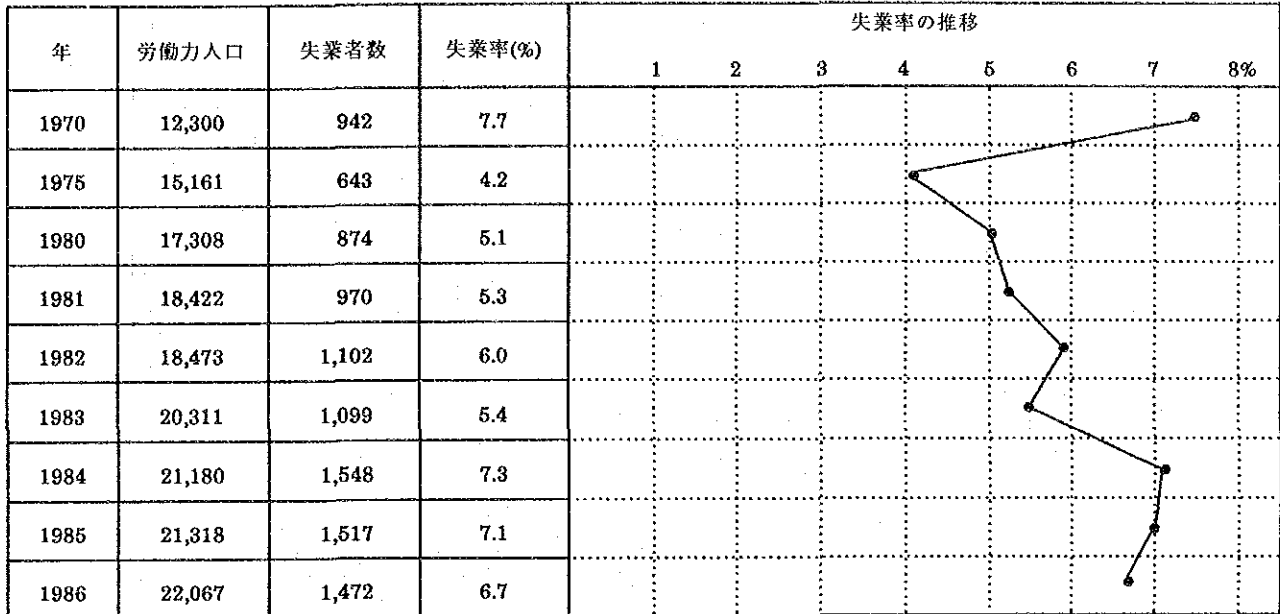
A-15 主要産業別被雇用者数 (1981~88年、各年第3 四半期現在)

(百万人)



出典: Philippine Statistical Yearbook 1989, 11-25 フィリピンの事典 1992

失業率の推移 (1970~86年) 単位 1,000人



出典: Philippine Yearbook 1987. National Statistics Office, 628 フィリピンの事典 1992

消費者物価指数 : 1975~90年

年	全品目 全国平均	米 (マニラ首都圏のみ)
1975	77.5	91.3
1978	100.0	100.0
1980	138.9	121.0
1985	352.6	322.5
1986	355.3	314.3
1987	368.7	317.9
1988	401.0	343.7
1989	443.5	343.7
1990	505.8	413.9

出典: PSY 1990, Chap.2, pp.23, 40 : PSY 1988, p.118.
フィリピンの事典 1992

A-17 法定最低賃金、海外出稼労働者数、家計所得別世帯数

法定最低賃金：1975～90年

(単位：ペソ)

年	名目賃金		実質賃金	
	非農業 (マニラ首都圏)	農業 (プランテーション)	非農業 (マニラ首都圏)	農業 (プランテーション)
1975	10.65	7.13	12.94	9.31
1980	27.39	22.68	19.36	12.30
1985	57.08	46.67	16.22	10.11
1986	57.08	46.67	16.41	10.12
1987	58.27	47.67	14.73	10.04
1988	69.33	58.50	15.93	11.95
1989	82.88	72.04	17.37	12.64
1990 (5月)	96.42	85.58	18.11	13.23

出典： PSY 1990, Chap.11, pp.20-23, フィリピンの事典 1992

海外出稼ぎ契約労働者数：1976～89年

年	合計	陸上	海上
1976	47,835	19,221	28,614
1980	214,590	157,394	57,196
1985	389,200	337,754	51,446
1986	414,461	357,687	56,774
1987	496,854	425,881	70,973
1988	477,764	381,892	95,872
1989	522,984	407,974	115,010

出典： PSY 1990, Chap.11, pp.25, フィリピンの事典 1992

家計所得別世帯数：1988年

年間家計所得	世帯数	%
6,000 ペソ未満	179,000	1.7
6,000 ～ 9,999	633,000	6.0
10,000 ～ 14,999	1,418,000	13.5
15,000 ～ 19,999	1,412,000	13.4
20,000 ～ 29,999	2,265,000	21.5
30,000 ～ 39,999	1,383,000	13.1
40,000 ～ 59,999	1,477,000	14.0
60,000 ～ 99,999	1,110,000	10.5
100,000 ペソ以上	656,000	6.2
合計	10,533,000	100.0
中央値 26,694 ペソ	平均 40,408 ペソ	

出典： PSY 1990, Chap.2, pp.10-11, フィリピンの事典 1992

A-18 家計支出費目別構成・生徒・学生数

家計支出費目別構成：1961～88年

	1961	1965	1971	1985	1988
総額(100万ペソ)	7,934	14,748	28,430	264,552	342,578
内訳(%)	100.0	100.0	100.0	100.0	100.0
食料	53.8	53.7	53.7	51.9	50.7
自宅食	(51.6)	(50.8)	(51.0)	(48.8)	
穀類	(20.2)	(21.1)	(19.6)	(18.5)	
水産品	(10.5)	(9.3)	(8.9)	(7.9)	
肉類・乳製品・卵	(7.9)	(8.4)	(9.7)	(10.3)	
根茎類・果物・野菜	(6.1)	(5.0)	(5.5)	(5.3)	
外食	(6.9)	(6.9)	(7.4)	(6.7)	
酒類	(2.3)	(2.9)	(2.7)	(3.1)	
タバコ	1.7	1.6	1.7	1.1	1.1
住居	4.2	3.2	3.3	2.3	2.1
光熱・水道	8.3	9.1	9.4	12.7	12.8
家具・家事用品	4.0	3.6	3.6	5.5	5.2
家事サービス	2.1	2.0	2.3	1.9	2.2
被服	2.6	2.6	2.4	2.4	2.5
個人雑貨	7.0	6.5	6.2	3.6	4.2
保健医療	2.3	2.5	2.2	2.1	3.3
交通通信	1.7	1.7	1.8	2.1	1.7
教養娯楽	2.3	2.6	2.9	4.4	4.7
教育	1.8	1.8	1.8	0.4	0.5
贈答費・寄付	3.1	3.5	3.7	3.5	2.9
税金	0.9	0.9	0.6	1.0	1.0
各種行事	0.4	0.6	0.3	1.0	1.1
その他	2.3	2.7	2.5	2.2	2.3
	1.4	1.5	1.5	1.8	1.8

出典：PSY 1990, Chap.2, pp.20, フィリピンの事典 1992

生徒・学生数：1954-55～1988-89年

年	小学生数	中等学校生数	大学生数	大学院生数
1954-55	3,444,417	559,868		
1959-60	4,150,743	611,544		
1964-65	5,577,901	961,559		
1969-70	6,855,501	1,591,356		
1974-75	7,453,331	2,072,920		
1979-80	8,227,355	2,766,874	1,024,025	30,325
1984-85	8,793,773	3,323,063	1,544,832	17,508
1985-86	8,896,920	3,269,434		
1986-87	9,229,595	3,357,014	1,115,832	
1987-88	9,601,322	3,494,460	1,204,000	
1988-89	9,972,571	3,727,104	1,308,000	

出典：PSY 1990, Chap.10, pp.10-12.; PSY 1988, p.500; PSY 1987, p.456 など。

A-19 GNP、対外貿易額、為替レート、対象、対日貿易比率

GNPと1人当たりGNP：1960-89年

年	GNP(100万ペソ)		1人当たりGNP(ペソ)	
	当年価格	1972年固定価格	当年価格	1972年固定価格
1960	13,833	1		
1965	23,382	1		
1970	41,751			
1975	114,438	68,284	2,708	1,616
1980	264,532	92,532	5,475	1,915
1985	597,743	87,867	10,934	1,607
1986	614,703	89,504	10,976	1,598
1987	703,361	94,705	12,263	1,651
1988	822,870	101,093	14,013	1,722
1989 (推計)	961,376	106,830	15,997	1,778

出典： PSY 1990, Chap.3, pp.8-9,20-21,30-31; PSY 1987, pp.148-149.

対外貿易額、為替レート、対米・対日貿易比率：1905~89年

年	輸出 輸入 (FOB 100万米ドル)		差 額	為替レート (ペソ/米ドル)	対米比率(%)		対日比率(%)	
	輸出	輸入			輸出	輸入	輸出	輸入
1950	332.70	356.18	-23.48	2.000	72.2	71.6	6.6	4.0
1955	419.26	536.34	-117.08	2.000	57.1	66.4	14.5	8.1
1960	535.44	624.52	-89.08	2.000	53.1	40.9	24.6	25.5
1965	795.74	835.25	-39.51	3.874	47.9	35.0	26.1	24.0
1970	1,142.19	1,159.30	-17.11	6.069	43.0	30.9	37.8	31.8
1975	2,294.47	3,459.18	-1,164.71	7.302	28.5	21.8	37.7	27.9
1980	5,787.79	7,726.91	-1,939.12	7.568	27.2	23.1	26.5	19.8
1985	4,628.95	5,110.67	-481.72	18.859	35.0	24.9	18.9	14.4
1986	4,841.78	5,043.60	-201.82	20.402	34.1	24.8	17.6	17.2
1987	5,720.24	6,736.97	-1,016.73	20.565	34.6	22.0	17.2	16.6
1988	7,074.20	8,159.38	-1,085.18	21.065	34.4	21.0	20.1	17.4
1989	7,820.71	10,418.82	-2,598.11	21.738	35.8	19.0	20.3	19.6

出典： PSY 1990, Chap.7, pp.4-7, 16; PSY 1988, pp.400-403, 419; PSY 1982, pp.352-353.

A-20 輸出入額

主要一次産品10品目輸出額：1950~89年

(単位：FOB 100万米ドル)

年	10品目 合計	コブラ	乾燥コ コナツ	ココナ ツ油	砂糖	バナナ	丸太・ 木材	パイナ ップル 缶詰	金	マニラ 麻(未 加工)	精製鋼	輸出 総額
1950	284.0	138.0	24.2	12.5	45.9	0	10.7	9.5	-	41.6	1.7	332.7
1955	337.0	118.7	12.8	16.5	106.3	0	41.5	5.9	-	27.8	7.4	419.3
1960	447.0	138.6	18.8	15.7	133.5	0	91.6	7.4	-	41.8	29.6	535.4
1965	632.5	170.0	20.4	68.1	132.4	0	162.0	8.7	-	24.2	46.5	795.7
1970	867.7	80.6	18.1	97.6	188.0	5.9	255.6	21.4	-	15.3	185.2	1,142.2
1975	1,618.7	172.3	30.4	230.3	580.7	73.1	194.1	34.7	76.4	14.5	212.1	2,294.5
1980	2,634.7	47.3	116.0	566.8	624.0	114.2	273.2	82.1	239.1	27.0	545.0	5,787.8
1985	1,124.6	0	75.7	347.4	168.7	113.5	129.7	88.8	100.0	16.5	84.5	4,629.0
1986	1,067.6	17.6	44.3	332.8	86.8	130.2	129.7	83.5	139.9	12.9	89.9	4,841.8
1987	1,121.7	32.0	75.3	380.5	60.3	121.2	154.6	86.3	90.5	11.8	109.1	5,720.2
1988	1,311.4	28.0	78.3	408.1	60.2	146.0	157.2	83.2	118.0	16.3	216.2	7,074.2
1989	1,401.2	25.2	75.8	376.8	80.0	146.4	238.5	94.3	109.4	17.6	237.4	7,821.1

出典：PSY 1990, Chap.7, pp.10-12.

製造業製品輸出額：1970~87年

(単位：FOB 100万米ドル)

年	合計	電子・電機製品	ガーメント	食糧・飲料	手工芸品	科学薬品・製品	その他
1970	94.5	0.0	36.2	8.3	6.5	5.4	38.1
1975	374.3	47.3	107.0	14.7	78.2	22.1	105.0
1980	2,106.9	671.0	500.0	170.4	154.3	94.9	516.3
1985	2,564.5	992.7	621.7	157.1	122.4	151.6	519.0
1986	2,684.9	903.5	749.8	135.6	145.8	243.5	506.7
1987	3,604.5	1,099.9	1,095.5	153.3	199.0	246.5	810.2

出典：PSY 1988, pp.410-411；PSY 1983, pp.390-391；PSY 1982, pp.360-361

主要輸入品輸入額：1955~88年

(単位：FOB 100万米ドル)

年	総額	穀類・ 穀類加 工食品	機械・電気 機器を除く 部品	電気 機器・ 部品	輸送 機器	鉱物性燃料 ・潤滑油	化学 原料	火薬・ 化学製品	非金属	その他
1955	536.3	36.9	52.2	21.9	30.3	53.8	8.3	7.7	38.5	286.7
1960	624.5	24.5	107.1	21.2	109.5	59.8	13.7	15.7	56.9	216.1
1965	835.2	94.8	168.9	47.5	86.9	75.7	20.1	24.4	67.0	238.9
1970	1,159.3	32.5	304.4	59.2	106.0	118.9	36.7	49.8	144.4	307.4
1975	3,459.2	175.4	654.9	156.9	301.6	769.9	153.6	109.3	212.8	924.8
1980	7,726.9	214.3	1,015.2	312.1	533.4	2,248.4	267.0	197.0	501.3	2,438.2
1985	5,110.7	278.1	365.6	293.1	67.5	1,442.9	219.3	150.4	179.0	2,114.8
1986	5,043.6	168.3	394.8	333.5	78.0	869.3	272.1	210.0	257.2	2,460.4
1987	6,737.0	134.4	537.2	451.8	148.4	1,249.1	332.4	303.2	427.2	3,153.3
1988	8,159.4									

出典：PSY 1989, Chap.7, pp.16；PSY 1988, pp.412-416.

A-21 対比投資、対外債務、主要作物収穫面積

国・地域別対比直接投資額(投資委員会認可分のみ)：1980~89年

(単位：100万ペソ)

年	総額	国内 小計	外国 小計	日本	香港	台湾	中国	アジア その他	アジア 小計	アメリカ 合衆国	欧州	その他
1980	4,276	2,501	1,776	366	2	2	38	13	421	283	1,011	61
1985	4,701	2,251	2,450	485	63	13	112	47	720	1,087	602	41
1986	3,146	1,553	1,594	455	149	7	38	14	663	458	338	135
1987	8,360	4,933	3,427	591	570	186	169	105	1,621	740	545	521
1988	16,945	7,421	9,523						5,347		573	
1989	39,684	22,204	17,480						11,568		1,595	

出典： PSY 1990, Chap.6, pp.50-51 ; アジア経済研究所「アジア動向年報」各年。

対外債務総額：1980~87年

(単位：100万米ドル)

年	短期	中・長期	総額	年	短期	中・長期	総額
1980	7,556	9,902	17,458	1984	9,492	15,926	25,418
1981	9,567	11,326	20,893	1985	8,573	17,679	26,252
1982	11,069	13,141	24,210	1986	5,378	22,878	28,256
1983	9,404	15,412	24,816	1987	3,792	24,857	28,649

出典： Central Bank of the Philippines, Quarterly Report, 各期

主要作物収穫面積：1950~89年

(単位：1万ヘクタール)

作物 年度	総面積	米	トウモ ロコシ	根菜 作物	ココナツ	サトウ キビ	アバカ (マニラ麻)	バナナ	パイナ ップル	その他
1950	507.6	221.4	90.9	18.6	98.5	13.0	29.2	9.8	1.5	24.7
1955	643.5	265.6	138.8	27.3	99.0	26.8	21.7	16.7	2.6	45.0
1960	759.6	330.7	184.6	28.9	106.0	24.2	17.5	16.2	2.3	49.2
1965	825.2	320.0	192.3	27.4	160.5	35.1	19.9	22.1	3.0	44.9
1970	894.7	311.3	242.0	25.2	188.4	36.6	17.3	23.5	2.9	47.5
1975	1,080.1	363.3	301.0	35.1	228.0	53.6	18.0	23.3	3.1	54.7
1980	1,215.5	347.1	319.9	52.3	312.6	42.5	23.6	28.7	6.3	82.5
1985	1,240.7	330.7	351.1	45.2	327.5	40.7	17.0	32.1	5.6	90.8
1986	1,262.5	346.4	359.5	45.6	326.2	35.6	16.2	33.0	6.0	94.0
1987	1,254.0	325.6	368.3	46.9	336.0	27.4	15.7	32.4	5.9	95.8
1988	1,312.0	339.3	374.5	-	322.2	21.6	10.8	28.7	6.1	208.8
1989	1,314.4	349.7	368.9	-	311.0	26.2	10.8	29.3	6.1	212.4

