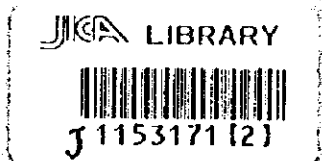


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THE REPUBLIC OF INDONESIA

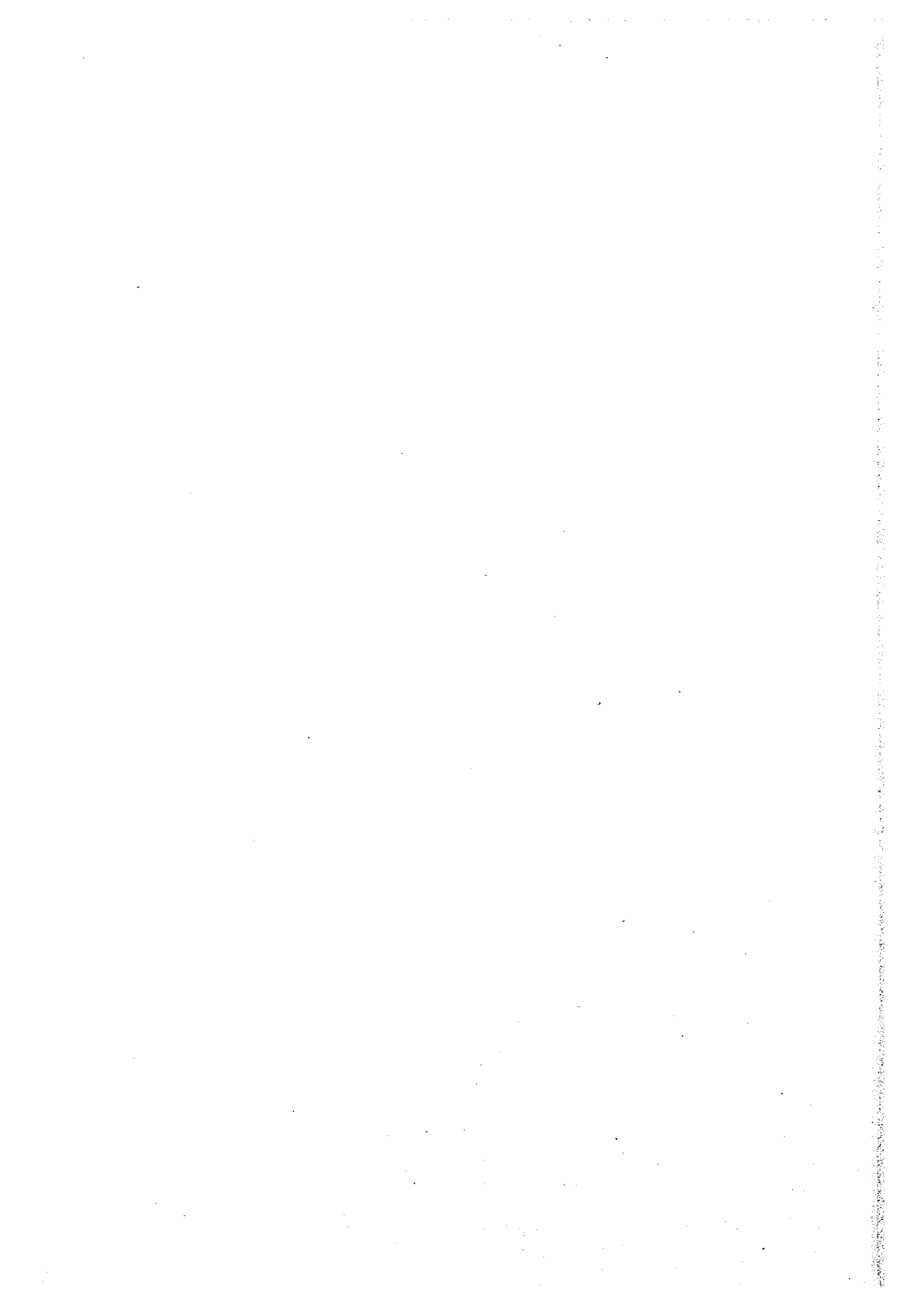
**STUDY
ON
MASTER PLAN FOR DESIGN PROMOTION
IN
THE REPUBLIC OF INDONESIA**



SEPTEMBER 1999

**UNICO INTERNATIONAL CORPORATION
SANWA RESEARCH INSTITUTE, SRIC CORPORATION**

MPI
JR
99-164



JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)

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Preface

In response to a request from the Government of the Republic of Indonesia, the Government of Japan decided to conduct the Study on Master Plan for Design Promotion in the Republic of Indonesia, and entrusted the study to Japan International Cooperation Agency (JICA).

JICA sent a study team, led by Mr. Tetsuo Inooka of UNICO International Corporation and constituted by members of UNICO International Corporation and Sanwa Research Institute, SRIC Corporation to the Republic of Indonesia five times with supports from Japan Design Foundation from May 1998 to July 1999.

The team held discussions with the officials concerned of the Government of the Republic of Indonesia, and conducted related field surveys. After returning to Japan, the team conducted further studies and compiled the final results in this report.

I hope this report will contribute to design promotion in the Republic of Indonesia, which is effective for promotion of small and medium enterprises, export promotion, regional development etc., and will also contribute to the enhancement of friendly relations between our two countries.

I wish to express my sincere appreciation to the officials concerned of the Government of the Republic of Indonesia and others concerned for their close cooperation throughout the study.

September 1999



Kimio Fujita
President

Japan International Cooperation Agency



September 1999

Mr. Kimio Fujita
President
Japan International Cooperation Agency
Tokyo, Japan

Dear Mr. Fujita

Letter of Transmittal

We are pleased to submit to you the final report on the Master Plan Study for Design Promotion in the Republic of Indonesia. The report recommends a master plan for design promotion as an effective tool for fostering and strengthening the industrial sector, through enhancement of export competitiveness of industrial products, development of SMEs, promotion of local industries, and other means.

Design has attracted attention recently particularly because of its inherent capacity to develop new concepts useful for problem solving and for planning. The master plan attempts to make most of this potentiality for industrial development.

In the process of study, we held design workshops of 15-25 days duration, in addition to the interviews and questionnaire surveys we carried out to obtain a deep understanding of the present conditions of design use. The workshops were designed to help convince people of the effectiveness of, establishing the regional identity of the production area, and of original product development for industrial vitalization through actual works, while providing the participants with an opportunity to understand the design process. The workshops produced greater results than expected and the works made at the workshops helped convince many people of effectiveness of design. The workshops also served as a reliable basis to verify the effectiveness of programs and projects proposed by the Study Team and for facilitating understanding of the current status and limitations of present design activities.

The report pointed out that Indonesia is in a favorable position to leverage design with design promotion, encouraging industry to implement and use the design process, which will enhance product development capabilities that utilize the country's identity, thereby to better ensure sustainable export promotion, SMEs development, and local industries promotion.

To achieve these goals, the report recommended two strategic directions for the immediate action. The first is to create successful cases of design implementation so that the industry and enterprises can understand the effectiveness of design, and its implementation method. The second is to set up an organization that can lead design promotion initiatives according to well-coordinated plans.

In fact, the Indonesian counterparts have showed a deep interest in putting these recommendations into practice, and have launched some of the recommended actions. I believe, however, your further support for their actions will be very useful as a prerequisite for their successful implementation, complementing their utmost efforts.

On behalf of the Study Team, I wish to take this opportunity to express my sincere gratitude to your Agency, the Ministry of Foreign Affairs, and Ministry of International Trade and Industry of Japan for valuable advice and support provided. We also wish to express our deep gratitude to the Ministry of Cooperatives, Small and Medium Enterprises, the Ministry of Industry and Trade, and other concerned authorities of the Indonesian government, and other organizations in Indonesia for their close cooperation and substantial assistance rendered to us during the performance of this study.