出典： PSY 1990, Chap.5, pp.8-9 ; PSY 1988, pp.308-312

A-22 主要鉱産物生産額

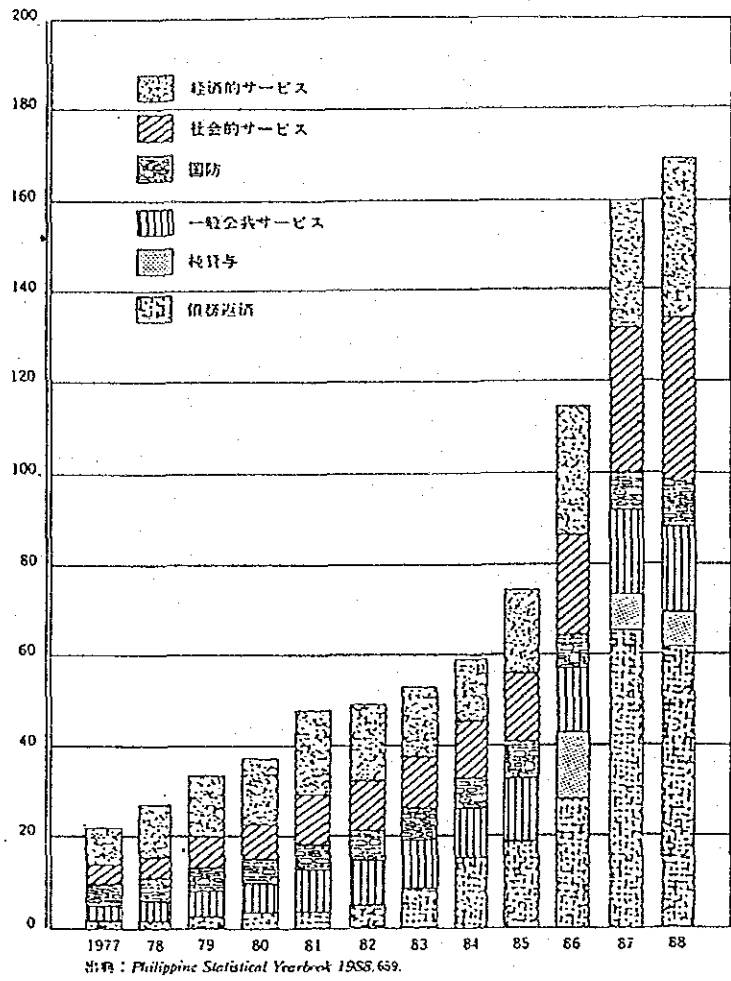
主要鉱産物生産額：1955～89年

(単位：100万トン)

作物 年度	総額	金	銀	銅	石炭	その他
1955	167.9	43.9	0.9	29.8	3.1	90.2
1960	274.2	58.0	2.0	59.1	3.4	151.7
1965	508.2	82.6	4.3	184.9	2.4	234.0
1970	1,721.1	130.3	15.5	1,113.1	1.1	461.0
1975	3,950.6	575.1	50.0	1,640.0	13.2	1,672.3
1980	12,820.5	2,784.9	268.3	4,409.3	58.5	5,299.5
1985	20,986.6	6,087.9	186.2	5,630.0	1,509.5	7,573.0
1986	20,037.4	8,395.6	174.6	5,460.6	1,149.0	4,859.2
1987	22,015.5	9,290.4	218.2	6,141.3	931.0	5,434.6
1988	21,760.4	8,841.5	225.5	7,952.9	1,028.5	3,712.0
1989	21,927.0	7,887.8	190.2	7,879.9	1,074.3	4,894.8

出典： PSY 1990, Chap.6, pp.24-27 ; PSY 1988, pp.364-367

政府支出の部門別構成(1977~88年)
(100万ペソ)



こっかざいせい 国家財政 国家財政(年度は歴年に同じ)の規模はほかの途上国に比べても小さかったが、国内総生産(GDP)に対する中央政府の総支出額の比率は1980年の14.5%から87年には18.5%に上昇した。しかし、他方、第2次石油危機による不況と主要財源である税収の伸び率が国民経済の成長率を下回り、したがって税収のGDP弾力性も1を下回ったため、税収の対GDP比率は80年の11.8%から84年には9.3%に低下、財政赤字は80年の1.3%から82年には4.2%にも達した。83~85年の財政赤字は同1.7~1.8%に低下したが、86年に再び4.6%、87年3.1%に達した。財政は経常勘定では黒字だが、80年代に入って景気対策のための公共事業および公営企業への出資・貸付、86年以降は特に巨額の不良債券を抱えた国営金融機関に対する貸付が増大したことが財政支出増大、さらには赤字の主要な要因であった。このため国営金融機関の再建、公共投資計画の改善および徴税率の改善を含む税制改革が国際通貨基金(IMF)の指導下で実施されている。税収に占める直接税の比率は71年の28.6%から75~84年には21.0~24.2%に低下、86年に27.8%に回復したが、再び低下傾向にある。間接税では輸入関税が主要財源だが、貿易自由化政策に伴い関税率の引下げおよび88年初めからは付加価値税が実施された。○税制 (福島 光丘)

こっかかいはつこうしゃ 国家開発公社 National Development Company. 国家開発公社は1919年に組織されたが、36年、"コモンウェルス(独立準備政府)の発足により、公企業に改組された。その目的は10年後に予定された独立に備えて基礎的生産施設や社会的サービスを整備するため、政府が直接に当該事業活動に参画する点にあった。具体的には製造業、商業、農業、金融、公益事業などの分野にわたって公企業を設立し、持株会社である国家開発公社を通じて、これらを統括した。しかし、第2次世界大戦勃発により同公社の事業活動は挫折した。戦後同公社は"マルコス政権下で再び脚光を浴びた。その理由は1つに資本集約的で危険な投資プロジェクトに対して、同公社が事業主体となったこと、ほかの1つはマルコス政権下で経営難に陥った企業を政府は同公社を通じて買収を進めたことなどにある。その結果、一方でマルコス政権の経済支配力が強められたが、他方、赤字企業の買収により、同公社の経営が悪化し、国家財政を破綻に導く一因ともなった。(藤森 英男)

こっかけいざいかいはつちよう 国家経済開発庁 National Economic and Development Authority @ NEDA. 国家経済開発庁(NEDA)は、1972年"マルコス大統領が政令を布告することによって手に入れた立法権に基づく、大統領令第1号によって設置された経済開発政策・諸外国政府からの援助受入れ実施を担当する行政組織である。しかし、日本の円借款のみはNEDAでなく大統領直轄の円借款事業執行官によって行われ、不正使用の元凶となった。85年の"アキノ政権成立後、行政命令第230号(87年7月22日)によりNEDAは改組され、閣僚によって構成されるNEDA理事会の目的・機能がNEDA事務局から分離された。事務局は名産業・開発分野を管轄する全国開発局と、全国13地域支庁をもつ地域開発局、そして全体の事務機能を担当する中央管理局に分かれ、それぞれ担当の副長官が置かれている。○経済開発 (横山 正樹)

こっかでんりよくこうしゃ 国家電力公社 National Power Corporation @ NPC. 1936年に非公開公共法人として設立され、60年に政府完全所有の株式会社となった。NPCは全国の電力供給のほとんどを断っている。85年現在のNPCの供給能力は5550Mw(メガワット)で、内訳は水力2362Mw、火力1218Mw、地熱894Mw、石炭350Mw、ディーゼル726Mwである。86年の総収入は175億ペソで、国内企業のなかでトップ。(山本 一巳)

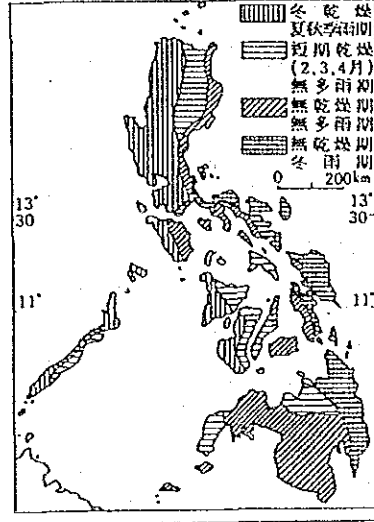
出典: フィリピン の 事典 1992

きこう 気候 フィリピン諸島は、全域が北緯20度以下の低緯度に位置しており、しかも28度以上の暖かい海水域に囲まれているため、年中高温、多湿の気候下にある。例えばマニラでは、最暖月の平均気温が29.4度、最寒月の平均気温が25.4度であり、4.0度の差しかない。湿度は、どの月も平均で70~80%程度である。日変化も比較的小さく、気温の日較差は、数度から10度程度の所が多い。降水量は、冬の北東季節風(モンスーン)と夏の南西季節風によって、その空間分布と季節変化が支配されている。北東季節風は、主に、シベリアからの北西季節風が方向を転じて低緯度側に達したものであるが、一部北東貿易風によるものも含まれる。10月から3月にかけて吹く北東季節風に伴う湿った気層の厚さは1000mから1500m前後で比較的薄く、諸島の東岸域に限って、降水をもたらす。降水量は諸島の南岸分部のサマル島、ミンダナオ島の東岸に特に多く、月400mmを越す所が多い。

南西季節風は、インド洋上の南西季節風系または赤道偏西風の一部であり、5月から10月にかけて吹くが、最も卓越するのは、6月から9月である。湿った気層の厚さは、3000mから4000mに達し、熱帯性低気圧などの擾乱も活発なため、諸島部全域にわたって降水をもたらす。特に風上側の西岸に降水が多く、なかでも、ルソン島北部山岳地帯のバギオ付近では、季節風最盛期の7~8月には、月降水量は1000mmを越すことが多い。この地域の大量降水には、台風を含む熱帯性低気圧の寄与が大きい。

年降水量は2000mmから3000mmの地域が多いが、最も多い所で4500mm前後(バギオ付近、ミンダナオ島東岸)、最も少ない所は1000mm弱(ミンダナオ島南岸)である。降水の季節変化によって気候区を分類すると、図のように、大きく分けて4つになる。①年中無乾季・冬多雨季(諸島部東岸特に南部)、②夏雨季・冬乾季(諸島部西岸特に北部)、③春(2~4月)乾季・無多雨季(①と②との中間地帯)、④年中無乾季・無雨季(ミンダナオ島中南部)。フィリピン諸島の雨の降りかたの1つの特徴は、雨季を中心として、短期間に激しく降ることが多いことである。熱帯性の擾乱によってスコールを伴う風雨が数日間続くことがあり、現地ではこの現象を「コラ」とよんでいる。台風、熱帯性低気圧による豪雨も、ルソン島を中心としてしばしば起こる。バギオでは、1日の最大降水量として1168mmを1911年7月に記録している。雷雨も南西季節風期の初めごろ(4月、5月)に多く、ルソン島の山岳地帯では、ひょう(雹)を伴うことがある。ポントクのイゴロット族は、これを「チョラド」とよんでいる。○台風 (安成 哲三)

フィリピンの気候区



たいふう 台風 フィリピン諸島東方の暖かい海水域で発生する熱帯性低気圧のうち、非常に発達したものを台風とよんでいるが、日本では国内の最大風速が34ノット(秒速17.2m)以上に発達したものにこの名前を与えている。発生数は6月から11月に多く、9月から10月に最も多い。北緯20度以南では、大部分の台風が西または西北西に進む。そのため、フィリピン諸島の中部、北部は、世界でも台風の襲来を最も多く受ける地域となっており、年平均で60回にも及ぶ。特にルソン島は(ほかの熱帯性低気圧も含めて)台風の襲来が集中しており、それに伴う風水害も大きい。1911年7月にルソン島北部山岳地帯のバギオ付近を通過した台風は、この地に1168mmという日降水量の世界記録を生み出し、大きな被害をもたらした。南部のミンダナオ島や、パラワン島では台風の影響は非常に少ない。○気候 (安成 哲三)

とじょう 土壌 土壌の差異は気候と地質によって決定されるので、これらの自然環境に於て、フィリピン諸島の雨量分布は3地区に分かれる。西岸は夏の多雨と冬の乾燥が際立ったモンスーン気候である。東岸は冬に雨のピークがあり、全年多湿な熱帯雨林気候である。中央部は全体に少雨で、乾燥の著しいサバナ気候である。西岸型はイロコス海岸からルソン島中部平原に及び、さらにミンドロ、バナイ、ネグロス、パラワン各島の西岸に分布する。東岸型はルソン、サマル、レイテ、ミンダナオ各島の東岸に分布する。乾燥の著しいサバナ気候区はルソン島南岸からネグロス島東岸、セブ島西岸、ミンダナオ島のサンボアンガとダバオ南部にみられる。気候の土壌に及ぼす影響は形態および塩基含量に現れる。東岸気候区では表土の黄色化と塩基の流亡が著しい。西岸とサバナ気候区では赤褐色の土が広く、乾季の毛管上昇のため、塩基の流亡が抑えられている。

フィリピン島弧は環太平洋火山帯に属し、活発な火山活動がみられる。ルソン島中部平原からバタンガス、ラグナ、ビコル各地方、さらにレイテ、マスバテ、ネグロス、ミンダナオ各島に連なる火山帯には中性安山岩を噴出する新期火山が並び、マスバテ、ミンダナオ各島には岩質性の熔岩台地が広い。激しい地殻変動や火山活動により生じた断層性の陥没地帯にはカガヤン川流域、ルソン島中部平原、ビコル、イロイロ、アグサン、コタバト各地方の平坦な河谷盆地が形成され、水田立地を生む。もう1つ重要な母材は石灰岩で、ボホル、サマル、ネグロスなどの島々に広くみられる。中性安山岩に由来する土壌は褐色から暗褐色で、植物質分に富む土壌を生ずる。塩基性の玄武岩由来の土壌は暗赤褐色で、やはり肥沃な土壌を作る。火山岩由来の土壌はいずれも孔隙に富み、透水性が良く、植物発分も多く、掘作立地を形造る。しかし、平坦な玄武岩台地が多雨気候区にあるミンダナオ島西部では、強い地盤酸化を長期間受け、塩基溶脱が激しく、酸性化の進行が目立つ。土質的にはラテライト化が進み、鉄とアルミニウムが相対的に集積している。石灰岩地帯も独特な土壌が分布する。固結石灰岩地帯では暗赤褐色のテラロッサが生じ、また、未固結の石灰岩地帯では有機物が深く浸透し、黒色のレンジナあるいはグルムゾルが発達する。乾燥が強まると、こうした特徴はより強まる。

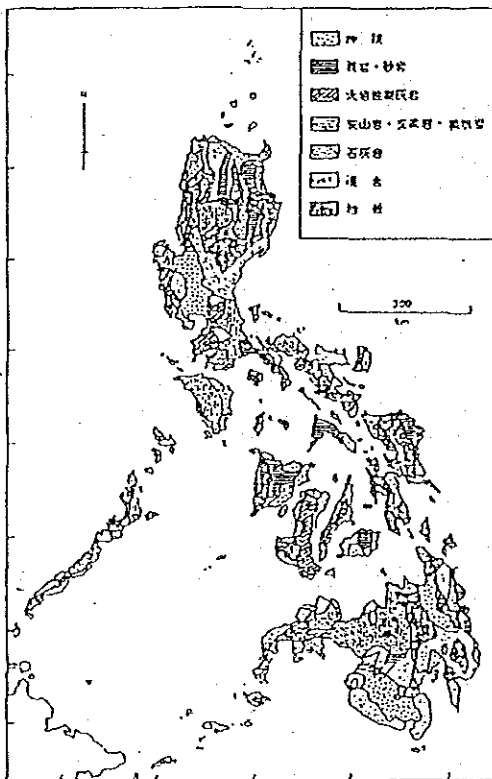
(古川 久雄)

台風: フィリピンには年間約20回ほど台風が襲来する。そして計画地域の2県は、すべて北緯8~11度の間に位置し、統計によると、フィリピン全土に襲来する台風の7%がこの地域を襲っている。統計的には、特に12月前後に計画地域の2県に台風が襲来する。一昨年12月には台風“RUPING”が中央ヴィサヤ、北ミンダナオ地域に、昨年11月には台風“Uring”がレイテ地域を襲って、多大な被害を与えた。建築分野では最大風速による耐風圧が全国3地域に区分され、風力係数が定められている

地震: 環太平洋地震帯に属し、世界有数の地震国である。震度3以上のものが年間6~7回発生しており、建物に大きな被害を与える大地震も発生する。建築分野では耐震設計基準に沿って、全国3地域に区分して地震係数を定めている

雷: 雷は雨期(5月~10月)に数多く発生し、年平均100回前後ある。乾期には殆ど発生しない。

計画地の地盤概要



フィリピンの地盤の分布

セブ島の海岸沿は、沖積期の地盤が火山活動により地表付近まで隆起しており、砂・砂利混合の土質となっている。

ミンダナオ島の西ミサミス県付近は、安山岩・玄武岩の集塊岩と石灰岩質の土質で、火山岩の隆起したものである。

本プロジェクトの建築物は、軽量なものであり、地盤状況に特に問題はない。

出典: The Philippine an Economic Geographie

(永野善子, 早瀬晋三作成)

月別・地域別平均最高・最低気温 (°C) : 1986~88年3か年平均

月	フィリピン諸島		ルソン島		ビサヤ諸島		ミンダナオ島	
	最低	最高	最低	最高	最低	最高	最低	最高
1	20.9	31.8	19.7	31.1	22.1	31.3	20.9	32.8
2	20.6	32.3	19.5	31.5	21.8	32.4	20.5	33.1
3	21.3	33.3	20.7	34.3	22.0	31.9	21.2	33.8
4	22.4	34.6	22.1	35.7	23.0	33.1	22.2	34.8
5	23.2	34.5	23.4	34.6	23.4	33.9	22.7	35.0
6	22.7	34.0	22.7	33.7	23.2	33.7	22.2	34.5
7	22.5	32.7	22.3	32.7	23.2	31.9	22.1	33.6
8	22.3	33.0	22.3	32.8	23.0	33.4	21.7	32.8
9	22.3	32.7	22.1	32.2	22.4	31.9	22.2	34.1
10	22.1	32.5	21.9	32.2	22.8	32.3	21.6	33.1
11	21.5	32.6	21.1	31.8	22.2	32.7	21.3	33.2
12	20.6	31.6	19.4	30.7	21.5	31.0	21.1	33.0

出典: Philippine Statistical Yearbook (以下PSYと略記) 1989, Chap.5, p.29; PSY 1988, p.329; PSY1987, p.293.

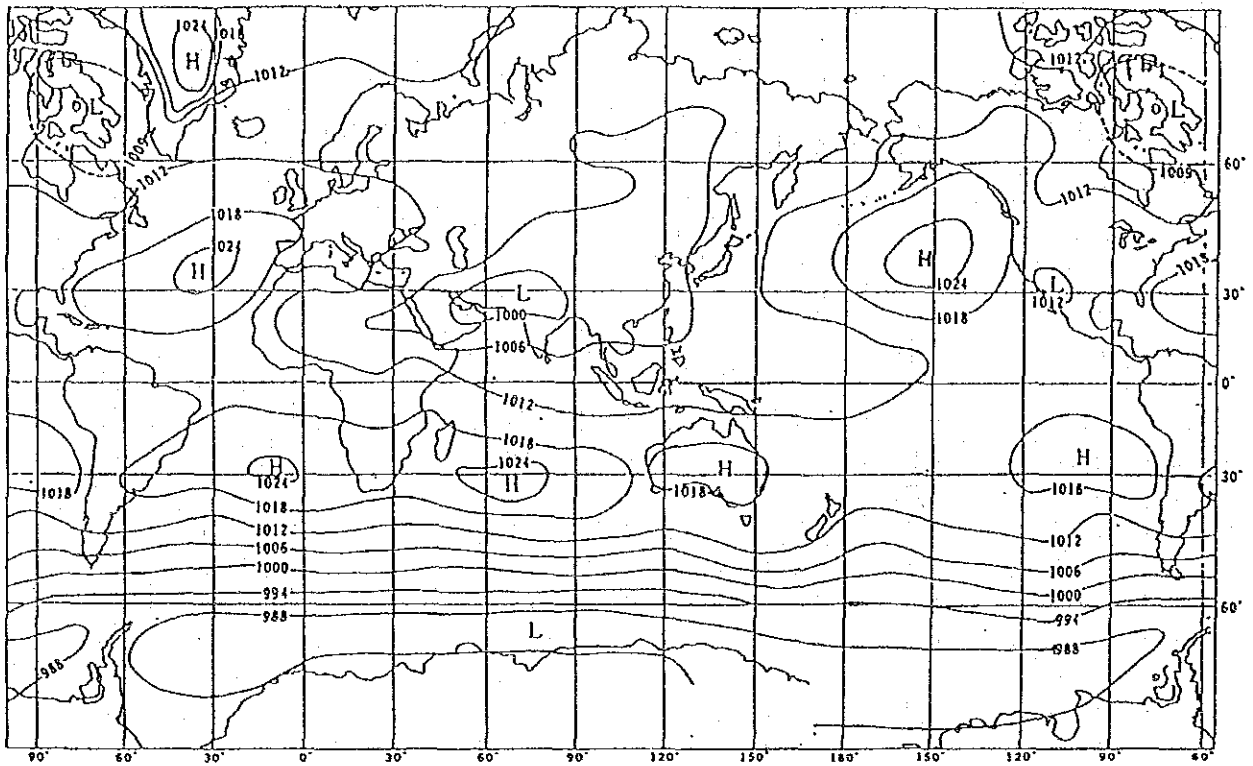
月別・地域別平均雨量 (mm)・降雨日数 : 1986~88年3か年平均

月	フィリピン諸島		ルソン島		ビサヤ諸島		ミンダナオ島	
	雨量	日数	雨量	日数	雨量	日数	雨量	日数
1	143.0	13	109.5	11	202.2	16	216.8	16
2	85.7	10	68.2	9	70.6	12	123.5	11
3	69.0	8	31.4	5	70.7	10	145.0	12
4	82.5	8	70.6	7	96.3	9	100.7	9
5	122.1	10	149.9	10	65.9	8	114.0	11
6	206.2	16	248.4	16	185.6	16	183.2	17
7	273.0	17	339.6	16	224.2	17	200.4	17
8	264.2	16	326.5	17	212.7	15	175.4	16
9	224.7	17	284.5	17	171.0	16	176.4	16
10	350.2	18	447.0	19	332.3	19	221.7	17
11	326.5	17	204.8	15	368.3	18	268.9	19
12	139.1	13	162.7	12	188.7	16	122.2	13

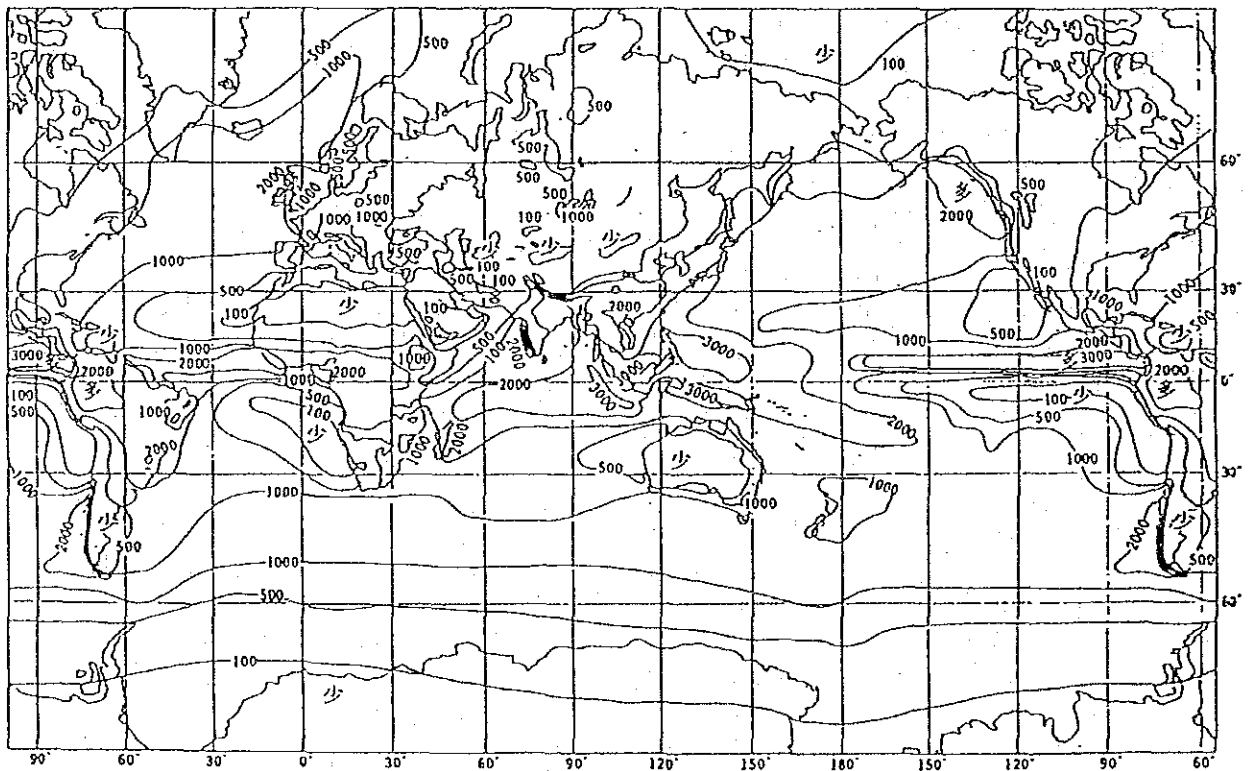
出典: PSY 1989, Chap.5, p.29; PSY 1988, p.329; PSY 1987, p.293.

出典: フィリピンの事典

世界の気圧分布図 (mb) 7月

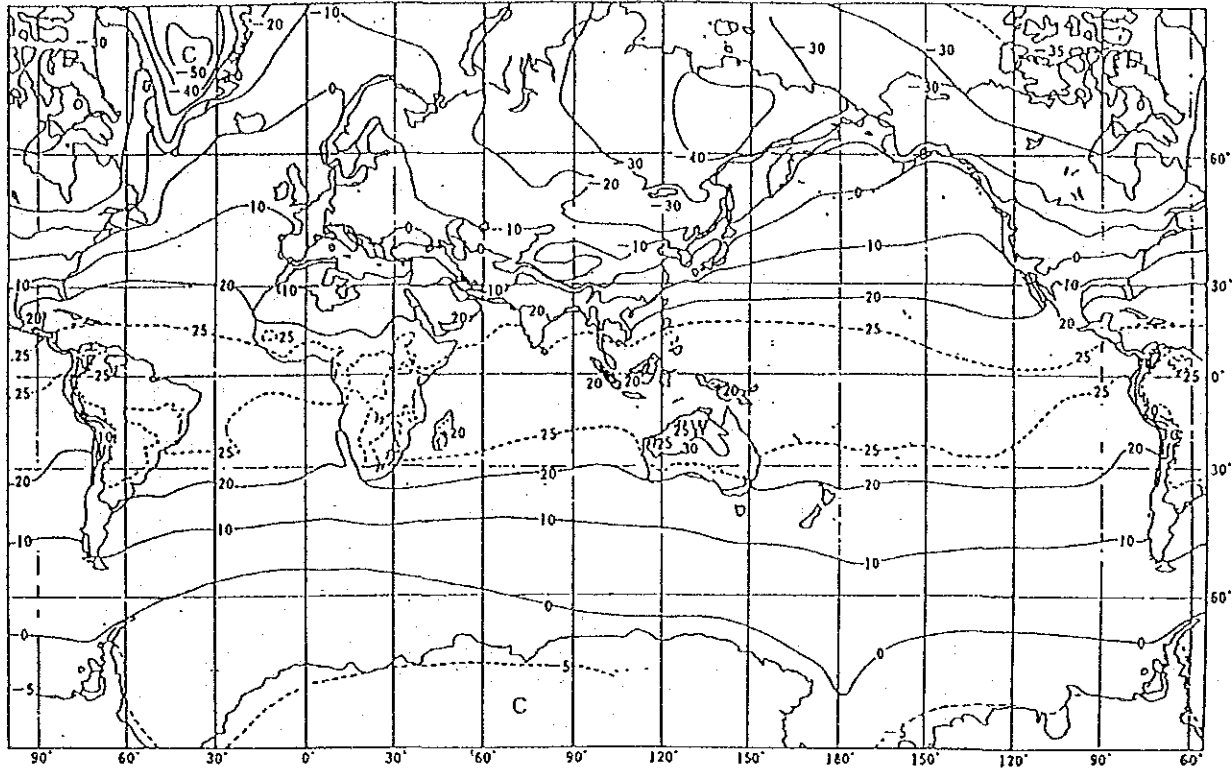


世界の降水量分布図 (mm) 年

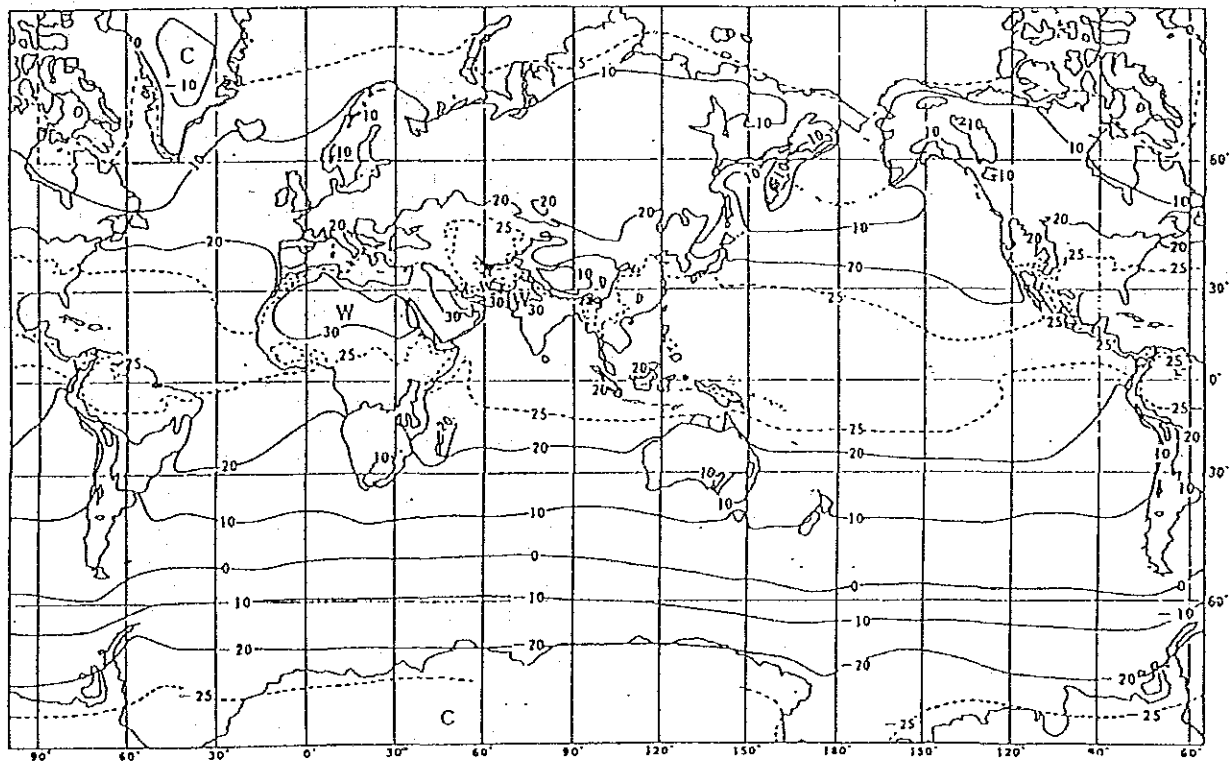


出典: 理科の年表 1992

世界の気温分布図 (°C) 1 月

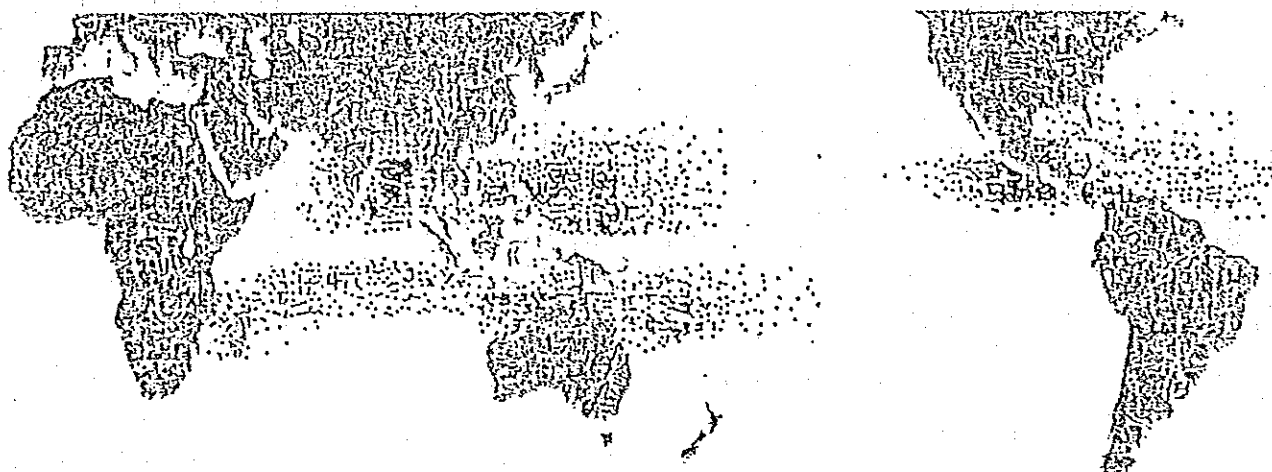


世界の気温分布図 (°C) 7 月



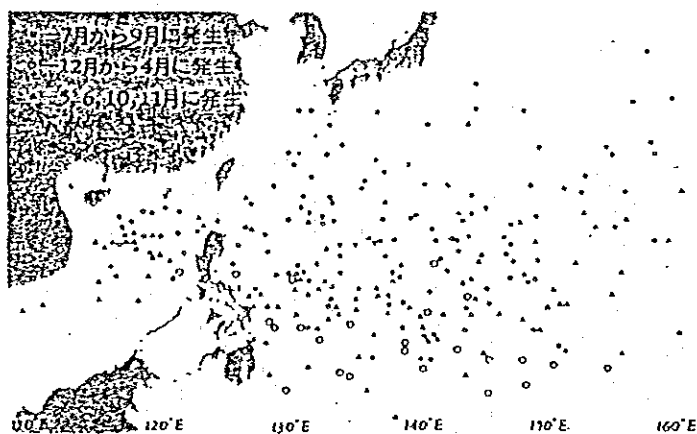
出典: 理科の年表 1992

台風強度の熱帯低気圧発生の地域分布(1952-71)