Very truly yours,

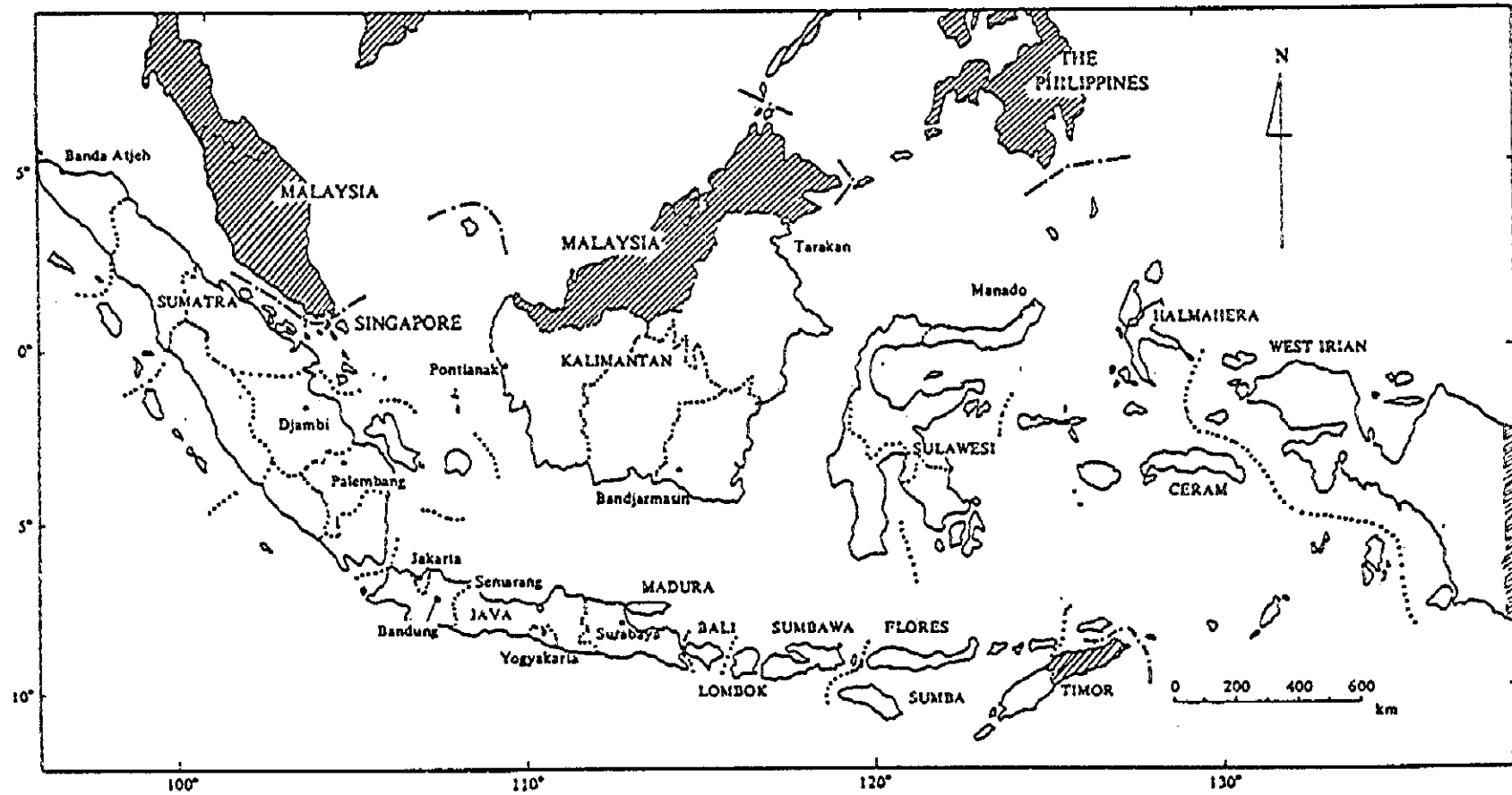


Tetsuo Inooka

Team Leader,

Study on Master Plan for Design Promotion
in the Republic of Indonesia

THE REPUBLIC OF INDONESIA



(Source): Atlas Indonesia, Yayasan Dwidjendra, 1976, Denpasar

Abbrevlation (*)

ADGI	(Asosiasi Desainer Grafis Indonesia)
ADPI	Indonesian Industrial Designer Association (Asosiasi Desainer Produk Industri Indonesia)
AFTA	ASEAN Free Trade Area
AMT	Achievement Motivation Training
APF	Asia Package Federation
ASEAN	Association of South East Asian Nations
ASMINDO	Indonesian Furniture Industry and Handicraft Association
ASRI	(Akademi Seni Rupa Indonesia)
B4T	Institute for Research & Development of Material & Technical Product Industries: IRDMTP (Balai Basar Penelitian dan Pengembangan Industri Bahan dan Barang Teknik)
BAPIK	Agency for Development of Small-scale Industries (Badan Pengembangan Industri Kecil)
BAPPENAS	National Development Planning Agency (Badan Perencana Pembangunan Nasional)
BBK	Institute for Research & Development of Ceramic Industries: IRDCRI (Balai Basar Pengembangan Alat dan Mesin Petanian)
BIPIK	Small Scale Industry Guidance and Development Program
BKPM	Indonesia Investment Coordination Agency (Badan Koordinasi Penanaman Modal)
BPPIP	Agency for Research & Development of Industry and Trade (Badan Penelitian dan Pengembangan Industri dan Perdagangan)
BPPT	Agency for Assessment and Application of Technology (Badan Pengkajian dan Penerapan Teknologi)
CAD	Computer Aided Design
CAD/CAM	Computer Aided Design & Manufacturing
CAM	Computer Aided Manufacturing
CD-ROM	Compact Disk Read Only Memory
CEFE	Competency-based Economies through Formation of Enterprises
CEPT	Common Effective Preferential Tariffs
CG	Computer Graphics
CI	Corporate Identity
COID	Council of Industrial Design
DDO	Design Development Organization

(*) Descriptions in parentheses show the names in Bahasa Indonesia.

DEKRANAS	National Craft Council (Dewan Kerajinan Nasional)
EPTE	Export Oriented Production Entrepots
EPZ	Export Processing Zone
EU	European Union
GDP	Gross Domestic Product
GRDP	Gross Regional Domestic Product
IIDII	Indonesia Society of Interior Designers (Himpunan Desainer Interior Indonesia)
ICOGRADA	International Council of Graphic Design Associations
ICSID	International Council of Societies of Industrial Design
IFI	International Federation of Interior Architects / Designers
IIT	Illinois Institute of Technology
IMF	International Monetary Fund
INKOPINKRA	Federation of Industry and Craft Cooperative in Indonesia
IPF	Indonesia Packaging Federation
IPGI	(Ikatan Perancang Grafis Indonesia)
ISI	Indonesia Institute of the Arts (Institut Seni Indonesia)
ISO	International Organization for Standardization
ITB	Bandung Institute of Technology
J/V	Joint Venture
JAGDA	Japan Graphic Designers' Association
JAIC	Japan Asia Investment Co., Ltd
JDC	Jakarta Design Center
JDF	Japan Design Foundation
JETRO	Japan External Trade Organization
JICA	Japan International Cooperation Agency
JIDA	Japan Industrial Designers' Association
KIK	Small Investment Credit
KMKP	Permanent Working Capital Credit
KUD	Village Unit Cooperative
KUK	Small Scale Business Credit (Kredit Usaha Kenci)
MOC&SE	Ministry of Cooperatives and Small Enterprises
MOC&SME	Ministry of Cooperatives, Small and Medium Enterprises

(*) Descriptions in parentheses show the names in Bahasa Indonesia.

MOI	Ministry of Industry
MOIT	Ministry of Industry and Trade
MOT	Ministry of Trade
NAFED	National Agency for Export Development
NIEs	Newly Industrialized Economies
OJT	On the Job Training
P.K.I. Jakarta	Jakarta Special Capital Region
PDN	Indonesia Design Center
PER	Center for Small and Medium Enterprises Information and Consultation (Pos Ekonomi Rakyat)
PIKM	Small scale Industry Development Project (Proyek Penembangan Industri Kecil Menengah)
PJP	Long Term (25 years) Development Plan
PPPI	Indonesia Association of Advertising Agencies
QCC	Quality Control Circle
REPELITA	5-Year Development Plan
S/W	Scope of Work
SMEs	Small and Medium Enterprises
SMIK	(Sekolah Menengah Kejuruan di Indonesia)
TMII	Design Development & Training Center (Taman Mini Indonesia Indah)
TPL	Field Research Staff (Tenaga Penyuluh Lapangan)
TRIPS	Agreement on Trade-Related Aspects of Intellectual Property Rights
UNEP	United Nations Environment Program
UNESCO	United Nations Educational Scientific and Cultural Organization
UNIDO	United Nations Industrial Development Organization
UPDN	(Urusan Peningkatan Penggunaan Produksi Dalam Negeri)
UPT	Technical Service Units (Unit Pelayanan Teknis)
WIPO	World Intellectual Property Organization
WS	Workshop
WTO	World Trade Organization

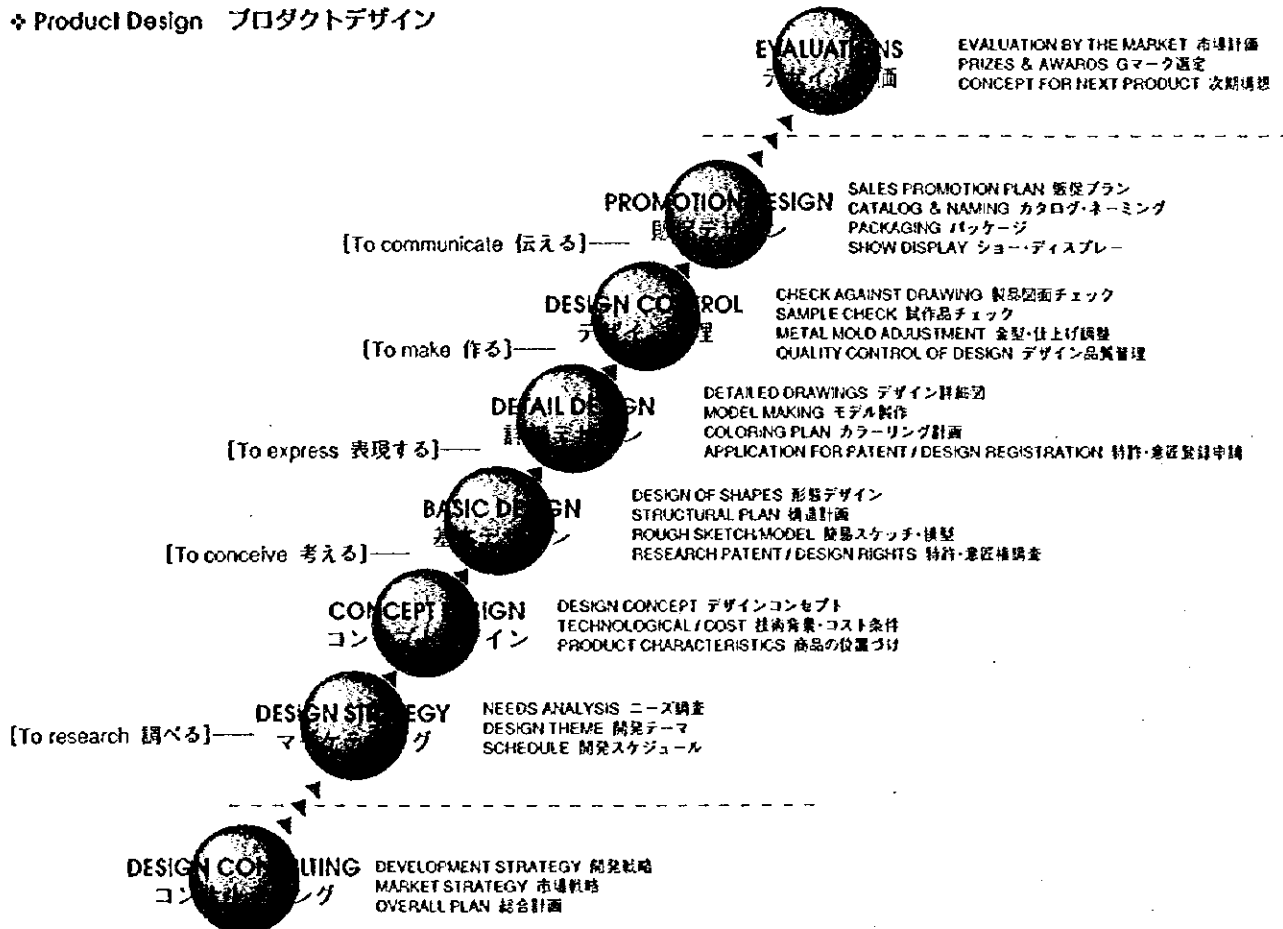
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Design Process (デザインプロセス)