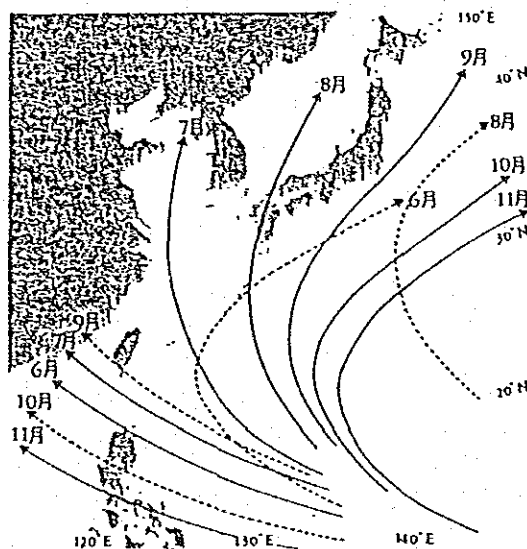
台風強度(風速17m/s以上)に達するような熱帯低気圧は北太平洋西部, インド洋, ベンガル湾, オーストラリア北東沖の南太平洋, 北太平洋東部のメキシコ西方海域, 大西洋西部からカリブ海などで発生する。北太平洋中部, 南太平洋東部, 南大西洋では発生しない。また赤道付近でも発生しない。

台風の発生地点(1961-70)



台風の発生しやすい緯度は季節によって変動し、冬は低い緯度で、夏から初秋にかけては比較的高い緯度で多い。

台風の月別代表的経路

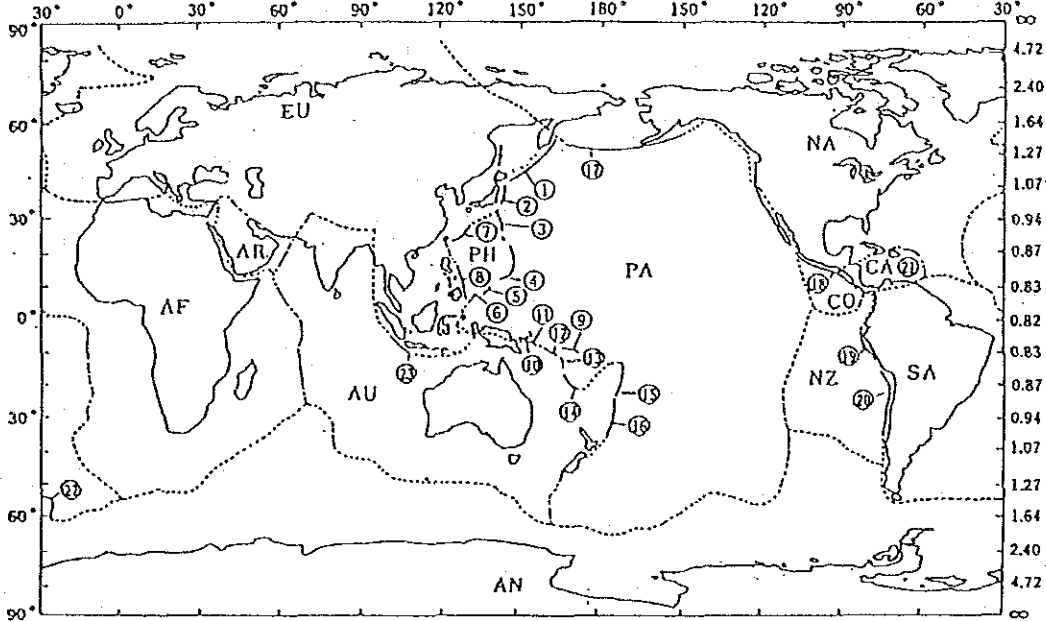


注一実線は台風のおもな経路、破線はそれに準ずる経路を表す。

世界海溝図

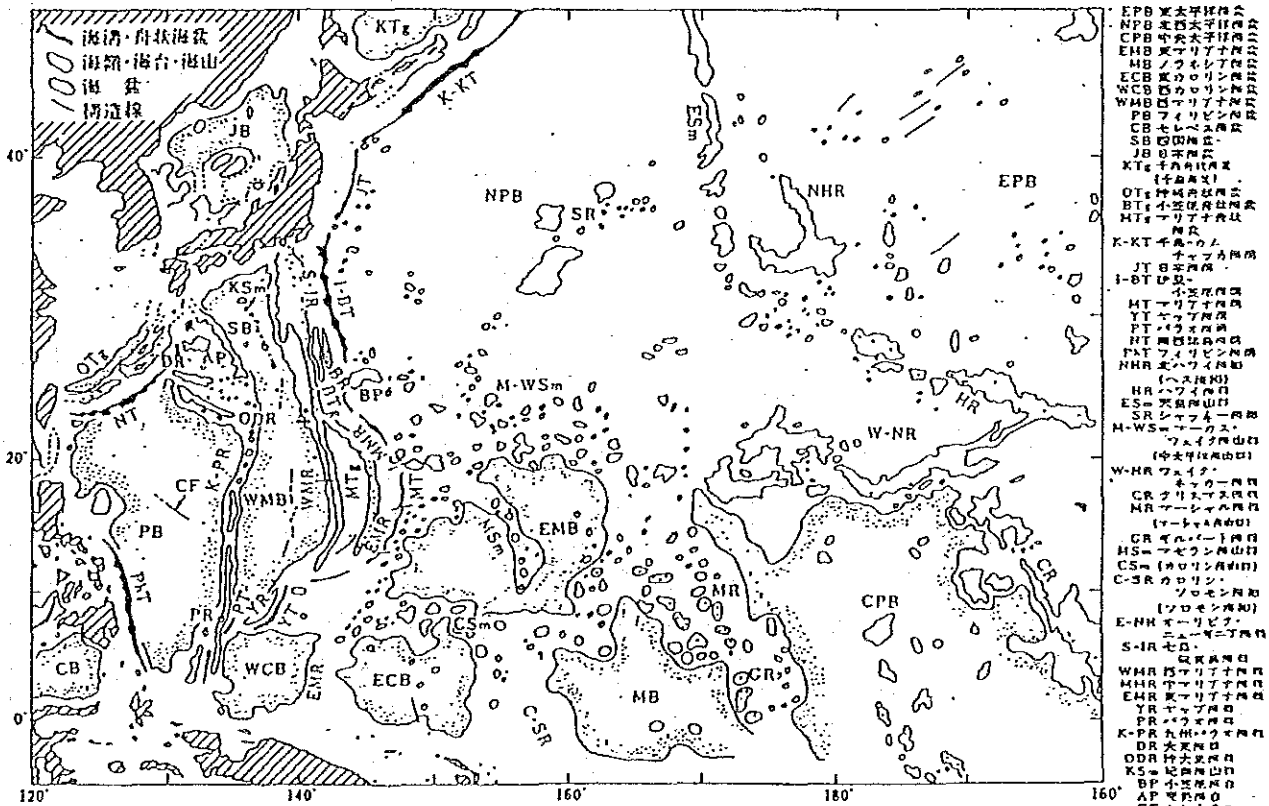
破線はプレートのおおよその境を示す、ローマ字はプレート名の略号。

AF: アフリカプレート, AN: 南極プレート, AR: アラビアプレート, AU: オーストラリアプレート, CA: カリブプレート, CO: ココスプレート, EU: ユーラシアプレート, NA: 北アメリカプレート, NZ: ナスカプレート, PA: 太平洋プレート, PH: フィリピン海プレート, SA: 南アメリカプレート。



右側の数字はこの図法における緯線の重なりを示す。

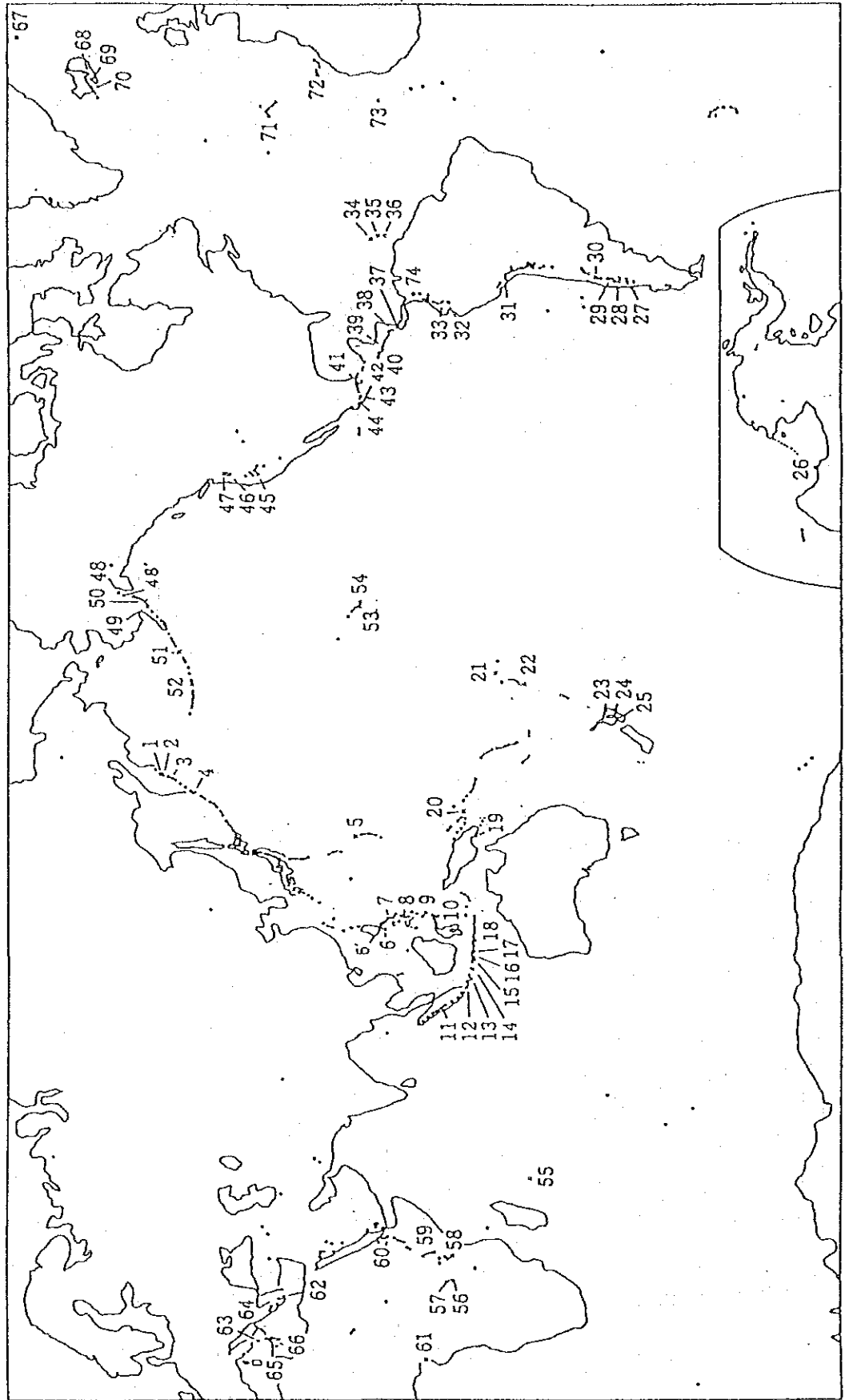
西太平洋の海底地形



- EPB 東太平洋海溝
- NPB 北太平洋海溝
- EMB 東マリアナ海溝
- MB ノースマリアナ海溝
- ECB 西カリフォルニア海溝
- WCB 西カリフォルニア海溝
- CB センテナル海溝
- SB 西インドネシア海溝
- JB 日本海溝
- KT 千島海溝
- OT 沖縄海溝
- BT 小笠原海溝
- MT マリアナ海溝
- K-KT 千島-千島海溝
- JT 日本海溝
- I-BT 伊豆海溝
- MT 小笠原海溝
- YT ヤマブシ海溝
- PT 小笠原海溝
- HT 西マリアナ海溝
- NHR 東マリアナ海溝
- HR ハワイ海溝
- ES 東マリアナ海溝
- M-WS 東マリアナ海溝
- W-NR 西マリアナ海溝
- W-HR 西マリアナ海溝
- CR クリスマス海溝
- MR マリアナ海溝
- CR 東マリアナ海溝
- HS 西マリアナ海溝
- CS 西カリフォルニア海溝
- C-SR 西カリフォルニア海溝
- W-NR 西マリアナ海溝
- E-NH 東マリアナ海溝
- S-IR 西インドネシア海溝
- WHR 西マリアナ海溝
- MHR 東マリアナ海溝
- EMR 東マリアナ海溝
- YR ヤマブシ海溝
- PR 小笠原海溝
- K-PR 九州-小笠原海溝
- DR 大東海溝
- ODR 沖大東海溝
- KS 小笠原海溝
- BP 小笠原海溝
- AP 小笠原海溝
- CF センテナル海溝

小林和男, 佐藤任弘, 伊勢崎隆弘(1971)による。()内は大洋水深図, 第5版による。

世界のおもな火山



出典：理科年表 1992

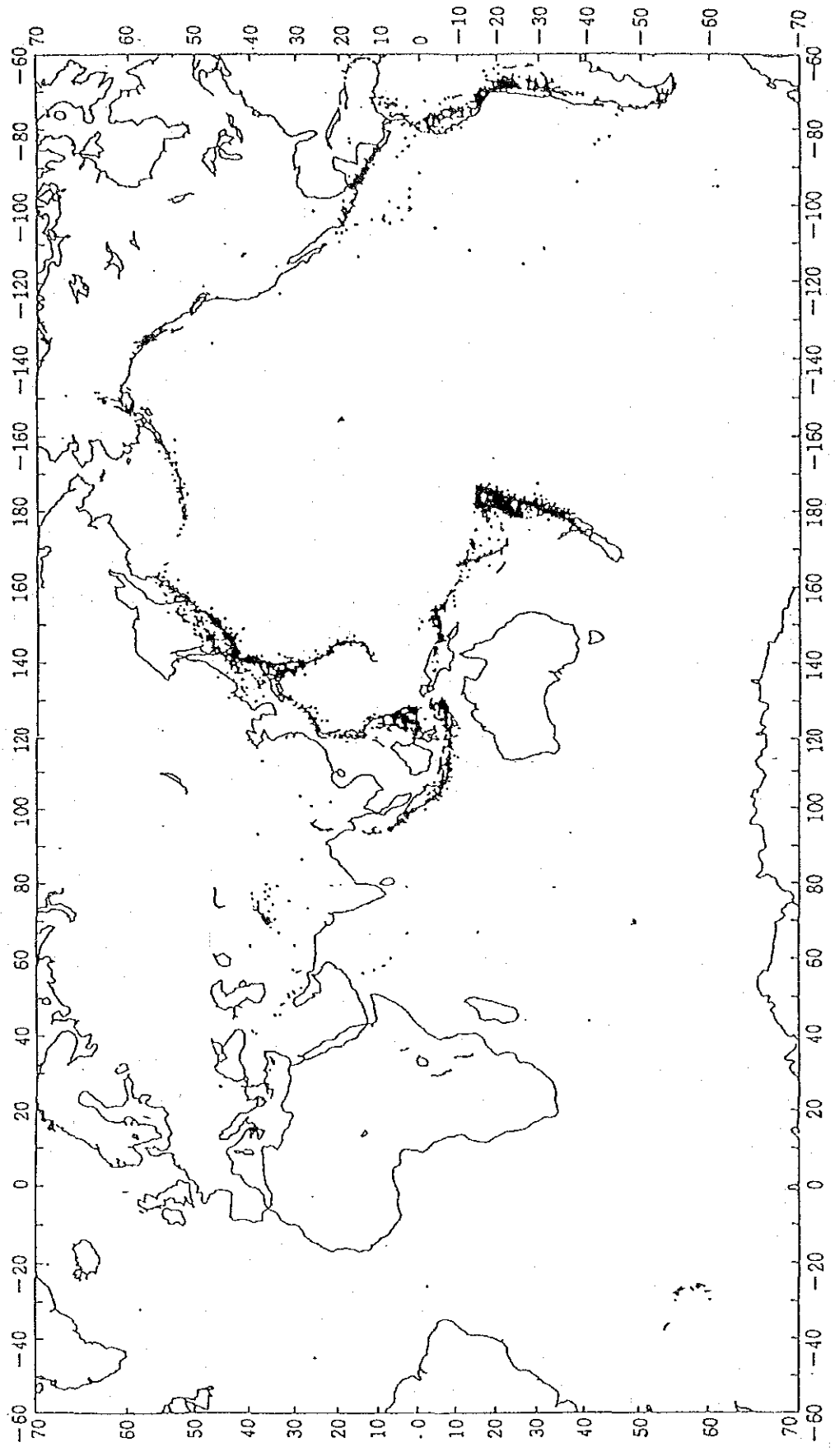
世界のおもな火山 (1)

火山名	所在地	標高 (m)	噴火形式	最近噴 火年代	備 考
①クリュチェフ	カムチャッカ半島(ソ連)	4850	〇〇 ⇒	1990	半島内最高峰、カムチャッカ火山観測所
②ベズミアニ	・ (・)	2800	〇 〇⇒⇒	1987	1956年有史以来初噴火、大爆発で頂部を壊 破、標高185m低下、1981~1987年溶岩流
③カリムスキ	・ (・)	1486	〇 !⇒	1985	有史以後(1771年~)にもしきりに噴火
④アライト(阿頼度)島	千島列島(・)	2339	〇 〇⇒△	1982	1933~34年、付近海域から武富島(117m) 発生、砂州で本島につながる
⑤ウラカス島	マリアナ諸島	360	〇 〇⇒△	1969	ストロンボリ式噴火
⑥タール	ルソン島(フィリピン)	300	〇〇 ⇒⇒⇒	1977	1911年死者1400人、1965年死者190人
⑥ピナツボ	ルソン島(フィリピン)	1745	〇 ⇒⇒⇒	1991	1991年600年ぶりの大噴火、多くの火砕流、 土石流、山頂部陥没、噴煙は20km以上の高さ に達した。
⑦マヨン	・ (・)	2421	〇 ⇒→	1984	1814年死者1200人、円錐火山の典型
⑧ヒボックヒボック	カミン島(・)	1332	〇 △⇒→	1963	別名カターマン、1951年死者500人
⑨アウ	サンギヘ島(インドネシア)	1320	〇 !△⇒⇒	1968	1711年死者3200人、1812年死者1000人、 1856年死者2800人、1892年死者1500人
⑩ソプタン	スラウェシ島(・)	1784	〇〇 △⇒→	1989	有史以後(1785年~)にも約30回噴火
⑪マラピ	スマトラ島(・)	2891	〇	1988	よく爆発するが、活動期間は短い
⑫クラカタウ島	スンダ海峽(・)	813	〇 !△⇒⇒ ⇒	1988	1883年大爆発で火山島消滅、死者36000人、 現在のアナクラカタウ島は1930年発生
⑬ババンタヤン	ジャワ島(・)	2665	〇 ⇒	1925	1772年死者2957人
⑭ノラビ	・ (・)	2911	〇 △⇒⇒⇒	1989	1006年死者数千人、1672年死者3000人、 1930年死者1400人、1966年死者64人
⑮ケルト	・ (・)	1731	〇 〇⇒⇒△	1990	1586年死者10000人、1872年死者200人、 1919年死者5100人、1966年死者282人
⑯スノル	・ (・)	3676	〇〇 ⇒⇒△	1989	島内最高峰、ほぼ連続的に噴火中
⑰アグン	バリ島(・)	3142	〇 ⇒→→	1964	別名「バリの峰」、1963年死者2000人
⑱タンボラ	スンバワ島(・)	2851	〇 ⇒	1913	1815年世界最大噴火、山体破壊、噴出総 量150km ³ 、死者92000人(餓死とも)
⑲ラミントン	ニューギニアパプア	1780	〇 △→→	1956	1951年、有史以後初噴火、死者3000人(最 後世界最多)、頂部壊滅、標高600m低下
⑳ブルカン(ラバウル)	ニューブリテン島	226	〇	1937	1937年死者505人、1983年10月以来異常活 起、地震群発。
㉑マタバス	サモア諸島サバイ島	708	〇 〇⇒	1911	第1回噴火
㉒ファルコン島	トンガ諸島	50	〇△	1969	有史以後(1787年~)にもしきりに新火山島出 現
㉓トラウエラ	ニュージーランド北島	1111	〇 !〇	1886	1886年第1回噴火、死者100人
㉔ナラホイ(ナルホエ)	・	2291	〇 ⇒→	1977	活動的な小型成層火山
㉕ルアベフ	・	2796	〇 〇⇒⇒△	1990	島内最高峰、トンガリロ国立公園、1953年 死者151人
㉖エレバス	ロス島(南極圏)	3743	〇 ⇒(⇒?)	1990	1841年、英国ロス隊発見、山名は探検船名

(注) 世界の広義の活火山の総数は約750

出典: 理科年表 1992

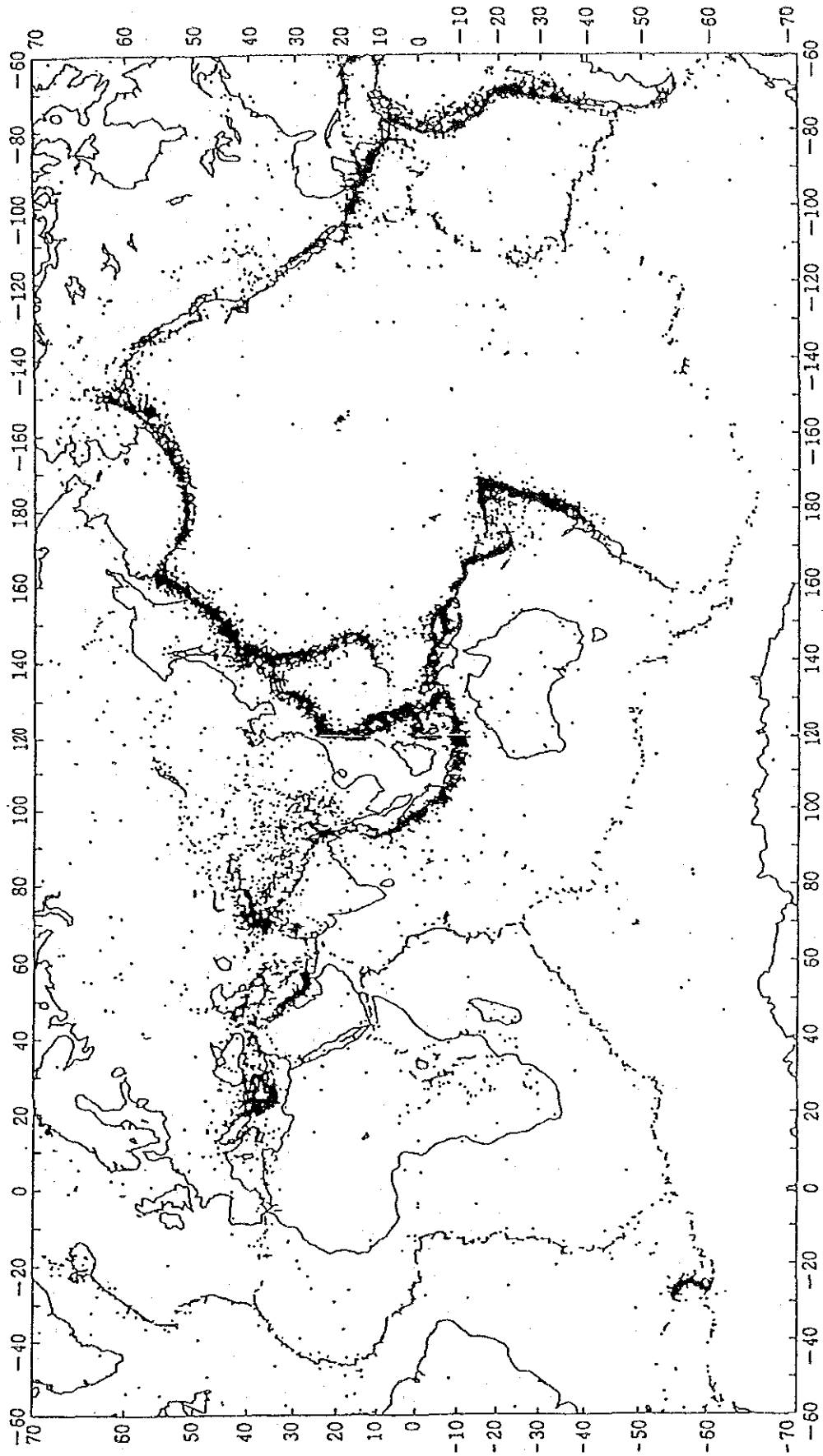
世界地震分布図 (M ≥ 4.0, 深さ 100 km 以上, 1970~1985年)



(国際地震センターの資料による)

出典: 理科年表 1992

世界地震分布図 (M ≥ 4.0, 深さ 100 km 以下, 1970 ~ 1985 年)

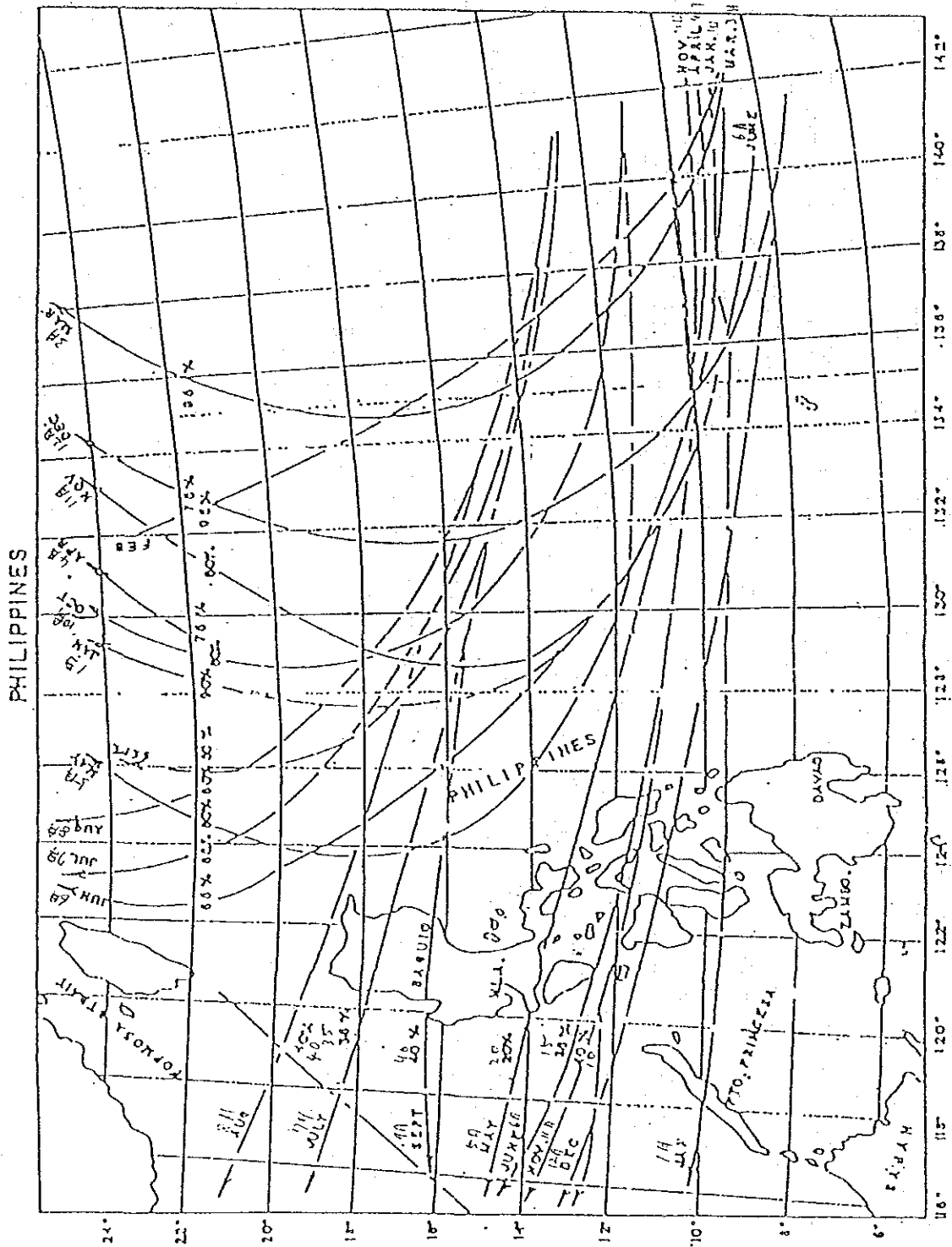


(国際地震センターの資料による)

* 地震が帯状の地域に生じていることが、よく理解できる。

出典: 理科年表 1992

MEAN MONTHLY TRACKS OF TROP. CYCLONES IN THE VICINITY OF THE PHILIPPINES



MONTHLY AND ANNUAL FREQUENCIES OF TROPICAL CYCLONES IN THE PHILIPPINES
AREA OF RESPONSIBILITY: 1950 TO 1990

Year	Annual Total											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1950	0	0	0	0	1	2	3	1	3	2	2	1
1955	1	1	0	1	0	0	2	3	1	4	1	1
1960	1	0	0	1	1	2	2	6	1	3	0	2
1965	2	1	1	0	2	2	6	2	3	1	1	0
1970	0	1	0	0	0	3	2	4	4	4	2	1
1971	1	0	1	3	3	2	5	2	3	5	2	0
1972	2	0	0	0	0	2	4	2	4	2	1	1
1973	0	0	0	0	0	1	2	4	1	3	1	0
1974	1	0	0	0	0	3	4	4	2	5	2	2
1975	1	0	0	0	0	0	1	2	4	3	2	1
1975	22	1	1	1	1	3	3	3	4	0	2	3
1977	1	0	0	0	1	1	4	2	4	2	2	2
1978	0	0	0	1	0	3	1	7	6	4	2	1
1979	0	0	1	1	2	1	3	3	3	4	2	2
1980	0	1	1	1	3	2	4	3	2	2	3	1
1981	0	1	0	0	0	3	5	4	3	2	3	2
1982	0	0	2	0	1	0	5	4	4	2	0	2
1983	0	0	0	0	0	0	3	3	4	6	4	3
1984	0	0	0	0	0	1	2	0	1	4	3	1
1985	1	0	0	0	1	2	2	3	4	3	0	1
1986	0	1	0	1	1	2	3	2	1	4	3	3
1987	1	0	0	0	0	1	4	3	2	2	2	1
1988	1	0	0	0	1	3	3	0	3	6	2	1
1989	1	0	0	0	1	2	6	1	2	3	2	1
1990	0	0	0	0	3	3	2	3	4	1	3	1

(備考)

Note: Tropical cyclones are classified according to the maximum winds blowing about their centers. They may fall under any of the following categories: (a) tropical - up to 63 km/hr; (b) tropical storm - from 64 to 110 km/hr; and (c) typhoon - above 110 km/hr.

(出所)

Source: Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA)

台風被害概要 1986

SUMMARY OF 1986 TROPICAL CYCLONE DAMAGE

Name of Tropical Cyclone	Casualties		Houses Destroyed		Damage to Properties Public & Private	
	Inj	Dead	Missing	Totally		Partially
T. GADING (Jul 06-10)	16	89	20	1,090	6,679	P 328,782,003.00
T. MIDING (Aug 17-04 Sep)	4	17	-	473	699	P 110,158,854.00
T.S. OYANG (Oct 05-09)	26	27	21	27	-	P 42,872,332.00
T. PASING (Oct 10-14)	-	4	-	52	414	P 23,457,000.00
T.S. RUPING (Oct 17-20)	-	2	-	49	136	P 52,500.00
T. ANING (Dec 20-24)	-	-	-	114	2,451	P 7,347,770.00
TOTAL	46	139	41	1,805	10,379	P 512,650,459.00

台風被害概要 1987

SUMMARY OF 1987 TROPICAL CYCLONE DAMAGE

Name of Tropical Cyclone	Casualties		Houses Destroyed		Damage to Properties Public & Private
	Dead/Missing	Injured	Totally	Partially	
T. HERMING (Aug. 08-14)	94	468	95,578	56,526	P 234,000 M
T. ISING (Aug 12-20)	3	-	2	17	P 44,535 M
T. PEPANG (Oct 21-25)	141	67	10,483	62,853	P 39,065 M
T. SISANG (Nov 23-27)	979	927	152,339	175,449	P 510,672 M
T. TRINING (Dec 14-19)	42	35	8,754	22,488	P 68,916 M

台風被害概要 1988

SUMMARY OF 1988 TROPICAL CYCLONE DAMAGE

Name of Tropical Cyclone	Casualties		Houses Destroyed		Damage to Properties public & private
	Dead	Missing	Totally	Partially	
T. BIRING (May 30-03 Jun)	8	1	93	169	P 26.871
T. HUANING (Jul 16-19)	6	0	3,560	15,116	P 240.366
T. UNSANG (Oct 21-26)	157	60	38,932	146,781	P 5,635.999
T. WELPRING (Nov 01-05)	41	1	86	156	P 24.307
T. YONING (Nov 05-09)	217	133	91,673	192,877	P 2,748.030
TOTAL	429	195	134,344	355,459	P 8,675.573

台風被害概要 1989

SUMMARY OF 1989 TROPICAL CYCLONE DAMAGE

Name of Tropical Cyclone	Casualties		Houses Destroyed		Damage to Properties public & private
	Dead	Injured	Totally	Partially	
T. BINING (May 15-19)	16	3	652	4,389	P 67.683 M
T. GORING (Jul 13-16)	94	382	8,845	45,774	P 450.350 M
T. OPENG (Sep 07-12)	44	21	433	4,871	P 291.878 M
T. RUBING (Oct 02-07)	119	28	14,064	19,245	P 217.984 M
T. SALING (Oct 09-12)	58	105	12,883	70,420	P 269.176 M
T. TASING (Oct 13-20)	47	363	19,270	115,620	P 104.818 M
T. UNSING (Nov 16-23)	8	1	-	-	-
TOTAL	386	903	56,147	258,319	P 1,301.889 M

台風被害概要 1990

SUMMARY OF 1990 TROPICAL CYCLONE DAMAGE

Name of Tropical Cyclone	Casualties		Houses Destroyed		Damage to Properties public & private
	Dead	Injured	Totally	Partially	
T. BISING (Jun 17-23)	65	17	306	2,684	P 200.150 M
T. KLARING (Jun 24-28)	8	-	48	-	P 60.055 M
T. GADING (Aug 15-20)	2	-	3	594	P 24.825 M
T. HELING (Aug 24-27)	36	43	456	513	P 44.617 M
T. ILIANG (Aug 28-30)	50	53	684	1,961	P 1,502.187 M
T. LOLENG (Sep 05-08)	-	-	-	-	-
T. MIDING (Sep 12-15)	2	2	20	49	-
* T. RUPING (Nov 10-14)	508	1,274	222,004	630,885	P 10,276.553 M
TOTAL	670	1,389	223,513	636,686	P 12,108.377 M

大災害に依る被害状況 (1976 - 1990)