Although the work content may differ depending on the field of design, the process of design work basically follows: "To research" phase (analysis, synthesis); "To conceive" phase (plan, ideas); "To express" phase (concept, sketch); "To make" phase (production, control); and "To communicate" phase (advertisement, sales). Conventionally the role of designs tended to specialize in the "To express" phase. Nowadays the role of designs are considered to involve the total flow: from the "To research" to the "To communicate" phases. Role played at the "To conceptualize" phase is increasing its importance.

デザイン業務の流れは、分野によって作業内容に違いはあるが、基本的に「調べる」(調査・分析・総合)、「考える」(戦略・企画・構想)、「表現する」(発想・スケッチ・模型)、「作る」(設計・生産・管理)、「伝える」(広告・販売・評価)、といった行為の過程をたどる。従来、デザインの専門性は「表現する」部分、として捉えられ勝ちであったが、デザイン業務は上流域の「調べる」から下流域の「伝える」まで、一貫して関わる方向に進みつつある。とりわけ、「考える」部分の重要性が増している。

◆ Product Design プロダクトデザイン

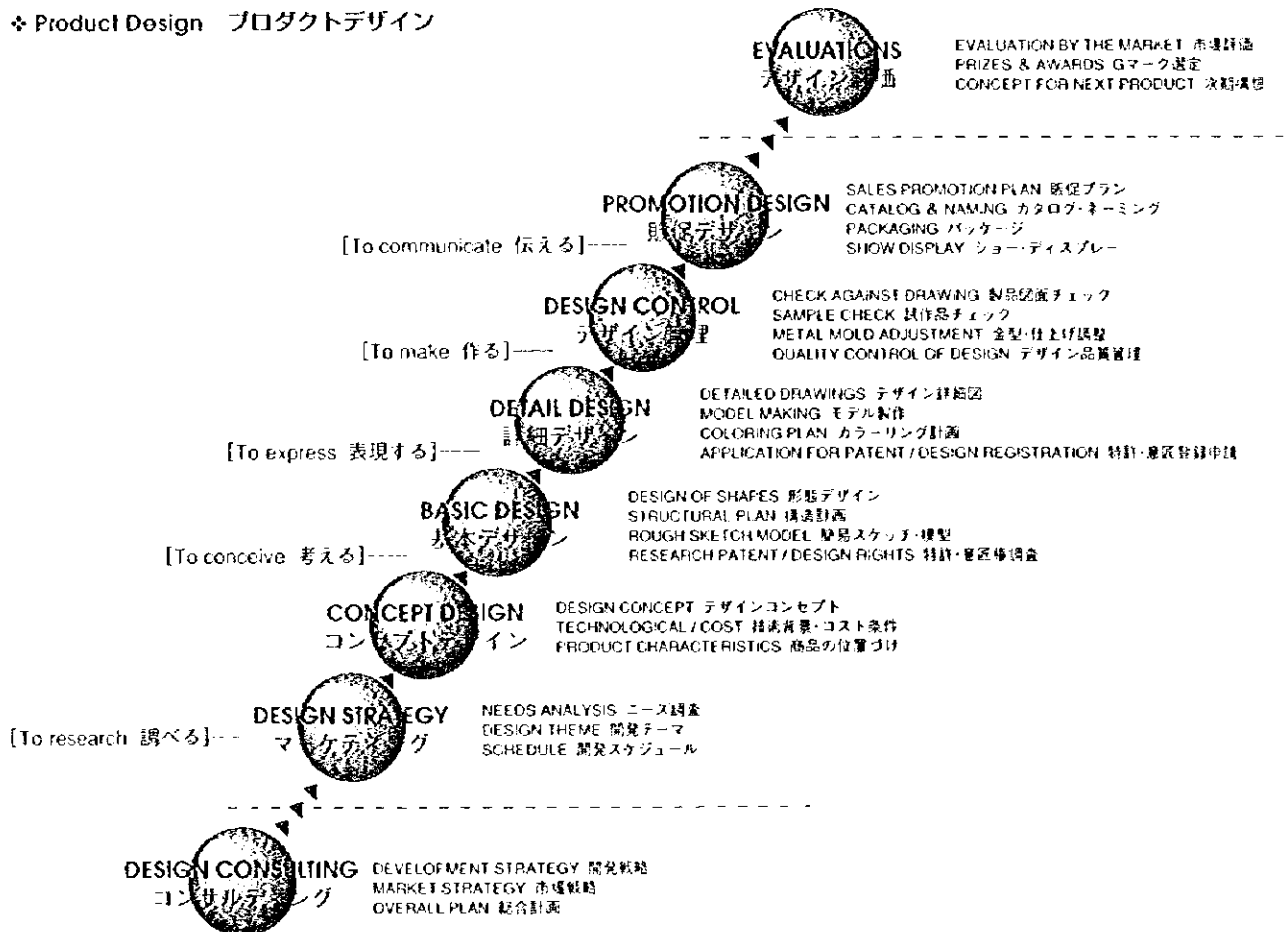


Design Process (デザインプロセス)

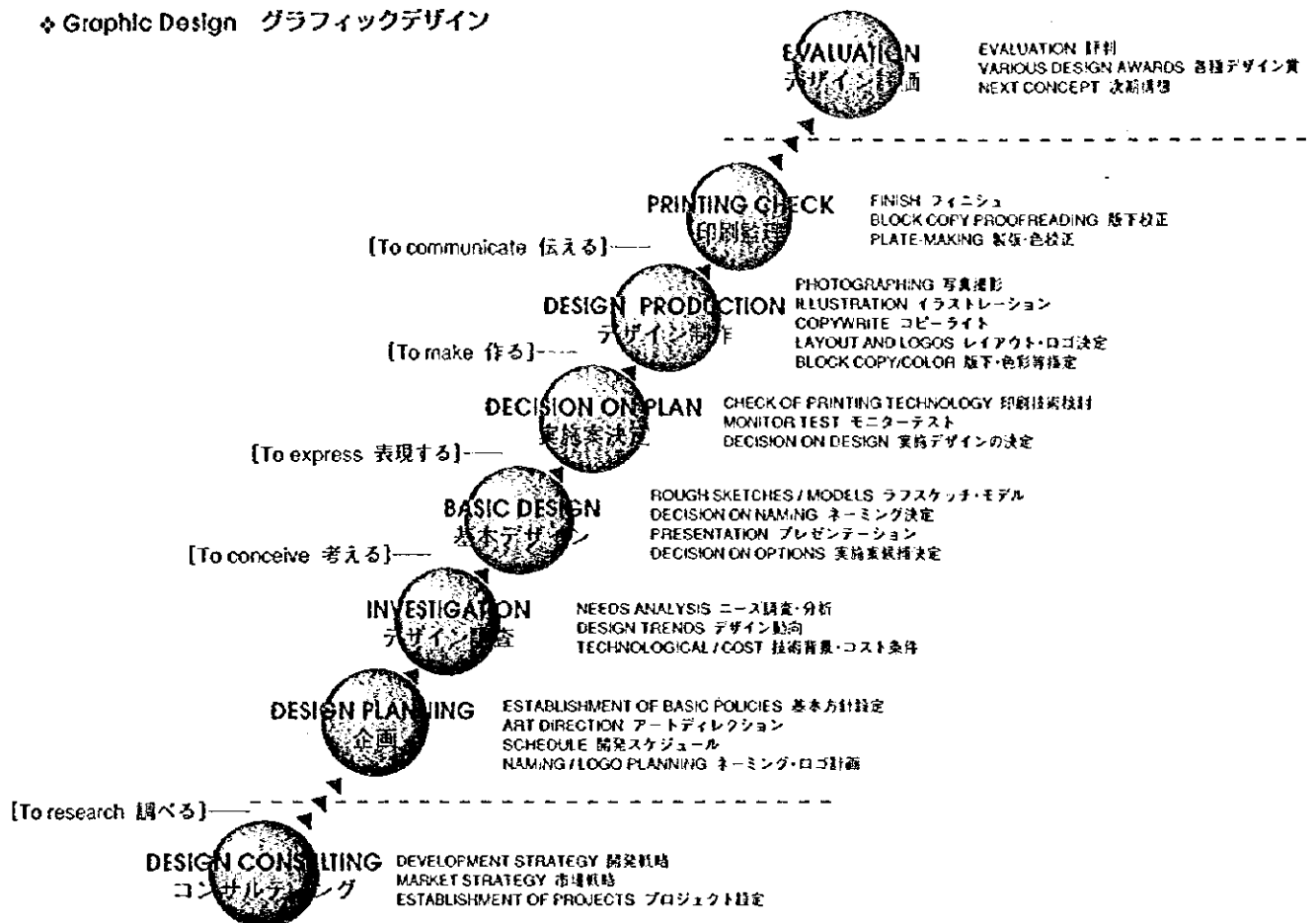
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◆ Product Design プロダクトデザイン



◆ Graphic Design グラフィックデザイン



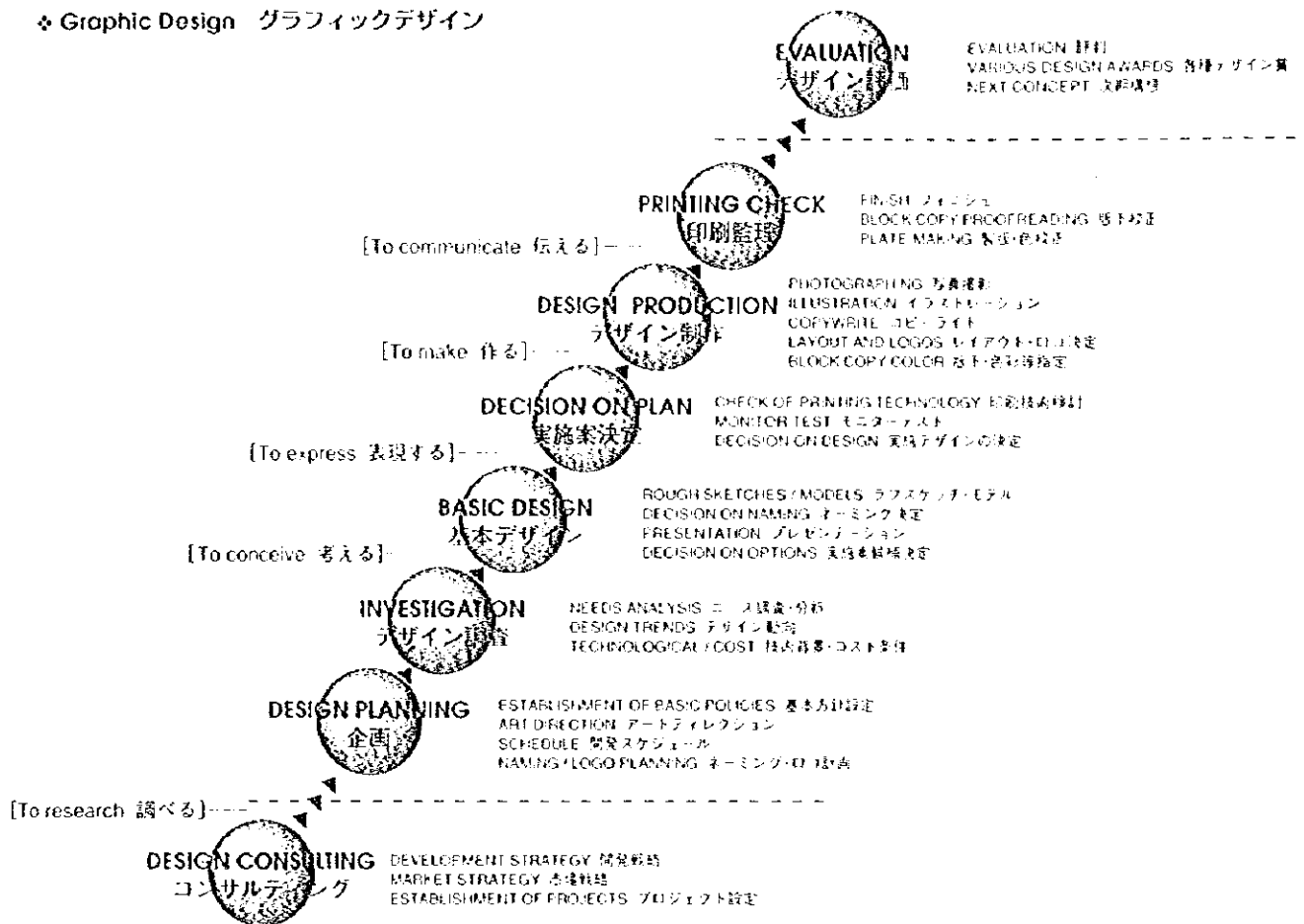
◆ Interior Design インテリアデザイン



Credit: JAPAN DESIGN FOUNDATION

提供: (財)国際デザイン交流協会

❖ Graphic Design グラフィックデザイン



❖ Interior Design インテリアデザイン



Credit: JAPAN DESIGN FOUNDATION 提供 (財)国際デザイン交流協会



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Part I: Introduction

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1 Background, Objective, and Scope of the Study

1.1 Objective of the Study

The primary objective of the study is to identify and assess opportunities for the effective use of design in Indonesia, the current state of design use and its constraints, and the current level of progress of design promotion efforts, and then to develop a master plan for design promotion on the basis of the results of the current analysis as well as case studies in other countries. Design promotion as defined for this study primarily concerns development of the industrial sector, and particularly the strengthening of export competitiveness of industrial goods, the fostering of SMEs, and the development of supporting industries.

The study also aims to serve as a means of technology transfer by conveying relevant knowledge and know-how to personnel in design-related fields throughout the study process. The subjects for transfer of technology include design promotion planning techniques, design development techniques, design instruction methods, and the development and management of the design development system within the company. In the transfer process, the Study Team obtained many findings on the potential of, and constraints on, design activities as well as design promotion activities in the country. These are reflected in the recommendations made in this report.

1.2 Background of the Study

The study was driven by the following three factors: 1) the need to strengthen competitiveness of the industrial sector and ensure its sustainable growth through the establishment of originality; 2) demand by the design industry to raise awareness of importance of design and the designer's status in the government and industry in general; and 3) ongoing efforts to promote design in the country since the early 1990s.

Importance of design has been recognized by the Indonesian government, as evidenced by its request for the present study submitted to the Japanese government. The request assumes that design will play a critical role in helping industries to develop and maintain their own brands in the wake of internationalization of industrial activities and envisages that design will be recognized as constituting a strategic element of the product development process in non-oil industries.

Similarly, the survey conducted by the Institute of Technology Bandung to ascertain the extent and nature of need to establish a design center, revealed that 84% of SMEs expected the center to help improve product quality. Overall, there were indications of increasing expectation on the design promotion initiative in the country.

Meanwhile, various design promotion activities have emerged as Japan¹ provided technical assistance in design promotion since 1990, and the design center was established under the leadership of the Ministry of Cooperatives and Small Enterprises² in 1995.

Nevertheless, the government felt the need to step up design promotion efforts, because there was an apparent lack of consistency in design promotion policy and strategy, as well as a relatively low level of design awareness among companies and consumers. In February 1997, the government formally requested the Japanese government to conduct a study.

In August 1997, JICA organized and sent its project formulation study team to the country. Following a preparatory study in December 1997 (discussion of the Scope of Work), the Scope of Work document was signed by the two parties.

Based on the Scope of Work, JICA sent a Study Team organized by experts from UNICO International Corporation and Sanwa Research Institute, SRIC Corporation³. This report was compiled to contain all the results of the work of the Study Team.

1.3 Scope of the Study

(1) Scope of the study defined in the Scope of Work

The scope of the study defined in the Scope of Work signed on December 2, 1997, between the preparatory study team and the Indonesian government is as follows:

- 1 General Background Review of Economic and Social Conditions of Indonesia with Special Reference to Design Promotion**
- 2 Review of Design Promotion Activities in Indonesia**
 - 2-1 Identification of important actors in the public, private (indigenous and foreign) and educational sectors:**
 - 2-2 Survey of roles, functions, and activities of these actors in design promotion**

¹ Technical cooperation extended by JICA under the program to dispatch experts, with full support by JDF (Japan Design Foundation).

² Ministry of Cooperatives, Small and Medium Enterprises, at present.

³ Supported by Japan Design Foundation.

- 3 Study on Present Situation of Design in the Republic
 - 3-1 Survey of present situation of design by the private sector
 - 3-2 Survey of the working environment of designers in the Republic
- 4 Case studies on the selected model sub-sectors
 - 4-1 Evaluation of the design of the products;
 - 4-2 Practical technical guidance or the improvement of the design of the products;
 - 4-3 Organization of (a) workshop(s) on the effects of design improvement
- 5 Formulation of a master plan for design promotion
 - 5-1 Objectives of design promotion
 - 5-2 Basic strategy for design promotion
 - 5-3 Specific tasks for the private sector
 - 5-4 Supportive policy measures for design promotion from the public sector
 - 5-5 Measures for the strengthening of the Indonesian Design Center and development of other core institutions for design promotion
 - 5-6 Specific role of various related institutions for design promotion
 - 5-7 Lessons learned from the case studies
 - 5-8 Specific action programs (short, mid and long term) with a rough cost estimation
- 6 Conclusion and recommendations

(2) Fields of the study and study area

Major fields of the study

The study covers four categories of design, namely interior design, industrial design, package design and craft design (referred to as "categories/for in-depth coverage"). In each category for in-depth coverage, industrial sub-sectors that require particular attention (referred to as "subsectors to be covered in-depth") have been selected, as shown in the table below.

Geographical areas for the study

The study covers several geographical areas, mainly those in and around Jakarta or on Jawa. The following candidate sites were selected in advance; among them actual sites for field surveys were determined at the inception of study as underlined.