DAMAGES CAUSED BY MAJOR NATURAL DISASTERS: 1976 TO 1990

年度 Year	種類 Type of Disaster	発生日 Date of Occurrence	被災地域 Affected Areas	被災戸数 Population Affected	人数 Persons	死亡 Dead	負傷 Injured	防災家屋 Totally Damaged Houses	部分的に Partially Damaged Houses	被害額 Value of Damages (million pesos)
1976	洪水 Flooding	Nov. 30	② 域 Region VI (Aklan & Capiz)	14,313	71,565	10			809	11,533
	台風 T. Didang	May 19-28	Regions I, II, III & IV	500,054	2,719,415	200	20	3,792	4,912	624,693
	地震・津波 Earthquake/ Tsunami	Aug 17	Regions IX, X, XI & XII	60,356	362,136	3,782	9,240	-	-	246,946
1977	台風 T. Unding	Nov 10-17	Regions I, II, III, IV, V, VI, VIII	133,141	798,846	40	115	15,679	16,115	301,003
	洪水 Flooding	Feb 19-22	Regions VIII, X	1,499	7,495	10				14,102
1978	台風 T. Kading	Oct 25-27	Regions I, II & III	237,736	1,236,435	444	749	45,485	65,040	1,021,000
1979	鉄砲水 Flashflood	June 26	Region XII	16,000	96,000					5,178
	台風 T. Bebang	Apr. 13-19	Regions I, V, VI & VIII	111,929	672,025	30	73	47,248	57,087	267,118
1980	洪水 Flooding	Dec. 19-25	Regions X & XI	121,332	736,079	336	14,298			346,205
	台風 T. Aring	Nov. 1-7	Regions I, II, III, IV, V, VI & VIII	245,064	1,384,053	103		5,431	29,054	1,356,000
1981	台風 T. Anding	Nov. 22-27	Regions I, II, III & IV	111,141	655,269	68	42	49,110	98,324	505,289
	台風 T. Dinang	Dec. 23-27	Regions IV, V & VIII	112,639	674,619	188	1,838	40,237	52,161	586,616
1982	台風 T. Bisling	Mar. 23-28	Regions VIII, VII & X	103,204	657,274	112	85	58,244	18,233	587,499
	台風 T. Weiling	Oct. 12-15	Regions I & II	51,532	301,431	96	183	12,464	34,111	623,233
	洪水 Flooding	Jan. 25-30	Regions IX, X & XII	81,328	436,687	27	1	15		99,264
1983	旱魃 Drought	Jan. to Mar.	Regions I to XII	422,765	FARMERS					763,144
	台風 T. Bebang	July 14-16	Regions III, IV, V & VIII	120,811	620,985	115	27	29,054	76,346	466,863

(出典) National Disaster Coordinating Council

災害の被害概要

A-27

大災害に依る被害状況 (1976 - 1990)

DAMAGES CAUSED BY MAJOR NATURAL DISASTERS: 1976 TO 1990

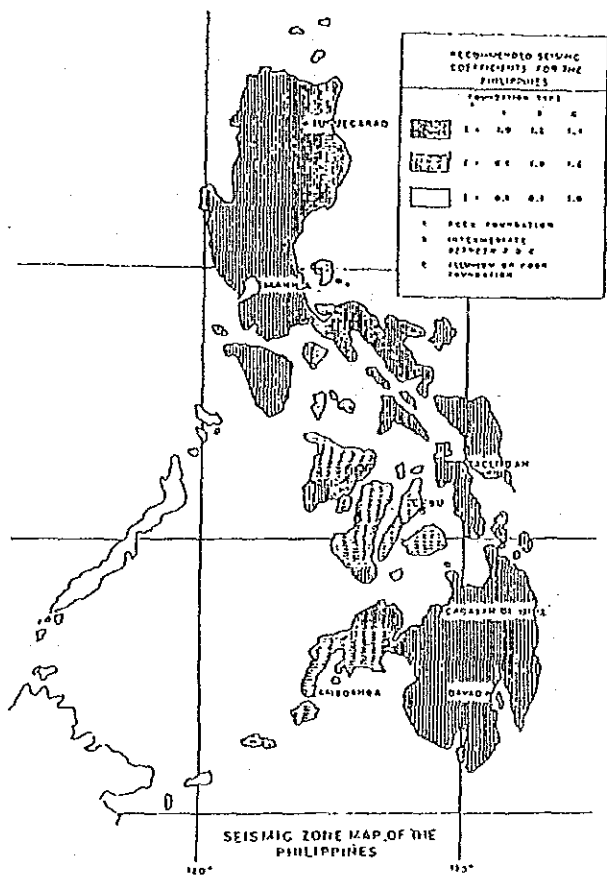
年度 Year	種類 Type of Disaster	Date of Occurrence	被災地域 Areas Affected	被災戸数 Population Affected		死亡 Casualties		被災家屋 Houses Damaged		被害額 Value of Damages (million pesos)
				人数 Persons	家族数 Families	死 Dead	負傷 Injured	全壊 Totally	半壊 Partially	
1984	台風 T Nibang	AUG. 31- Sept. 4	Regions IV, VI, VII VIII, X & XI	273,794	1,630,296	900	443	108,219	142,653	3,914,000
	台風 T Undang	Nov. 3-6	Regions IV, V, VI VII & VIII	373,491	1,936,732	895	272	201,014	163,506	1,541,000
1985	台風 T Saling	Oct. 15-20	Regions I, II, III IV & V	209,842	1,054,063	88	7	63,136	201,263	2,132,000
1986	台風 T Cading	July 6-10	Regions I, II, III IV & NCR	142,050	730,357	106	16	2,689	13,896	678,493
	津波 TS Ruping	Oct 17-20	Regions V & VIII	259	1,248	2		49	136	734,394
1987	台風 T Herming	AUG. 8-12	Regions IV, V & VII	228,286	1,253,398	85	414	61,758	114,922	2,065,000
	台風 T Sising	Nov. 23-27	Regions IV, V & VIII	318,968	2,019,385	100	79	153,339	175,449	1,119,000
	旱魃 Drought	Jan. - Apr.	Regions I to XI							1,363,000
1988	台風 T Unsang	Oct. 21-26	Regions I to XI	537,152	2,742,666	157	316	38,932	146,781	706,445
1989	洪水 FLOODING	Jan. 15-20	Regions V & VIII	81,152	459,730	101	79	1,826	22,355	5,636,000
	台風 T. Saling	Oct. 9-10	Regions I, III, IV V, VIII & NCR	135,245	682,699	58	121	122,273	37,699	392,203
	台風 T Goring	July 14-17	Regions I, II, III IV, VI, IX & X	95,269	488,757	90	386	8,845	46,269	1,394,000
1990	旱魃 Drought	Jan. - Apr.	Regions I to XII	220,269	1,189,309					1,363,000
	Earthquake 鉄砲水	Feb. 8	Regions VII (Bohol)	10,931	54,059	10	273	199	2,949	3,385,000
	Flashflood 地盤	June 12	Region IX (Zamboanga del Sur)	1,534	8,108	36		168	163	121,433
	Earthquake	July 16	Regions I, II, III IV & NCR	227,918	1,255,248	1,283	2,786	25,207	77,249	40,000
	台風 T Illiang	Aug. 28-30	Regions I, II, III IV, CAR & NCT	130,219	568,675	50	53	684	1,961	12,225,037
	台風 T Ruping	Nov. 10-14	Regions IV, V, VI VII, VIII, IX, X XI, XII	1,010,004	5,498,290	508	1,278	22,026	630,885	1,530,000
										10,846,000

(出典) National Disaster Coordinating Council

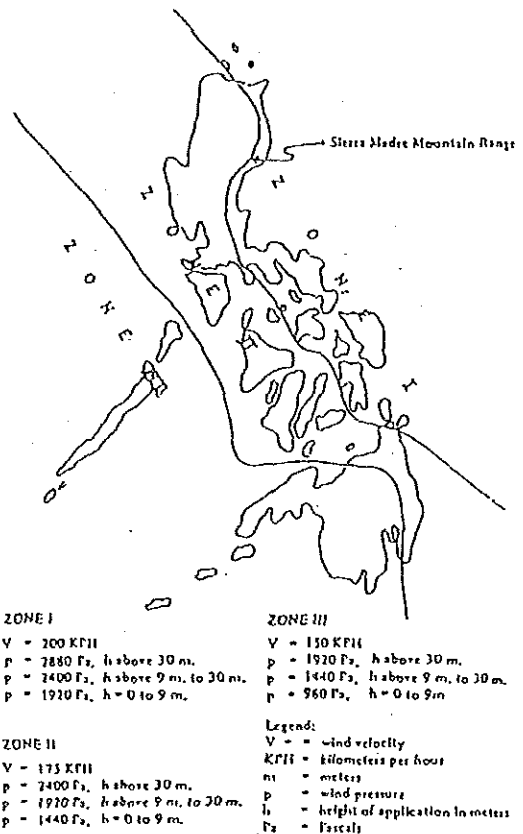
フィリピン国では構造設計に際し、地震・風圧に関する係数について全土を3区域に分けて規定している

地震: 地震地域係数区分図によると地盤の状態により異なる係数となる。

	岩盤	両者の中間	軟地盤
セブ島周辺:	0.8	1.0	1.2
ミンダナオ島:	1.0	1.2	1.4



地震地域係数区分図



風圧力係数区分図及び風圧力

風: 風圧力計数区分図によると、セブ島周辺はZONE IIに属し西ミサミスはZONE IIIに属している。

以上の結果、耐震・耐風圧の構造設計に関しては、セブ付近の区域と西ミサミスは異なる係数を用いて設計することとなる。

Table 1

ESTIMATION OF MARKETING POPULATION

	A*1	B*2	*3	C	D	*4	E	F
	Population	Family Unit	Rate of Areal Coverage	Population participating to the Public Market	Family unit participating to the Public Market	Rate of shopping at other places (Sarlisari store, town shops, other market)	No. of Marketing Population	No. of Marketing family unit
LAPULAPU	145,194	26,762	1.3	190,052	34,791	0.20	152,042	27,832
CARGAR	70,841	13,438	1.0	70,841	13,438	0.40	42,505	8,063
DANAO	70,358	14,460	2.0	146,716	28,920	0.30	102,701	20,244
TOLEDO (DAS)	87,910	16,340	1.0	87,910	16,340	0.25	65,932	12,255
OROQUIETA	52,200	10,056	1.5	78,300	15,084	0.30	54,810	10,559
SAPANG DALAGA	17,945	3,293	1.0	17,945	3,293	0.25	13,459	2,470

* 1. 2 : Population, number of household, 1990, National Statistical Coordination Board, 1991

* 3. 4 : Estimated by Study Team at Projected area

* 5 : All figures indicate DAS area only

Table 2

ESTIMATION OF ECONOMIC SIZE OF PUBLIC MARKETS

	G	H	I	J	K	L	M	N
	Marketing Number of Family Unit	Average Family Expenditures	Excluding other Expenditures	Daily Family Expenditures in Public Market	Rough Estimation of Annual Demand of Expenditures	Daily Demand	No. of Stalls Accommodated (existing)	Average Daily Sales Amount Per Stall
	-peso-	-peso-	-peso-	-peso-	-1,000 peso-	-1,000 peso-		
IAPULAPU	27,832	35,000	26,250	72	730,590	2,602	729	2,746
CARGAR	8,063	19,250	14,440	40	116,430	319	96	3,323
DANAO	20,244	26,000	19,500	53	394,758	1,082	350	3,030
TOLEDO (DAS)	12,255	24,000	18,000	49	220,590	604	279	2,165
ORORIETA	10,559	29,000	21,750	60	229,654	629	688	914
SAPANG DALAGA	2,470	25,000	18,750	51	46,313	127	90	1,411

G: The Previous Page's Table "F" Refers

H: Data have been estimated from data and information

of Regional Office of NEDA and Family

Income & Expenditures Survey Report, 1988

I: Excluding expenditures other than the items

of commodities sold in Public Market (x25%):

Housing, fuels, medical care, transportation, education, taxes, recreation etc.

J: I ÷ 365 days

K: G x I

L: K ÷ 365 days

M: Total No. of Stalls in the respective area

N: L ÷ M

Table 3-1

DISTRIBUTION OF PERCAPITA CONSUMPTION BY MAJOR EXPENDITURE GROUP

	Iapulapu (Ave. Family Exp. 35,000 peso)			Carcar (Ave. Family Exp. 19,250 peso)			Banao (Ave. Family Exp. 26,000 peso)		
	Distribution (%)	Price (kg)	Daily Consumption gr.	Distribution (%)	Price (kg)	Daily Consumption gr.	Distribution (%)	Price (kg)	Daily Consumption gr.
Meat	*1 5.7	*2 80	13.47	4.0	80	6.10	4.5	80	7.86
Fish	12.2	50	46.38	13.9	50	30.98	14.2	50	39.78
Cereals	20.4	10	388.00	28.8	10	252.00	23.2	10	324.98
Veg/Fruit	3.3	25	24.79	4.3	30	13.80	3.8	40	13.23
Dry Goods	8.0	-	-	7.1	-	-	8.1	-	1.14
Sari-sari Goods	6.2	-	-	6.0	-	-	7.5	-	1.05
Food outside	6.3	-	-	1.9	-	-	3.6	-	0.51
Others	-	-	-	-	-	-	-	-	1.34
Ave. percapita daily expenditure			13.18			7.59			10.45
Ave. family daily expenditure			71.96 (x5.46)			39.99 (x5.27)			53.39 (x5.07)

*1 Family Income and Expenditures Survey, 1988, National Statistics Office

*2 Estimated by Study Team

*3 Computed for percapita daily consumption based upon the value of average family expenditure

*4 Dry goods include clothing, footwear, personal care and effects

*5 Sari-sari goods include cannings, spices, sauce, tobacco and non-alcoholic beverages

Table 3-2

	Toledo (Ave. Family Exp. 24,000 peso)				Oroquieta (Ave. Family Exp. 29,000 peso)				Sapang Dalaga (Ave. Family Exp. 25,000 peso)			
	Distribution (%)	Price (kg)	Daily Consumption gr.	Daily Consumption peso	Distribution (%)	Price (kg)	Daily Consumption gr.	Daily Consumption peso	Distribution (%)	Price (kg)	Daily Consumption gr.	Daily Consumption peso
Meat	4.5	80	6.73	0.55	4.1	80	7.72	0.63	4.1	80	6.35	0.52
Fish	14.2	50	34.57	1.74	15.1	45	51.31	2.31	15.1	45	42.21	1.90
Cereals	23.2	10	282.98	2.84	26.4	8	504.98	4.04	26.4	8	414.98	3.32
Veg/Fruit	3.8	25	18.38	0.46	4.1	20	30.98	0.63	4.1	20	25.47	0.52
Dry goods	8.1	-	-	0.99	9.9	-	-	1.52	9.9	-	-	1.25
Sari-sari goods	7.5	-	-	0.91	5.6	-	-	0.86	5.6	-	-	0.71
Food outside	3.6	-	-	0.44	1.1	-	-	0.17	1.1	-	-	0.14
Others	-	-	-	1.17	-	-	-	1.40	-	-	-	1.01
Ave. percapita daily expenditure				9.10				11.56				9.37
Ave. family daily expenditure				49.28 (x5.38)				59.99 (x5.19)				50.97 (x5.44)

Table 4 Frequency of Marketing, Daily Number of Consumers and Average Number of Consumers per Stall

	Number of Family (N)				Frequency of Shopping in a week *2				Total No. of Shopping in a week Q	Ave. Daily No. of Consumer per stall		
	Poblacion	Estimated No. of Family from other Area		Total Number of family Unit *4	Poblacion x 7 times	Urban x 3 times	Rural x 1 time	Other Area x 1 time				
		Urban	Rural								*1	
Lapulapu	12,815	13,947	-	8,028 (x 1.3)	34,790	89,705	41,841	-	8,028	139,574	19,939	20
Carcar	2,243	4,205	6,990	-	13,438	15,701	12,615	6,990	-	32,306	4,615	31
Danao	1,528	6,726	6,206	13,438 (x 2.0)	27,898	10,696	20,178	6,206	13,438	50,518	9,964	20
Toledo	3,875(DAS)	1,545	10,399	-	15,819	27,125	4,635	10,399	-	57,978	8,283	30
Oroquieta	1,036	6,082	2,938	5,028 (x 1.5)	15,084	7,252	18,246	2,938	5,028	33,464	6,448	11
Sapang Dalaga	428	1,164	1,701	-	3,293	2,996	3,492	1,701	-	8,189	1,170	11

*1 Estimated

*2 "

- Family in Poblacion area goes to the market every day

- Family in urban area goes to the market 3 times in a week

- Family in rural, and other area of the municipality goes to the market once in a week

P: 0 - 7 days

Q: P + total Number of Stalls

*3 Average number of family go to the market

*4 Maximum number of family go to the market

Ave. and Max. No. of family to the Market

Ave. *3 Max. *4 Times

Lapulapu	19,939	34,790	1.7
Carcar	4,615	13,438	2.9
Danao	9,964	27,898	2.8
Toledo	8,283	15,819	1.9
Oroquieta	6,448	15,084	2.3
Sapang Dalaga	1,170	3,293	2.8

Table 5

REQUIRED NUMBER OF STALL BY COMMODITY DEMAND

Rate of stall by module	LAPULAHU		CARCAR		DANAO		TOLEDO (DAS)		OROQUETA		SAPANG DALAGA								
	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed	Existing	Proposed							
NET																			
Fresh Fish >	151	120	90	15	20	30	85	110	103	42	23	19	126	-	130	-	20	20	23
> 30%	52	40	42	15	18	9	30	40	30	31	58	59	64	-	35	-	9	10	7
Meat >	98	60	50	9	15	19	30	40	57	24	24	32	-	-	76	-	20	20	12
SEMI-KEY Cereals *2 >	106	50	24	22	28	10	10	35	28	41	39	15	120	-	35	-	20	10	7
Veg/Fruits >	20	15	30	15	24	10	80	105	34	56	48	20	64	-	43	-	5	5	8
Dry Fish *3 >	105	85	59	5	15	16	55	75	59	31	19	37	-	50	85	-	2	15	16
CEX-MERCH. Dry Goods. 10% >	60	100	45	5	10	13	70	70	55	21	34	31	-	40	40	-	2	5	9
Sari-sari 15% >	61	40	46	10	15	5	10	25	27	33	33	16	40	45	10	-	12	10	2
Carlineria >																			
Others >	76	20	114		3	36			104		5	57	274	25	121			10	21
35%																			
Total 100% >	729	500	4	500	96	148	140	350	500	500	500	282	688	170	584		90	105	105

*1. The figure is estimated by the relevant population and its actual consumer's group expenditure, on the basis of the Family Income and Expenditure Survey, 1988

Estimated Number of stalls = Per capita daily consumption, Peso by commodity group, (Table 3)

x No. of Marketing population (Table 1E)

: Average daily sales amount per stall (Divider, Table 5)

+ additional 10% for population increase

*2. Amount of Cereals is estimated approx. 1/3 of computed figure. Others are transacted by the Rice Dealers approved by RFA, and other rice dealers

*3. No. of Dry Fish Stalls are estimated as 1/3 that of the number of Fresh Fish

*4. 500 stalls for each new and old market

	Estimated figure of Daily Sales - peso -	Proposed No. of stall	Average Sales Amount per stall (Divider)
Lapulapu	2,002,000	1,000	2,002
Carcar	319,000	148	2,155
Danao	1,082,000	500	2,164
Toledo (DAS)	604,000	282	2,142
Oroquieta	629,000	284	2,177
Sapang Dalaga	127,000	105	1,209

Table 6

MUNICIPAL PROFILE

	LAPU LAPU	CARCAR	DARAO	TOLEDO (DAS)	OROQUIETA	SAPANG DALAGA
1) Land (sq. km)	58	96	107	79	26	17
2) Population (1990)	146,194	70,841	73,358	87,910	52,200	17,945
3) No. of family	26,762	13,438	14,460	16,340	10,056	3,293
4) Rate of population increase	2.8% (1970) 98,723 (1980) 146,194 (1990)	2.6%	2.5%	2.5%	1.9%	1.0%
5) Average size of households	5.46	5.27	5.07	5.38	5.19	5.44
6) Classification of city	3rd	4th	4th	2nd	4th	5th
7) Main Industries	International airport Beach resort Export processing Zone Industrial firms (Timex, Fairchild etc.)	Cement plant Handicraft Cottage ind.	Sugar mill Assembly plant Ice plant Garment	Copper mining (ACMDC) Fertilizer Factory Coal Mining	Agricultural Crops Coconuts Industry	Copra Charcoal Rope Making
8) Facility of Public Market Damaged by Typhoon Ruping	P620,000 Roof framing & window frames	P800,000 Repair of damaged facilities	P450,000 Repair of 2 collapsed structures	P1,844,440 Repair of roofing siding	Repair of temporary stalls	Washed away crops, uprooted cocotrees

Table 7

ANALYSES ON PUBLIC MARKET

	LAPU LAPU	CARCAR	DANA0	TOLEDO (DAS)	OROQUIETA	SAPANG DALAGA
1) Year of Establishment of existing market	1970	1937	1939	DAS 1992	1929	1957
2) Area of premises (sq. mts)	9,575	10,200	8,104	5,000	18,413	6,000
3) No. of existing stalls	729	96	350	279	688	90
4) Service areas	Lapulapu city and Northern part of Mandaue	Carcar city	Danao city and 10 neighbouring cities and Islands	Don Andres Soriano	Oroquieta City and neighbouring cities	Sapang Dalaga city
5) Population of the Objective city	146,194	70,841	73,358	87,910	52,200	17,945
Population of the Out-side city	43,858(x0.3)	-	73,358(x1.0)	-	26,100(x0.5)	-
(Table-1 A and B)	<u>190,052</u>	<u>70,841</u>	<u>146,716</u>	<u>87,910</u>	<u>78,300</u>	<u>17,945</u>
6) Pop. using Public Market	152,042	42,505	102,701	65,932	54,810	13,459
No. of households going to Public Market	27,832	8,063	20,244	12,255	10,559	2,470
(Table-1 E and F)						
7) Family Distribution						
Population	12,815	2,243	1,528	3,875	1,036	428
Urban	13,947	4,205	6,725	1,545	6,082	1,164
Rural	-	6,990	6,206	10,399	2,938	1,701
Other districts	8,028	-	13,438	-	5,028	-
Total	34,790	13,438	27,898	15,819	15,084	3,293

	LAPU LAPU	CARCAR	DANAO	TOLEDO (DAS)	OROQUIETA	SAPANG DALAGA
8) Estimated No. of consumers						
Ordinary day	19,939	4,615	9,964	8,283	6,448	1,170
Market day	34,790	13,438	27,898	15,819	15,084	3,293
Rate of Increase	1.7	2.9	2.8	1.9	2.3	2.8
9) Estimated amount of transaction						
Annual (P)	730,590,000	116,430,000	394,758,000	220,590,000	229,654,000	46,313,000
Daily (P)	2,002,000	319,000	1,008,000	604,000	629,000	127,000
10) Amount of refuse per day	1.8 tons	0.3 tons	1.2 tons	0.3 tons	1.0 ton	0.2 tons
11) Market opening	4AM to 10PM	4AM to 6PM	4AM to 6PM	5AM to 7 PM	5AM to 7PM	5AM - 7PM
from _ AM to _ PM	24 hrs at Carenderia	other dealer SAM				

9/25

Table 8

ANALYSIS ON CONSUMERS

	LAPU	LAPU	CARCAR	DANAŌ	TOLEDO (DAS)	OROQUIETA	SAPANG DALAGA
1) No. of Consumers	152,042	42,505	102,701	65,932	54,810	13,459	
2) No. of Family	27,832	8,063	20,244	12,255	10,559	2,470	
3) No. of Family Member	5.46	5.27	5.07	5.38	5.19	5.44	
4) Distribution of Family Expenditures per Month							
Below P. 2,500	40%	65%		36%	66%	70%	
P 2,500 - 5,000	44	28	NA	46	26	27	
P 5,001 - 10,000	4	5		10	6	2	
Over P 10,000	12	2		8	2	1	
5) Avc. Annual Family Expenditures(P)	35,000	19,250	26,000	24,000	29,000	25,000	
6) Estimated Annual Expenditures(P) at Public Market	26,250	14,440	19,500	18,000	21,750	18,750	
7) Estimated Daily Family Expenditures(P)	72	40	53	49	60	51	
N.D. : 6) ÷ 365							
8) Estimated Per capita(P) Daily Expenditures at Public Market	13.18	7.59	10.45	9.10	11.56	9.37	
N.D. : 7) ÷ 3)							

N.B. : The above figures are estimated by data and information available from Regional Office of NEDA and Statistics of Family Income & Expenditures Survey Report, 1988

	LAPU LAPU	CARCAR	DANAO	TOLEDO	OROQUIETA	SAPANG DALAGA
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9) Expenditures Spended by Comodity group (P)

Meat	1.00	0.40	0.63	0.55	0.63	0.52
Fish	2.14	1.39	1.99	1.74	2.31	1.90
Cereals	3.58	2.88	3.26	2.84	4.04	3.32
Veg/Fruits	0.58	0.43	0.53	0.46	0.63	0.52
Dry goods	1.40	0.71	1.14	0.99	1.52	1.25
Sarisari goods	1.08	0.60	1.05	0.91	0.86	0.71
Food outside	1.10	0.19	0.51	0.44	0.17	0.14
Others	2.29	0.90	1.42	1.23	1.32	1.08
	-----	-----	-----	-----	-----	-----
Total	13.17	7.50	10.53	9.16	11.48	9.44

N.B. : Aboves are quoted from daily consumption (Peso, Table 3-1)

10) Transportation mode of

Consumers (%)					
Walking	15%		45%	26%	33%
Bicycle	-		-	5%	-
Tricycle	68%	NA	35%	54%	30%
Jepney	13%		10%	12%	30%
Others	4%		10%(ferry)	3%	7%(Bus)

11) Frequency of Shopping at Public Market in a week (%)

Every day	50%	40%	35%	15%
2 - 3 times in a week	25	35	30	10
1 time in a week	25	25	35	75

12) Shopping time of Marketing

AM	54%	NA	50%	NA	47%	20
PM	10	NA	20	NA	21	50
No fixed time	36	NA	30	NA	32	30

Table 9

ANALYSIS ON VENDORS

	LAPULAPU	CARCAR	DAVAO	TOLEDO (DAS)	OROQUIETA	SAPANG DALAGA
1) No. of regular-stalls (A)	443	96	300	110	416	90
2) No. of Ambulant-Vendors						
Temporary stalls (B) (Makeshifts)	286	NA	50	169	272	NA
Marketing day (Ambulants)	550	250	450	450	400	200
3) Existing stall configuration (A + B)	729	96	350	279	688	90
fish	151	15	85	42	126	20
Meat/poultry	52	15	30	31	64	9
Fruits/Veg.	106	22	30	41	120	20
Dry fish	20	15	10	56	64	5
Grain/cereals	98	9	80	24	-	20
Dry Goods	105	5	55	31	-	2
Sari sari goods	60	5	50	21	-	2
Carinderia	61	10	10	33	40	12
Others	76	-	-	-	274	-
4) Actual status of Activities						
- Experience (year)						
- Average stall area						
- Rent / Month						
- Avc. daily sales						
. ordinary						
. peak						
- Estimated No. of customers						
. ordinary						
. peak						

See attached survey Results (Table 9-1, 2 & 3) of Mission's detailed field study conducted at Lapulapu, Davao and Oroquieta

Summary

Marketing Activity of Lapulapu City Public Market

Survey Conducted March & April, 1992

Section	No. of Respondent	Experience (year)	Ave. Stall Area (sq. m)	Rent/Month (Peso)	Ave. Daily Sales(P)		Estimated No. of Customers	
					Ordinary	Peak	Ordinary	Peak
Meat	5	16	NA	100	3,810	6,900	22	24
Fish	5	14	"	75	5,600	7,000	35	55
Cereals	5	25	"	100	6,200	12,280	-	-
Veg./Fruit	11	14	"	160	1,800	3,130	72	95
Dry Fish	4	12	"	200	1,170	4,100	66	93
Dry Goods	5	9	"	140	420	960	27	38
SariSari Goods	4	8	"	200	180	450	55	91
Carintieria	-	-	-	-	-	-	-	-
Others	-	-	-	-	-	-	-	-

LapuLapu City Public Market, Survey Results

Section	Yrs. Selling	Rent/ month(P)	Source Location	Amount/ Purchased(P)	Frequency	A D S Ord.(P)	A D S Peak(P)	E N C Ord.(P)	E N C Peak(P)	Remark	
Fresh Fish	20	75.00	Pasil	10,000	-	3,000	4,000	30	50		
	10	75.00	Danao	20,000	Daily	10,000	12,000	50	70		
	15	75.00	Danao	15,000	-	10,000	12,000	30	50		
	5	75.00	Pasil	5,000	-	2,000	3,000	30	50		
	20	75.00	Pasil	7,000	Daily	3,000	4,000	30	50		
	10	200	Taboan	-	Daily	-	-	-	-		
Dried Fish	8	200	Taboan	4,000	2x/week	500	2,300	100	100		
	20	200	-	8,500	2x/week	2,000	4,000	20	50		
	10	200	Taboan	1,500	weekly	1,000	6,000	80	100		
	16	100	-	3,000	Daily	3,300	5,000	10	20		
Meat	30	100	-	12,000	Daily	10,000	20,000	20	30		
	-	-	-	4,250	Daily	2,000	4,500	15	30		
	-	-	-	2,450	Daily	1,750	2,000	5	20		
	3	100	-	11,200	Daily	2,000	3,000	15	20		
	25	100	Mandaue	10,000	Daily	8,000	10,000	60	80		
	S.S. Goods	20	100	LapuLapu	-	2x/w	-	-	-	-	
		20	100	Carbon	5,000	Daily	2,500	6,000	50	60	
		20	100	LapuLapu	5,000	3x/w	-	-	-	-	
		20	100	Carbon	-	3x/w	3,000	5,000	45	50	
		21	100	LapuLapu	-	3x/w	2,000	5,000	10	20	
12		200	-	-	Daily	2,000	5,000	10	20		
27		100	Cebu	93,375	3x/w	130	650	100	150		
24		100	"	82,150	weekly	7,000	20,000	-	-		
Cereal/Grain	24	100	"	82,150	"	8,000	10,500	-	-		
	24	100	"	82,150	"	8,000	10,400	-	-		
	7	100	"	42,200	"	5,000	11,000	-	-		
	46	100	"	37,350	2x/week	3,000	9,500	-	-		

Section	Yrs. Selling	Rent/ month(p)	Source Location	Amount/ Purchased(p)	Frequency	A D S Ord.(P)	*-1 Peak(P)	Ord.(P)	E N C *2 Peak(P)	Remark
Fruit	8	200	-	110	Daily	300	600	90	120	
	10	200	-	550	weekly	250	500	-	-	
	15	200	Cebu	500	weekly	80	500	-	-	
	14	200	Cebu	3,000	weekly	800	1,500	-	-	
	5	200	Cebu	1,500	Daily	1,000	2,000	-	-	
	5	200	Cebu	800	Daily	300	500	-	-	
Dry Goods	7	200	Cebu	700	2x/week	450	1,750	60	80	
	10	200	Cebu	-	3x/week	1,000	1,750	60	80	
	11	100	-	10,000	weekly	400	1,000	5	10	
	8	100	-	5,000	"	100	100	5	10	
	-	100	-	5,000	"	150	200	5	10	
	5	200	Cebu	1,600	3x/week	-	-	-	-	
Sari Sari/ Groceries	12	200	Cebu	160	2x/week	30	350	45	65	
	12	200	Mandoue	170	2x/week	100	600	60	90	
	6	200	Mandoue	640	Daily	400	400	60	120	

Remarks: *-1 Avc. Daily Sales
*-2 Estimated No. of Customers

Table 9-2

Summary

Marketing Activity of Danao City Public Market

Survey Conducted March. & April, 1992

Section	No. of Respondent	Experience (year)	Avc. Stall Area (sq. m)	Rent/Month (Peso)	Avc. Daily Sales(P)		Estimated No. of Customers	
					Ordinary	Peak	Ordinary	Peak
Meat	10	12	NA	150	7,510	8,020	35	50
Fish	5	12	"	140	820	1,780	25	40
Cereals	5	10	"	730	13,100	18,220	60	70
Veg./Fruit	10	18	"	280	660	1,120	40	80
Dry Fish	5	20	"	300	540	1,180	15	35
Dry Goods	5	20	"	530	700	700	120	120
Sarisari Goods	5	16	"	380	10,290	12,090	80	100
Carinderia	5	17	"	530	1,000	1,240	30	40
Others	-	-	-	-	-	-	-	-

Danao City Public Market Survey Results

Section	Yrs. Selling	Rent/month(P)	Source Location	Amount/Purchased(P)	Frequency	A D S Ord.(P)	*-1 Peak(P)	Ord.(P)	E N C Peak(P)
Fresh fish	8	200	Pasil	2,000	daily	700	2,500	30	50
	10	100	Pasil	200 to 1,000	daily	800	1,500	30	50
	7	85	Pasil	1,700	daily	1,200	2,000	15	25
	8	185	Pasil Looc	300 to 500	daily	300	600	20	30
FF (ambulant)	31	150	Looc	2,000	daily	1,100	2,300	30	50
Dried fish	8	173	Tabuan	28,000	2x/w	1,000	2,000	25	50
	22	174	Kawit	3,000	wkly	300	900	20	50
	20	408	Tabuan	2,200	wkly	100	400	5	20
	40	336	Tabuan	12,000	wkly	1,000	2,000	5	20
Meat (ambulant)	10	396	Tabuan	2,000	wkly	300	600		
	20	180	Pork-Danao	10,000	daily	23,000	30,000	100	150
	4	90	Beef-Danao	12,500	wkly	15,600	15,600	50	50
	12	90	Pork-Danao	4,000	daily	13,500	13,500	20	70
Chicken (amb.)	15	90	Beef-Danao	5,000	wkly	11,500	11,500	30	30
	26	90	Pork-Danao	6,000	daily	3,400	3,400	25	25
	1	255	Beef-Danao	2,000	wkly				
	23	255	Pork-Danao	3,000	daily				
Vegetables (amb.)	1	255	Mandauc	1,764	daily	300	1,944	20	30
	15	168	RPM	1,500	daily	1,560	1,560	20	20
	1	255	Camotes	1,500	2x/w	150	280	50	100
	5	60	Liloan backyard	1,200	daily	900	1,800	20	30
Vegetables	22	210	Carbon	500	wkly	600	600	10	10
	18	268	Cebu City	5,000	daily	700	900	30	50
	15	170	Carbon	3,000	3x/w	500	800	50	100
	24	234	Carbon	2,000	2x/w	600	2,000	20	40
Cereals/Grains	10	212	Carbon	1,200	daily	300	500	30	75
	15	1,752	Carbon	1,500	daily	1,000	1,500	50	100
	3	336	Mandauc	86,000	daily	30,000	50,000	20	30
	20	428	Mandauc	90,000	2x/w	5,000	10,000	20	30
Cereals/Grains (ambulant)	7	1,032	Mandauc	16,400	3x/w	1,500	3,000	30	30
	5	98	Mandauc Cebu	15,000	daily	20,000	28,000	120	150
	5	98	Mandauc	60,900	wkly	9,000	9,000	100	100
			Cebu						