Categories of design to be covered	Candidate sub-sectors to be covered	Candidate geographic areas to be covered	Model sub-sectors for case studies
Interior design	1 <u>Wooden & rattan furniture</u> 2 <u>Miscellaneous interior items</u>	Cirebon and/or Jepara	○ ²⁾
Industrial design	1 <u>Home electric appliances</u> 2 <u>Light machinery</u> ¹⁾	Jakarta, Bandung	○ ³⁾
Craft design	1 <u>Wood</u> 2 <u>Bamboo</u> 3 <u>Leather</u> 4 <u>Ceramic</u>	Bali, Plered, Bandung, Yogyakarta	No plan for case study
Package design	1 <u>Package for food products</u> 2 <u>Package for craft products</u> 3 <u>Package for miscellaneous items</u>	Jakarta	○ ⁴⁾

- Notes: 1) Tools, agricultural machines, food processing machines, etc.
2) Wooden furniture or Rattan furniture
3) One will be selected from the two sub-sectors
4) One will be selected from the three sub-sectors

2 Outline of the Study and Organization of the Report

2.1 Structure of the Study

Under the present study, technical and economic surveys covering the following areas were conducted to obtain data and information, based on which the master plan was developed:

- (1) Interview survey of organizations related to various design categories;
- (2) Transfer of know-how and techniques (Case Study) on the effective use of design and the design process;
- (3) Questionnaire survey of selected enterprises concerning the current use of design; and
- (4) Interview survey of selected enterprises concerning the current use of design.

The Case Study was composed of the following seminars and workshops, with objectives of evaluation of the existing product designs, technical guidance and improvement of them, and workshops for disseminating the effectiveness of product design improvement.

- Opening seminar; to improve awareness of design, and promote better understanding of the study.
- Workshops; for technical guidance for product design improvement
 - Interior design workshop
 - Industrial design workshop
 - Package design workshop
- Concluding seminar; to transfer the study results

The Case Study, particularly its workshops, was quite useful for ensuring that the master plan will be effective and practical, in that it enabled the Study Team to obtain a more detailed understanding of the situation and constraints of design and its promotion than that which could be obtained from observation and interviews alone, and that it was useful for verification of the effectiveness of the promotion measures proposed. Further, the workshops may be regarded as one step toward design promotion in Indonesia, given the fact that the participating enterprises could learn from them that the application of design processes to their product development could be beneficial for business. For details about the workshops, see III-7.

The questionnaire survey covered 400 enterprises and was planned to obtain understanding on their design use. Under the prevailing economic conditions, however, many enterprises were forced to stop their operation, or close down their business. Thus, the available directories of enterprises was not as valid as expected, and thus, the survey was conducted through direct interviews by researchers at the sample enterprises. The outline of the survey results are given in III-8, while the major findings are referred to in the respective analysis in this report.

2.2 Field Survey

Several field surveys were conducted as part of the study, the first field survey designed to agree on and finalize the overall study plan, and the second and third surveys to collect information and make field observations. The fourth field survey was carried out to discuss the study results and disseminate major findings, proposals and recommendations to related parties. A general outline of the field surveys is described below. Details of case studies are included in III-7.

(1) First field survey

The first field survey was conducted for four days, starting on May 14, 1998, and after being suspended due to the deterioration of public security, it was resumed on July 12 and conducted for two weeks. During the survey, the Study Team agreed on the study plan with its Indonesian counterpart, finalized the plan, and carried out preparation work for the subsequent field surveys. Also, it collected background information on the key design fields and subsectors to be surveyed.

(2) Second field survey

The second field survey, forming the most important element of the study and covering information gathering and technology transfer, was conducted for over two months between September 27 and December 1, 1998. Major activities during the second field survey were: 1) Case Study 1 (opening seminar); 2) detailed research and study on related organizations, associations and industries; and 3) interview surveys of selected enterprises, industries and areas, and Case Study 2 (first part of workshop).

(3) Third field survey

The third field survey was conducted between February 17 and March 27, 1999. It comprised: 1) confirmation of the results of the current analysis on the basis of the interim report; 2) discussion on recommendations for promotion programs and

improvement measures (preliminary proposal); and 3) continued technology transfer to individual enterprises through Case Study 2 (second part of workshop). The workshop was used also to verify the potential effectiveness of the preliminary recommendations on improvement and reinforcement of design promotion activities.

(4) Fourth field survey

The fourth field survey made a presentation of the draft final report, together with dissemination of study results through Case Study 3 (seminar for conveyance of results).

2.3 Organization of the Final Report

The final report will contain all outcomes of the present study, including those contained in the progress and interim reports that were made and presented in the course of the study.

The report consists of two volumes, "Summary" and "Main Report." Main Report is divided into three parts, "Introduction," "Conclusion and Recommendations," and "Discussions." "Introduction" describes a general outline of the study, and the current state of design use and promotion in the country. "Conclusion and Recommendations" identifies the need for design promotion in the country, analyzes current limitations, and proposes a desirable direction of design promotion as the basis of development of the master plan, followed by the master plan for design promotion and recommendations on design promotion. Finally, "Discussions" contains important data and information related to the analysis of the current state of design promotion, the development of design promotion programs and projects, and case studies relevant to the country's future promotion efforts. It also summarizes the analysis and discussion process for each of the key issues, followed by the summary of Case Studies and major findings, and the results of the questionnaire survey.



3 Current State of Economy and Industrial Development In Indonesia

3.1 Economic Development and Industrial Sector in Indonesia

3.1.1 Economic and industrial development policies and results

Indonesia's economic plans consist of two elements, 5-year plans setting forth medium-term policy objectives (REPELITA) and 25-year plans prescribing long-term visions and goals (PJP). Government policies and programs are implemented on the basis of the annual budget that is established in line with these economic plans.

PJP I started in 1969 and ended in 1993. PJP II (1994 – 2018) is now underway, and based on PJP II, REPELITA VI had been in effect from 1994 to 1998.

During the period under PJP I (1969 – 1993), the Indonesia economy sustained healthy growth of over 5% per annum, except for temporary setbacks due to the decline in oil prices. In particular, the industrial (manufacturing) sector grew strongly and faster than the GDP growth rate in most years during the period. Its growth was impressive compared to other East and Southeast Asian countries. One reason for this high growth is that the country's industry was very small at the beginning of the period, representing a meager 8% of GDP. As industry grew rapidly, the primary sector (agriculture, forestry and fishery) continued to lose its GDP share, from 48.6% in 1970 to 14.8% in 1997.

Another factor driving the industrial growth was the government policy to foster base metal and chemical industries as well as foreign direct investment which contributed greatly to industrial expansion in the 1990s.

The Indonesian government has been building up heavy and chemical industries, including fertilizer, papermaking, steel and aluminum, by establishing state enterprises, while pursuing import substitution policy by imposing protectionist measures such as high tariff rates, import sales tax and import embargo. At the same time it has enforced local content requirements to automobile, construction equipment, machine tool, electrical machinery and other manufacturers for import substitution.

Since 1984, however, it shifted policy to attract foreign investors and then gradually added incentives for foreign direct investment. The new policy took effect in the late 1980s and the Indonesia Investment Coordination Agency (BKPM) approved foreign

investment projects totaling US\$127.2 billion after 1990, which accounted for 80% of the cumulative total approved by BKPM between 1967 and October 1996.

(1) Second long-term national development plan

The Second Long-term National Development Plan (PJP II, 1994 - 2018) was announced in 1994 and came into effect in April. During the period, 6th to 10th five-year plans are envisaged. PJP II sets forth major goals of national development in both materialistic and spiritual terms, self-sufficiency and prosperity. The industrial sector is expected to contribute to economic development by emphasizing the industrialization process aiming at higher valued added and international competitiveness in place of previous reliance on low labor costs and natural resources. For this purpose, the plan calls for higher levels of knowledge and technology. Also, the development of small- and medium-sized enterprises is emphasized from the viewpoint of enhancing the industrial structure.

During the PJP II period, a target economic growth rate is set at more than 7% on average per year. Based on the target growth rate and the projected population increase, national income per capita is planned to grow fourfold between the end of PJP I and the end of PJP II, from US\$840 to US\$3,781 (based on the 1993 price). For the industrial sector, a development target is set to increase the sector's share in GDP to 32.5% in the final year, compared to 20.8% at the end of FY1993. To achieve the goal, the plan assumes that the industrial sector will grow at an annual average rate of 9.2% and the non oil and gas sector 9.8%.

Target Growth Rate of each Five Year Plan (REPELITA) during PJP-II

(Unit: annual average %)

REPELITA	VI	VII	VIII	IX	X	Average
GDP	6.2 ¹⁾	6.6	7.1	7.8	8.7	7.3
1. Agriculture, livestock, forestry and fisheries	3.4	3.5	3.5	3.5	3.5	3.5
2. Manufacturing industry	9.4 ²⁾	9.4	9.4	9.1	8.7	9.2
3. Non-oil and gas	10.3 ³⁾	10.2	10.0	9.5	9.0	9.8
4. Other sectors	6.0	6.3	6.8	8.0	9.5	7.3

Note: Figures were modified as follows; 1) 7.1%, 2) 10.2%, 3) 11.3%

Source: Rancangan Rencana Pembangunan Lima Tahun Keenam (1994/95 - 1998/99)

(2) REPELITA VI (6th five-year plan)

The 6th five-year plan starting from 1994 targets an annual average growth rate of 6.2% in the planning period. The manufacturing sector is assumed to be a major driving force for the economy and is expected to grow at an annual 9.4%. As a result, the sector's share in GDP will surge to 24.1% at the end of the period (21.3% by the non oil and gas sector), which is comparable to Thailand and Malaysia in 1990, which industrial sector accounted for 26% and 28%, respectively, of GDP.

Overall, REPELITA VI, centered on the export-led industrialization policy, aims to foster export-oriented industries, promote small-scale industries, and strengthen an effective linkage between different industries and between large and small industries. In addition, it recognizes the need for promotion of supporting industries to supply parts and components.