Remarks: *-1 : Ave. Daily Sales
*-2 : Estimated No. of Customers

Section	Yrs. Selling	Rent/ month(P)	Source Location	Amount/ Purchased(P)	Frequency	A D S *-1		E N C *-2	
						Ord.(P)	Peak(P)	Ord.(P)	Peak(P)
Fruits (amb.)	3	600	Iloilo City	3,500	daily	2,000	3,000	50	100
	5	128	Carbon	2,000	3x/w	400	800	26	50
	26	210	Carbon	2,000	2x/w	300	580	75	100
	8	154	Carbon	880	2x/w	50	100	15	35
	3	600	Carbon	600	daily	700	1,000	50	100
Sari-Sari/ Groceries	20	744	Doloros	100,000	wkly	21,428	21,428	100	100
	20	180	Cebu City delivery	50,000	wkly	6,000	8,000	20	30
	20	426	direct purchasing	20,000	daily	15,000	20,000	100	150
	3	330	Danao	10,000	wkly	4,000	6,000	80	105
	20	570	Cebu City	2,000	daily	5,000	5,000	100	100
Dry Goods	18	636	Cebu City	6,000	2x/w	200	200	200	200
	36	506	Cebu City	6,000	2x/w	1,200	1,200	100	100
	10	696	Cebu City	5,000	wkly	250	250	100	100
	20	410	Cebu City	5,000	wkly	860	860	100	100
	20	400	Cebu City	5,000	wkly	1,000	1,000	100	100
Carinderia	7	1,700	delivery Cebu City	10,000	wkly	500	1,000	5	10
	22	336	supply	1,694	daily	2,000	2,220	30	50
Carinderia (amb.)	5	180	Danao	600	daily	1,000	1,000	50	50
	25	222	Danao	1,000	daily	1,000	2,000	30	50
	29	222	Danao	1,000	daily	500	1,000	30	50

Summary

Marketing Activity of Oroquieta City Public Market

Survey Conducted March & April 1992

Section	No. of Respondent	Ave. Experience (year)	Ave. Stall Area (sq. m)	Rent/Month (Peso)	Ave. Daily Sales(P)		Estimated No. of Customers	
					Ordinary	Peak	Ordinary	Peak
Meat	7	13	NA	120	3,900	5,990	45	60
Fish	7	14	"	55	1,450	1,840	10	120
Cereals	9	13	"	250	4,220	9,110	70	130
Veg./Fruit	4	12	"	550	2,150	2,925	120	130
Dry Fish	3	12	"	220	620	930	30	85
Dry Goods	5	11	"	210	680	1,600	20	160
Sarisari goods	-	-	"	-	-	-	-	-
Carinderia	7	13	"	470	890	1,060	40	50
Others	3	10	"	200	270	470	40	80

* Rental fee : ranges from P200 - P1,200/m²/day

Section	Yrs. Selling	Rent/month(P)	Source Location	Amount/Purchased(P)	Frequency	Ord.(P)	A D S Peak(P)	Ord.(P)	E N C Peak(P)
Meat	4	60	Oroquieta-chicken	1,600	wkly	800	1,400	30	50
	10	120	Oroquieta-pork	1,800	3x/w	2,000	5,000	45	55
			Oroquieta-beef	7,000	3x/w				
	20	120	Oroquieta-pork	1,800	daily	2,000	4,500	50	60
			Oroquieta-beef	5,000	2x/w				
	20	180	Mis. Occ.-pork	6,000	daily	15,000	17,000	80	100
			Zambo./Siquijor/ Mis. Occ.	4,500	daily				
	15	120	Mis. Occ.-pork	1,800	daily	2,500	5,000	40	60
			Zamboanga-beef	7,000	3x/w				
	10	120	Mis. Occ.-pork	1,660	daily	3,000	4,000	40	60
			Mis. Occ-beef	8,000	3x/w				
	15	120	Oroquieta-pork	1,500	daily	2,000	5,000	30	50
		Oroquieta-beef	6,300	3x/2					
Fruits	11	180	Aloran/Ozamis/ Jimenez	745	Seasonal	600	800	60	90
Dry Goods	18	349.5	Bohol/Ozamis	3,500	wkly	900	2,000	20	45
	10	525	Cebu City/Ozamis/ Oroquieta	5,800	wkly	700	1,500	30	60
	9	60	Cebu	53,000	wkly	500	1,000	10	12
	8	60	Cebu	30,000	2x/mo	300	1,000	10	15
	10	75	Cebu City/Ozamis	60,000	once/2 mo	1,000	2,500	15	26
Carinderia	12	627	Oroquieta	700	daily	900	1,100	50	70
	6	240	Oroquieta	800	daily	1,200	1,400	50	70
	19	480	Oroquieta	970	daily	1,300	1,450	50	60
	9	480	Oroquieta	850	daily	1,000	1,300	30	50
	16	480	Oroquieta	500	daily	700	800	30	40
	17	480	Oroquieta	450	daily	500	650	30	40
	18	480	Oroquieta	400	daily	600	700	35	50
Others	12	350		222	daily	400	600	65	120
	12	120		40	daily	200	400	20	50
	6	120		36	daily	200	400	40	60
Ambulants	5		Oroquieta	1,275	daily	700	900	90	150
	5		Laquindangan, Mis. Or.	4,000	mon'ly	150	300	20	50
	5		Oroquieta	300	wkly	100	500	20	50

20/25

Oroquieta City Public Market Survey Results

Section	Yrs. Selling	Rent/ month(P)	Source Location	Amount/ Purchased(P)	Frequency	A D S *-1		E N C *-2	
						Ord.(P)	Peak(P)	Ord.(P)	Peak(P)
Dried Fish	9	60	Dipolog City	4,000	wkly	500	1,000	30	80
	10	480	Dipolog City	10,000	wkly	1,000	2,000	30	100
	17	120	Dipolog City	4,000	wkly	350	800	25	75
Vegetables/ Sari-Sari	12	1,102.5	Ozamis	890	wkly	1,500	2,500	100	130
	12	193.5	Ozamis	2,152	monly	1,900	2,100	115	150
	12	289.5	Ozamis	927	monly	1,900	2,100	115	150
	12	627	Ozamis	8,000	wkly	2,100	2,500	70	100
	12		Ozamis	1,842	wkly	1,200	2,500	90	115
Cereals/Grains Sari-sari	8	135	Molave-corn	3,300	2x/w	6,000	8,500	180	225
	30	285	Plaridel-rice	6,150	wkly				
			Molave-rice	10,000	wkly				
			Ozamis-corn	3,400	wkly				
			Ozamis-corn	21,200	2x/mo				
	17	170	Oroquieta-rice	20,000	wkly	2,000	6,000	80	100
	5	480	Ozamis-corn	6,800	wkly				
			Ozamis-corn	13,000	monly				
			Molave/Plaridel	3,450	2x/mo	2,000	3,500	30	60
			Molave/Ozamis	25,000	wkly	6,000	10,000	50	150
Molave/Plaridel			5,400	wkly	2,000	4,000	25	60	
Molave/Ozamis/ Plaridel			22,000	wkly	5,000	10,000	40	75	
7	60	Molave	8,000	2x/w	5,000	10,000	70	125	
21	178.5	Plaridel	8,300	wkly					
		Molave	32,000	wkly	10,000	30,000	150	355	
Fresh Fish	10	30	Lopez Jaena	1,000	daily	800	1,200	100	120
	15	60	Oroquieta	1,013	daily	1,300	2,000	100	120
	15	60	Oroquieta	1,086	daily	1,100	1,500	100	120
	18	60	Oroquieta	1,800	daily	2,400	2,500	100	125
	10	60	Oroquieta	1,000	daily	1,300	2,000	100	120
	15	60	Oroquieta	1,800	daily	2,400	2,500	100	125
	15	60	Oroquieta	800	daily	850	1,200	100	120

Table 10

Income & Expenditures of Public Market

	Lapulapu	Carcar	Danao	Toledo	Oroquieta	Sapang Dalaga
1986	Market		440,112		524,632	-
	Slaughter-house		99,118		12,810	-
	Sub total	NA	539,230	NA	537,502	102,540
	Expenditure		224,685		174,916	136,092
1987	Market		484,949		642,146	-
	Slaughter-house		109,689		18,282	-
	Sub total	NA	594,638	NA	660,428	102,180
	Expenditure		236,685		179,185	136,092
1988	Market		600,991	1,167,560	659,145	-
	Slaughter-house		110,581	70,453	16,667	-
	Sub total	NA	711,572	1,238,013	675,812	102,900
	Expenditure		282,934	764,326	295,511	136,092
1989	Market		841,123	1,275,309	823,003	-
	Slaughter-house		73,527	68,392	30,321	-
	Sub total	NA	914,650	1,343,701	853,324	102,540
	Expenditure		456,168	934,726	377,208	136,092
1990	Market		1,645,715	1,300,059	965,772	-
	Slaughter-house		70,880	77,092	35,092	-
	Sub total		1,716,595	1,377,151	1,000,864	103,260
	Expenditure		528,685	1,421,899	687,781	136,092

Table 11-1

Distribution of Family Expenditures
(Cebu)

Source : 1988 Family Income & Expenditures Survey

th.42c" 7.62c" 12.06c" 15.03c" 17.99c" 20.95c" 23.92c" 26.88c" 29.84c"

Expenditure Group And Area	Income class											
	Under 10,000	10,000 - 14,999	15,000 - 19,999	20,000 - 29,999	30,000 - 39,999	40,000 - 59,999	60,000 - And Over					
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
Food	67.1	65.5	62.8	61.3	59.0	52.4	40.2					
Food consumed at home	65.2	63.4	60.9	57.7	52.7	46.4	36.6					
Cereals and cereal preparations	34.1	29.7	28.8	23.2	20.4	18.8	11.2					
Roots and tubers	1.3	1.4	1.2	.6	.5	.3	.4					
Fruits and vegetables	5.3	4.6	4.3	3.8	3.3	2.6	2.6					
Meat and meat preparations	2.1	4.6	4.0	4.5	5.7	5.1	6.6					
Dairy products and eggs	2.5	2.0	1.7	2.5	2.9	3.0	3.1					
Fish and marine products	15.1	14.3	13.9	14.2	12.9	8.7	6.3					
Coffee, cocoa and tea	.4	.9	1.0	1.4	1.5	1.7	1.1					
Non-alcoholic beverages	1.5	1.0	.9	1.5	1.5	1.7	1.9					
Food N.E.C.	4.8	4.9	5.1	6.0	4.7	4.4	3.5					
Food regularly consumed outside the home	3.9	2.1	1.9	3.6	6.3	6.0	3.6					
Alcoholic beverages	1.8	2.5	2.5	2.0	1.8	1.6	.8					
Tobacco	1.7	1.6	2.2	2.0	2.6	1.6	.8					
Fuel, light and water	5.0	6.1	6.0	5.5	5.3	4.7	4.1					
Transportation and communication	4.3	2.7	3.8	3.7	4.2	5.5	5.8					
Household operations	2.9	2.7	2.8	2.8	2.2	3.0	3.4					
Personal care and effects	3.0	2.6	2.6	3.2	3.2	4.2	2.9					
Clothing, footwear and other wear	5.1	3.1	4.5	4.9	4.8	5.9	6.2					
Education	2.7	.4	1.4	1.5	2.3	4.0	5.8					
Recreation	.5	.1	.1	.3	.2	.5	1.4					
Medical care	1.5	.8	.7	1.0	1.7	.9	3.3					
Non-durable furnishings	.3	.1	.2	.1	.2	.6	.8					
Durable furniture and equipment	1.2	.1	.1	1.0	.8	1.9	2.7					
Rent/Rental value of occupied dwelling unit	6.2	7.4	6.0	5.5	5.2	5.3	7.6					
House maintenance and minor repairs	1.3	.7	.7	1.0	.9	1.4	2.6					
Taxes paid	.7	.2	.1	.3	.3	.6	2.2					
Miscellaneous expenditures	3.4	2.0	2.6	3.3	3.9	3.2	4.9					
Special occasions of the family	2.5	1.4	1.5	2.6	2.8	2.7	3.4					
Gifts and contributions to others	.9	.6	1.1	.7	1.1	.5	1.4					
Other expenditures	2.0	.7	1.0	.8	1.7	2.7	4.7					
Available at Public Market												

Table 11-2

Distribution of Family Expenditures
(Misamis occidental)

Source: 1988 Family Income & Expenditures Survey

Expenditure Group And Area	Total	Income class						60,000 - And Over
		Under 10,000	10,000 - 14,999	15,000 - 19,999	20,000 - 29,999	30,000 - 39,999	40,000 - 59,999	
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Food	50.3	66.3	64.0	60.3	60.3	46.6	44.8	38.8
Food consumed at home	48.9	65.9	63.7	59.1	59.1	45.4	42.4	37.0
Cereals and cereal preparations	19.8	33.7	30.0	26.4	26.4	17.1	13.3	11.1
Roots and tubers	.9	1.7	1.3	.8	.8	.7	.6	.4
Fruits and vegetables	3.7	5.0	4.3	4.1	4.1	3.5	3.1	3.0
Meat and meat preparations	4.4	3.5	3.0	4.1	4.1	4.1	3.9	5.8
Dairy products and eggs	3.1	2.1	2.3	2.5	2.5	3.0	4.8	3.6
Fish and marine products	10.3	12.1	15.5	15.1	15.1	10.2	9.1	6.7
Coffee, cocoa and tea	1.1	.3	.8	.6	.6	1.2	1.6	1.4
Non-alcoholic beverages	1.1	.6	.7	.3	.3	1.2	1.1	1.6
Food N.E.C.	4.6	6.8	5.8	5.3	5.3	4.4	4.8	3.4
Food regularly consumed outside the home	1.4	.4	.3	1.1	1.1	1.1	2.4	1.8
Alcoholic beverages	1.1	1.2	2.1	1.7	1.7	1.0	1.3	.5
Tobacco	2.2	1.3	2.9	1.4	1.4	2.4	2.2	2.7
Fuel, light and water	4.6	5.6	5.2	4.3	4.3	4.5	4.5	3.7
Transportation and communication	3.1	2.4	2.2	2.1	2.1	3.9	3.0	3.8
Household operations	1.9	2.3	1.9	2.0	2.0	1.4	1.6	2.0
Personal care and effects	3.0	2.4	2.6	3.2	3.2	3.0	3.3	3.5
Clothing, footwear and other wear	6.4	4.2	6.5	6.7	6.7	6.8	6.6	7.1
Education	3.2	1.9	2.2	3.0	3.0	5.6	2.7	3.1
Recreation	.6	.1	.7	.2	.2	.3	.9	1.1
Medical care	1.4	1.1	1.0	1.1	1.1	.9	4.0	1.1
Non-durable furnishings	.8	.7	.9	.6	.6	.6	.4	1.1
Durable furniture and equipment	3.3	.4	.2	.2	.2	6.1	3.4	5.4
Rent/Rental value of occupied dwelling unit	5.3	4.6	4.5	4.8	4.8	4.6	7.6	5.7
House maintenance and minor repairs	2.3	.5	.7	2.7	2.7	2.1	1.2	4.0
Taxes paid	.8	.2	.1	.4	.4	.3	.8	1.6
Miscellaneous expenditures	3.7	4.3	2.1	4.7	4.7	4.7	2.3	3.9
Special occasions of the family	2.7	3.1	1.5	4.0	4.0	3.3	2.1	3.1
Gifts and contributions to others	.8	1.2	.5	.6	.6	1.4	.2	.7
Other expenditures	5.9	.7	.2	.7	.7	5.2	9.4	10.9
Available at Public Market								

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PERCENTAGE DISTRIBUTION OF TOTAL FAMILY EXPENDITURES
BY MAJOR EXPENDITURE GROUP, PHILIPPINES
1961, 1965, 1971, 1985 and 1988

Expenditure group	1961	1965	1971	1985	1988
Total family expenditures (in thousand pesos)	7,934,063	14,748,076	28,430,424	264,551,855	342,578,100
Percent	100.0	100.0	100.0	100.0	100.0
Food	53.8	53.7	53.7	51.9	50.7
Food consumed at home	51.6	50.8	51.0	48.8	47.3
Cereals and cereals preparation	20.2	21.1	19.6	18.5	15.9
Fish and marine products	10.5	9.3	8.9	7.9	7.5
Meat, meat preparations, dairy products and eggs	7.9	8.4	9.7	10.3	10.3
Roots, tubers, fruits & vegetables	6.1	5.0	5.5	5.3	5.8
Miscellaneous	6.9	6.9	7.4	6.7	7.9
Food regularly consumed outside the home	2.3	2.9	2.7	3.1	3.4
Alcoholic beverages	1.7	1.6	1.7	1.1	1.1
Tobacco	4.2	3.2	3.3	2.3	2.1
Housing	8.3	9.1	9.4	12.7	12.8
Fuel, light and water	4.0	3.6	3.6	5.5	5.2
Household furnishings & equipment	2.1	2.0	2.3	1.9	2.2
Household operations	2.6	2.5	2.4	2.4	2.5
Clothing, footwear & other wear	7.0	6.5	6.2	3.6	4.2
Personal care and effects	2.3	2.5	2.2	2.1	3.3
Medical care	1.7	1.7	1.8	2.1	1.7
Transportation & communication	2.3	2.6	2.9	4.4	4.7
Recreation	1.8	1.8	1.8	0.4	0.5
Education	3.1	3.5	3.7	3.5	2.9
Gifts and contributions	0.9	0.9	0.6	1.0	1.0
Taxes	0.4	0.6	0.3	1.0	1.1
Special occasions	2.3	2.7	2.5	2.2	2.3
Other expenditures	1.4	1.5	1.5	1.8	1.8
Food					

Note: Final results of the 1988 FIES exclude data for Rizal Province as fire destroyed accomplished questionnaires of this province.

Source: Family Income and Expenditures Survey, National Statistics Office.