Target Annual Growth Rate of Manufacturing Industry during REPELITA VI

(Unit: average %)

	94/95	95/96	96/97	97/98	98/99	Average
Manufacturing industry	9.4 (12.4)	8.9 (10.9)	8.9 (11.6)	10.0 (6.4)	9.7 (-12.9)	9.4
1. Non-oil and gas	10.0	10.1	10.3	10.5	10.7	10.3
2. Agro-base industry	8.1	8.2	8.3	8.3	8.4	8.2
3. Basic metal / capital goods	12.3	12.4	12.6	12.8	13.0	12.6
4. Chemical	9.2	9.4	9.6	10.0	10.0	9.7
5. Other industries	12.4	12.6	13.1	13.2	13.7	13.0

Source: Rancangan Rencana Pembangunan Lima Tahun Keenam (1994/95 - 1998/99)

() actual figures from BPS Statistics

(3) Actual performance

While the economic growth rate was an average 6.95% between 1994 and 1997, the manufacturing sector registered 9.57% and the non oil and gas sector 10.71%, raising the manufacturing sector's share in GDP to 25.0% in 1997 (See Table I-3-1). This is the result of the government's aggressive investment in industrial development by pouring its oil revenues in the past, which helped start up production of consumer goods, basic materials and capital goods. In addition, vigorous efforts to attract foreign direct investment were rewarded by growth of the export sector led by labor-intensive and export-oriented industries.

(4) The currency crisis and the economy

After the bahts moved to the floating system, the rupiah was forced to switch from the managed floating system to the completely fully floating system on August 14. It devalued rapidly to Rp.16,000 per US\$1 at the lowest level and is relatively stabilized at a Rp.7,600 level as of December 22, 1998. The central bank raised its security loan rate to 64% in May 1998 to prevent a further devaluation, causing commercial loan rates to skyrocket to 90% per annum in August.

The current crisis brought the fast growing economy into a halt and a recession. In 1997, nominal GDP recorded negative growth, totaling US\$214.6 billion or US\$1,066 per capita. Although real GDP (rupiah based) managed to register a 4.65% increase, it decreased by -13.8% expected to decline in 1998¹.

Trade balance improved in 1997 and a trade surplus grew to US\$11,763 million as exports grew 7.3% while imports dropped 2.9%. Foreign direct investment in the same year amounted to US\$4,677 million, down 24.5% from a year ago. The declining trend is expected to continue into 1998 as investors (companies) will likely wait for the appointment of the next president.

3.1.2 Structure and characteristics of the industrial sector

(1) Shift in industrial structure

In Indonesia, traditional industries serving domestic markets, including food, beverages and tobacco, became prosper in the 1970s. Then, textile, metal, chemical, steel and cement industries grew rapidly by successfully substituting imports. The growth was fueled by a massive inflow of foreign currency earned by oil exports, which enabled the emerging industries to import capital goods and raw materials, sometimes by measures² to protect local industries. Also, active construction of physical infrastructure expanded domestic markets for steel and cement products.

In the 1980s, however, the declines in oil prices forced the Indonesian government to start a structural shift of its industrialization strategy from import substitution to export-oriented. The burgeoning of export-oriented industries with relaxing restrictions on foreign investments made labor-intensive export-oriented industries grow, and brought new industries into the mainstream of industrial production, including transportation equipment and general machinery for which localization progressed.

¹ BPS preliminary figure.

² Protective tariff, sales tax on import goods and import embargo.

Measured as a percentage distribution of total value added by large- and medium-sized manufacturers, food, beverage and tobacco products decreased their combined share from 47.6% in 1974 to 27.5% in 1996. Instead, base metals and metal products/machinery increased share from 0.8% to 9% and from 12.6% to 20.9%, respectively, between 1975 and 1996. Textiles and leather products, major export items, also boosted share. On the other hand, chemical products, which expanded share up to the mid-1980s due to active investment, have been dwarfed by rapid growth of export-oriented industries (Figure I-3-1).

(2) Industrial structure by company size

Between 1994 and 1997, the number of manufacturing enterprises grew at an annual average rate of 3.6%. Small enterprises showed the highest growth rate of 18.3%, far exceeding that of household enterprises (6.9%) and medium- and large-sized enterprises (2.6%). Microenterprises accounted for 91% of the total, small enterprises 8%, and medium- and large-sized enterprises a merely 1% (Figure I-3-2)³.

In terms of the number of employees, medium- and large-sized enterprises account for 41% of the total, household enterprises 40% and small enterprises the remaining 19%. On the other hand, medium- and large-sized enterprises represent 92% of value added by industry. This reflects relatively low levels of labor productivity and cost at household enterprises compared to their large number and employment.

3.2 Major Issues Related to Development and Direction of Development Strategy

3.2.1 The positioning of the industrial sector in the economic development process

The Indonesian economy underwent a stable growth path since the late 1960s up until to the currency crisis in 1997. GDP grew at an annual average rate of 7.0% in real terms between 1965 and 1980, and 6.1% between 1980 and 1990. In particular, the industrial sector recorded strong growth, 11.9% between 1965 and 1980 and 10.1%⁴ between 1980 and 1990. As a result, PJP-II positioned the sector as a major driving force for economic

³ Industrial statistics of Indonesia define large enterprises as having 100 or more employees, medium-sized enterprises 20-99 employees, small enterprises 5-19 employees, and household enterprises 1-4 employees. Note, however, that statistics published by the Bureau of Statistics classify large and medium-sized enterprises into one category.

⁴ WB "World Development Report 1980, 1992"

growth. In fact, the industrial sector (including oil and gas) accounted for one quarter of the total output.

As pointed out earlier, the country's industrial policy between the late 1960s and mid-1980 focused on the import substitution strategy through accelerated growth of chemical and heavy industries as well as localization of automotive and machinery production. In particular, the fostering of chemical and heavy industries and the infrastructure buildup in the 1970s, financed by revenues from oil exports, enabled the industrial sector to achieve strong growth. Then, industrial policy was shifted to the labor-intensive and export-oriented strategy in the late 1980s. Notably, after 1990, partly because the government eased regulatory control on foreign investment in the country, direct investment by foreign manufacturers accelerated growth of labor-intensive and export-oriented industries.

However, the rapid industrialization process has resulted in uncontrolled expansion not accompanying the development of the balanced and diversified industrial structure. This is evidenced in a large gap between foreign and local enterprises and between large enterprises and SMEs, which are operated separately without any significant linkage or interdependence - an important element of the stable industrial structure required in matured economies. At the same time, industrial development has progressed without regard to efficiency and under government protection, some industrial subsectors have failed to improve their productivity through the industrialization process.

3.2.2 Development of supporting industries

In Indonesia, diverse products are manufactured to cover most types of industrial subsectors, ranging from consumer goods to base materials and capital goods. At the same time, linkage between different industries is very weak. A large number of small- and medium-sized enterprises in operation are not vertically linked with large manufacturers to serve as suppliers. As a result, major manufacturers cannot procure most of parts and components locally and instead rely on imports. The Indonesian government realizes the development of supporting industries as a major issue and has been taking various measures. Nevertheless, foreign-affiliated companies do not respond to government policy as they decide their production and marketing policies in a country they operate under the parent company's international strategy, i.e., they make investment decisions on production bases in Asia and ASEAN countries on the basis of efficiency and comparative advantage, which do not necessarily match Indonesia's intent to develop supporting industries. Moreover, the Indonesian market has not reached critical mass to support the parts industry, and neighboring countries are also attempting to foster supporting industries, making it difficult to achieve Indonesia's objective easily.

Figure I-3-3 shows the relationship between self-sufficiency in each industry and dependency on imports in 1975 and 1990. It indicates that the textile industry shows a notable increase in self-sufficiency, while no significant change was seen in other light industries, chemical, metal, general machinery, transportation equipment, and other machinery. On the other hand, the import dependency rate is generally high except for textile and light industries. This clearly indicates that, although Indonesia has a diverse range of industries, they have to depend upon imported materials and parts due to the lack of local suppliers.

After 1990, rapidly increased foreign direct investments in the industrial sector, particularly chemical, machinery and metal industries, has raised the sector's share in GDP steadily. This accompanied increased imports of parts and materials, so that the import dependency has not changed.

Efforts of the Indonesian government to foster supporting industries are described by taking automobile and electrical/electronics industries as examples.

(1) Automotive parts industry

The Indonesian government has been promoting localization of automobile production since 1976 and launched the deletion program containing a parts localization plan in 1987. In 1993, it started an incentive program for accelerated localization. Under the strong leadership of the government, automobile manufacturers have been localizing components and parts selected according to anticipated large benefit.

Meanwhile, major automobile companies aim to build a system to share standard components and parts throughout Asian and ASEAN regions. In this context, a relatively small volume of automobile production in Indonesia makes it difficult for the country to develop a full-fledged parts industry.

In fact, the localization rate for pickups and mini-buses of 5 tons or smaller is 37.5% (1994) and that for passenger automobiles is a merely 5.1%.

(2) Electrical and electronic parts industry

In the industry, considerable efforts taken to promote localization and large potential demand in the country spurred manufacturers to primarily focus on the domestic market. As a result, production capacity of each manufacturer remained relatively small and supporting industries did not grow much. Then, the government's vigorous policy to attract foreign investment in the electrical and electronic areas drew many production bases from neighboring ASEAN countries where labor shortage and cost increase due to higher wages and salaries surfaced. However, these relocated production bases are

firmly incorporated into regional production networks of electrical and electronics manufacturers and have sources of materials and parts in other countries. Thus, they usually make limited direct investment related to supporting industries. This explains small concentrations of supporting industries (suppliers) in the country. According to JICA's report on "The Study on the Development of Supporting Industries in the Republic of Indonesia 1997" conducted in 1997, there were 78 consumer equipment manufacturers and 156 business machinery manufacturers in the country, compared to 63 suppliers making parts and components for them.

3.2.3 Export promotion

Although the Indonesian government recognized the importance of non-oil exports relatively early (it established the National Agency for Export Development in 1972), it did not fully shift industrial policy from important substitution to export promotion until the mid-1980s when oil prices dropped. At the first stage of export promotion, major export items were raw materials that were locally processed to a limited extent, such as natural rubber, palm oil and lumber. Then, lumber was replaced with plywood, and textiles (fabrics and clothing) became the mainstay of industrial exports. In the 1990s, exports of furniture (wood and rattan) and electrical products grew rapidly. Through the efforts, the total value of industrial exports exceeded that of oil and gas exports in 1987 and maintain the position since then.

(1) Export promotion policy before 1985

The government's export promotion policy formally started in 1970 as part of the comprehensive policy package. In the 1970s, the following key actions, among other things, were taken: 1) the establishment of the Nation Agency for Export Development (NAFED); 2) introduction of the drawback system; and 3) adoption of comprehensive policies for promotion of non-oil exports. Then, in 1978, it changed foreign exchange policy from dollar-pegged to managed floating and rupiah devalued 33.4% against the dollar. This contributed greatly to exports by light industries, such as plywood and textiles.

(2) Export promotion policy after 1985

Since 1985, the Indonesian government has been adopting policy to foster export industries by attracting foreign investment. The following incentive programs are provided for export-oriented foreign manufacturers:

- 1) Streamlining of customs clearance service through privatization;

- 2) Exemption of import duties (including refunding) for production of export products, and the establishment of the bonded district;
- 3) Relief of import control on parts and raw materials for electrical/electronics and precision equipment industries (designated as industries eligible for government support for export promotion) in 1990, together with the lowering of tariff rates and the adjustment of import surcharge;
- 4) After 1994, further lowering of tariff rates in response to the move toward trade liberalization and the scheduling of tariff reduction within the framework of CEPT (Common Effective Preferential Tariff); and
- 5) In 1996, the devaluation of the rupiah, the lowering of import tariff rates on industrial materials and production equipment, the abolition of the import distribution control system, and expansion of the export finance system.

Note that CEPT is a core element of AFTA (ASEAN Free Trade Area)⁵. Under the scheme, all member countries have been gradually lowering tariff rates on industrial and agricultural products, starting in January 1, 1993, which will be converged to 0-5% by 2008. However, CEPT allows the member countries to exempt selected items on a temporary basis, which may dilute the effect.

At present, the country's export promotion policy primarily consists of the following measures and programs:

- 1) The drawback system;
- 2) Export processing district (EPZ) and the bonded warehouse and district system (EPTE);
- 3) Promotional projects including exhibitions and missions; and
- 4) Dissemination of export-related information and consultation.

Prior to the currency crisis, Indonesia pursued export promotion policy centered on industrial products. The result was not entirely satisfactory; machinery and electrical and electronic products which are competitive in international markets are manufactured and exported, but mainly by foreign-affiliated manufacturers, and supporting industries to supply parts and components to the manufacturing plants have not grown as expected. As a result of the currency crisis, the rise in import prices of the above parts and components eroded cost competitiveness of industrial products in relative terms,

⁵ AFTA has three major objectives: 1) expansion of intra-regional trade; 2) continuous attraction of foreign investment and expansion of intra-regional investment; and 3) improvement of efficiency and competitiveness of regional industries.

weakening the foreign currency earning capacity. The government responded by shifting the focal point of the export promotion policy to products using raw materials abundant in the country, such as wood and rattan furniture and processed food. These are the areas where product design, packaging and labeling become differentiation factors and have to be improved significantly.

3.2.4 SME promotion policy and major issues

In Indonesia, there are approximately 2,760,000 manufacturing enterprises, of which household enterprises employing less than 5 workers account for 90%⁶. In contrast, medium- and large-sized enterprises with 20 or more employees account for an only 1%. Thus, 60% of labor force in the manufacturing industry work for small enterprises and household enterprises having less than 20 employees, but they produce less than 10% of total value added by the sector.

Many small- and medium-sized manufacturers in the country, therefore, have been supporting local economies by providing employment opportunities, while supplying products to the market. They mainly belong to labor-intensive industries producing consumer goods and traditional products, which dominance in the domestic market is increasingly exposed to competition with foreign products (China and Southeast Asian countries) in recent years.

Major issues facing SMEs in the country are: 1) the sluggish domestic markets that they rely on; and 2) limited accessibility to credit and loan due to high interest rates. In addition, from the viewpoint of supporting industries, most SMEs are not capable of fulfilling the function in terms of management ability and production technology.

Under REPELITA VI, the government has incorporated the following SME support programs:

- 1) Upgrading of education facilities and training methods;
- 2) Provision of technical service and the reinforcement of UPT's activities;
- 3) Provision of land and facilities;
- 4) Establishment of a Design Center;
- 5) Reinforcement of activities to help expand partnership under the initiative of individual enterprises;
- 6) Encouragement of partnering of family-operated and handicraft industries; and

⁶ Economic Census 1996

7) Support for transfer of expertise from central to rural regions.

The plan sets forth major objectives of promotion of SMEs as: 1) creation of employment opportunities; 2) expansion of business opportunities; 3) equalization of income distribution; 4) public support and projects; 5) vitalization of local industries; and 6) legal and institutional support for SMEs which form a foundation of the industrial development process.

(1) Definition of SMEs

In Indonesia, SMEs are defined by the Ministry of Cooperatives, Small and Medium Enterprises, the Ministry of Industry and Trade, and the central bank, with some variations, on the basis of asset size, while the Central Bureau of Statistics uses the definition based on the number of employees.

(2) SME support organizations

1) Ministry of Industry and Trade

In 1998, the ministry, as part of its organizational change, established Directorate General of Small Industry and Trade (Direktur Jenderal Industri Kecil dan Dagang Kecil) which is responsible for development and implementation of policies for promotion of small enterprises, and coordination of related organizations. Actual promotion programs are carried out by responsible departments (Direktur) and field organizations.

2) Ministry of Cooperatives, Small and Medium Enterprises

The ministry is divided into Directorate General of Cooperatives Development, Directorate General of Small and Medium Enterprises Development, and Directorate Rural of Financial Facilities. It is mandated to improve the business environment for cooperatives and SMEs and strengthen their financial and management base. In particular, it is responsible for policy formulation and implementation in the following areas:

- a) Management support
- b) Human resource development
- c) Financial support
- d) Technology transfer
- e) Dissemination of information

In addition, BAPPENAS is responsible for monitoring of SME policies, budget

approval, and coordination of related ministries.

(3) SME Development Project (PIKM: Proyek Penembangan Industri Kencil Menengah)

PIKM is the successor of Small Industry Guidance and Promotion Project (BIPIK) under MOIT and conducts activities related to human resource development, the fostering of entrepreneurs, upgrading of quality control, the deepening of partnership, and marketing. With an annual budget of approximately Rp.30 billion, it carries out 27 programs including:

- 1) Preparation for the ISO9000 certification;
- 2) Introduction of QCC;
- 3) AMT;
- 4) CEFE; and
- 5) Technical training

AMT (Achievement Motivation Training) and CEFE (Competency-based Economies through Foundation of Enterprises) are educational programs for entrepreneurs. Participants for AMT from 1980 to 1997 reached 22,369 in total. CEFE is conducted in each prefecture and takes around one month under the attendance of 4,723 persons from 1991 to 1997 in total. Technical training takes one week each and is attended by 10,000 persons annually.

In addition, central and local governments operate training centers in various states to teach production techniques and conduct training related to quality improvement.

(4) Partnering

Partnering of local industries in the form of technical support for centra (the SENTRA consists of 20 or more home industries) was started in REPELITA I, and it reached at its peak during the REPELITA IV period. Government support includes the establishment of common facilities (UPT) for centra for developing industrial capability. Many of enterprises under the centra program belong to food processing and handicraft industries.

Also, small-scale industrial estates planned by MOIT (PIK: Perkampungan Industri Kencil), equipped with common facilities such as UPT, sewage and waste treatment facilities are developed, but they cannot attract tenants due to heavy financial burdens for small enterprises.

(5) Availability of technical service units (UPTs) and technical advisors (TPLs)

The UPT set up by MOIT, is responsible for providing specialized support for enterprises in centra to assist centra's growth. It is equipped with a set of machinery and equipment required for technical support. There were 161 UPTs throughout the country at the peak.

Many UPTs are poorly financed and cannot maintain their facilities and equipment properly. Some of them are leasing their facilities and equipment to private enterprises and cannot provide public service properly. Therefore, many UPTs has been closed and it's number fell to 85 in 1997. The largest number of 45 UPTs is located in Jawa. By industry, the largest number of UPTs serves the metal industry, followed by clothing and leather.

TPLs are technical advisors under MOIT who are either government employees or private citizens hired on a contract basis. Again, budget constraint makes it difficult to increase the number of TPLs according to demand.

(6) Financial support

During the REPBLITA II period (1974-78), a small business equipment fund program (KIK) and a small business operating fund program (KMKP) were initiated to meet financial requirements of small enterprises. Under the comprehensive financial policy in 1990, new lending was terminated.

Then, a small enterprise finance program (KUK: Kredit Usaha Kecil) was launched to secure SME loans by using internal reserves of commercial banks. A general outline of the program is as follows:

- Scheme: Each bank is required to lend at least 20% of its total loans outstanding to business enterprises that meet the following requirements:
- Indonesian companies having business assets (other than land and buildings) of Rp.200 million or less and annual sales of Rp.1 billion or less
- Line of credit: Rp.350 million per company

The breakdown of KUK loans outstanding by purpose is summarized below.

KUK Lending as of July 1997

	Unit: Rp. Trillion	
Working Capital	32,463	(50.1%)
Housing Ownership Loan	10,939	(16.9%)
Loan up to Rp.25 million	10,887	(16.8%)
Investment	10,531	(16.2%)
Total	64,820	(100.0%)

Source: SRIC Report '98 Vol.3 No.4

Up to November 1997, the loan scheme was used by 704,000 borrowers. As many loans have been made without collateral due to the lack of assets, they have increasingly turned into bad debts. After the outbreak of the financial crisis, banks are cautious about new loans and as a result, KUK lending has decreased significantly. From the start, the goal to allocate 20% of total loans to KUK was fulfilled by most banks except for state banks. Now that many banks are in turmoil, the KUK program is increasingly inaccessible. For borrowers, KUK loans charge very high interest rates and the amount of loan is limited, not suitable for medium-sized enterprises.

In addition, MOIT and MOC&SME offer their own loan schemes which are extended to SMEs and cooperatives at relatively low interest rates (14-17% for the Ministry of Cooperatives and Small Businesses). Nevertheless, the interest rates are still high compared to profits made by small enterprises. Coupled with relatively cumbersome procedures, neither scheme is used by many borrowers.

(7) Policy-related issues

Major issues related to government policy include duplication of similar policies and programs between different ministries due to the lack of coordination. This presents a problem in consideration of budget constraints facing the government. Also, many policies lack consistency to prohibit continued budget allocation to the same program for a long period of time. As a result, many programs produced limited results compared to equipment capabilities and opportunity for human resource development, or old equipment is left without proper maintenance or upgrading.

3.2.5 Geographic distribution

The manufacturing industry is highly concentrated in Jawa, far exceeding other regions. Within Jawa, Jakarta and its vicinities as well as Surabaya constitute major industrial areas. In an attempt to encourage industrial growth outside the island, the government has been investing in other islands to foster industries that use locally available resources. Also, various incentives have been provided for investment projects on islands other than Jawa. Nevertheless, decentralization of industrial investment is very limited in scale. Major reasons of industrial concentration in Jawa are summarized as follows.

- 1) Large working population: In addition to large population living in Jawa, the island has premier universities in the country, such as Bandung Institute of Technology, which produce good engineers.
- 2) Large market: Income levels are relatively high in Jakarta and its surrounding areas, forming a local market of overwhelming size.
- 3) Good infrastructure: In West Jawa, there are many industrial estates accommodating Japanese and other foreign companies in West Jawa, attractive enough for foreign manufacturers to operate. Jakarta and Surabaya have international ports.

(1) Regional GDP

Jawa Island accounts for approximately 60% of gross regional domestic product (GRDP) excepting oil and natural gas. Within Jawa, D.K.I. Jakarta (Special Capital Region) and West Jawa represent large portions. In particular, D.K.I. Jakarta, which accounts for a merely 0.03% of the country's total land areas, shows a very high GRDP per capita, nearly four times the national average (See Table I-3-2). However, GRDP per capita of Central Jawa is below the average.

(2) Geographic concentration by company size

Ranked by the number of business establishments⁷, West Jawa comes first, followed by East Jawa and Central Jawa. Jawa accommodates 66% of all business establishments. As for large enterprises with 100 or employees, East Jawa ranked first, followed by D.K.I. Jakarta and West Jawa. Jawa accounts for 75% of the total. 71% of medium-sized enterprises (20-99 employees) were originally founded in Jawa. Thus, the level of concentration in Jawa is higher for larger enterprises, particularly in and around Jakarta (See Table I-3-3).

⁷ Including manufacturing and other industries

(3) Geographic concentration of manufacturing industries

The largest number of manufacturing establishments is seen in Central Jawa, followed by East Jawa and West Jawa. Jawa Island as a whole accounts for 64% of the total in 1996 (See Table I-3-4). Compared to 1986, the island's shares in the number of employees and the number of establishments have declined. Instead, Sumatra increased these shares. It should be noted that the level of concentration in Jawa (the number of establishments) is more or less the same as that of all industries, thus all of economic activities are concentrated in the island.

**Table I-3-1 Gross Domestic Product by Industrial Origin 1993 - 1997
at Constant 1993 Market Price**

Unit: billion Rp

	1994	1995	1996	1997	Growth Rate	Share in 1997
1. Agriculture, livestock, Forestry and Fishery	59,291.2	61,885.2	63,742.6	64,149.1	2.67%	14.8%
2. Mining & quarrying	33,261.6	35,502.2	37,568.6	38,181.5	4.73%	8.8%
3. Manufacturing industry	82,649.0	91,637.1	102,259.7	108,631.4	9.57%	25.0%
3.1 Oil and gas manufacturing	10,268.8	9,782.4	10,863.9	10,492.2	0.97%	2.4%
3.2 Non oil and gas manufacturing	72,380.2	81,854.7	91,395.8	98,139.3	10.71%	22.6%
4. Electricity, gas and water supply	3,702.7	4,291.9	4,840.5	5,413.9	13.51%	1.2%
5. Construction	25,857.5	29,197.8	32,923.7	35,036.9	10.70%	8.1%
6. Trade, hotel & restaurant	59,504.1	64,230.8	69,372.0	73,160.5	7.14%	16.9%
7. Transport & communications	25,188.6	27,328.6	29,701.1	32,204.1	8.53%	7.4%
8. Financial, ownership & business	30,901.0	34,313.0	37,400.6	39,184.0	8.27%	9.0%
7. Services	34,285.1	35,405.7	36,610.1	37,723.8	3.24%	8.7%
Gross Domestic Product	354,640.8	383,792.3	414,418.9	433,685.2	6.95%	100.0%
Gross Domestic Product non oil and gas	320,652.4	350,290.0	379,492.2	399,458.7	7.61%	

Source: BPS Statistical Year Book of Indonesia

**Table I-3-2 Gross Regional Domestic Products at Constant 1993
Market Price in 1996^{*)}**

	GRDP (million Rp)	Growth of GRDP (%)	Per capita GRDP (Rp)	Growth of per capita GRDP (%)
Sumatra	68,243,972	8.79	1,621,095	6.88
Jawa	237,641,992	8.44	2,025,927	7.01
D.K.I. Jakarta	66,201,775	9.16	7,106,016	7.81
Jawa Barat	64,716,986	8.31	1,599,716	6.31
Jawa Tengah	39,858,797	7.79	1,320,020	6.59
D.I. Yogyakarta	5,111,563	7.80	1,722,573	6.57
Jawa Timur	61,752,871	8.30	1,796,931	7.30
Bali	7,141,433	8.16	2,415,257	6.77
Kalimantan	27,561,243	10.74	2,540,816	8.51
Sulawesi	16,813,512	8.25	1,188,518	6.36
Lainnya	16,265,181	10.17	1,302,481	8.09
27 provinces (total)	373,667,433	8.73	1,869,865	7.08
Indonesia	379,492,200	8.34	1,928,245	8.34

Note: *) very preliminary figures, excluding oil and its product

Source: BPS, Statistical Year Book of Indonesia

Table I-3-3 Number of Establishment by Region and Employment Size 1996

Region	Employment Size				Total
	<5	5 - 19	20 - 99	>=100	
Sumatra	2,610,795 (17%)	101,231 (16%)	9,742 (14%)	1,514 (14%)	2,723,282 (17%)
Jawa	10,286,733 (65%)	420,492 (66%)	49,724 (71%)	8,152 (75%)	10,765,101 (66%)
D.K.I Jakarta	761,420	68,173	13,428	2,016	845,037
Jawa Barat	3,166,186	106,414	12,378	2,879	3,287,857
Jawa Tengah	2,717,119	116,136	9,780	1,156	2,844,191
D.I. Yogyakarta	336,903	14,462	1,430	154	352,949
Jawa Timur	3,305,105	115,307	12,708	1,947	3,435,067
Bali	290,372 (2%)	16,535 (3%)	1,902 (3%)	229 (2%)	309,038 (2%)
Kalimantan	800,390 (5%)	32,281 (5%)	2,890 (4%)	497 (5%)	836,058 (5%)
Sulawesi	1,050,329 (7%)	39,972 (6%)	3,036 (4%)	292 (3%)	1,093,629 (7%)
Others	666,872 (4%)	29,793 (5%)	2,931 (4%)	229 (2%)	699,825 (4%)
Total	15,705,491 (100%)	640,304 (100%)	70,225 (100%)	10,913 (100%)	16,426,933 (100%)

Source: BPS, Economic Census 1996

Table I-3-4 Number of Employees and Establishment by Region Manufacturer

Unit: '000

Region	No. of Employees		No. of Establishment	
	1986	1996	1986	1996
Sumatra	552.0 (10%)	1281.0 (13%)	157.8 (10%)	376.7 (14%)
Jawa	4057.0 (77%)	7265.2 (72%)	1078.1 (70%)	1768.3 (64%)
D.K.I Jakarta	342.5	645.5	29.4	41.1
Jawa Barat	1,045.9	2,268.4	243.4	373.5
Jawa Tengah	1,370.8	2,114.1	450.5	688.2
D.I. Yogyakarta	173.0	196.3	70.5	82.0
Jawa Timur	1,124.8	2,040.9	284.3	583.5
Bali	84.6 (2%)	202.4 (2%)	33.1 (2%)	88.8 (3%)
Kalimantan	201.2 (4%)	437.4 (4%)	65.2 (4%)	131.6 (5%)
Sulawesi	249.0 (5%)	474.0 (5%)	117.6 (8%)	208.6 (8%)
Others	142.7 (3%)	379.7 (4%)	81.8 (5%)	185.4 (7%)
Total	5,286.5 (100%)	10,039.5 (100%)	1,533.6 (100%)	2,759.4 (100%)

Source: BPS, Economic Census 1996

Figure I-3-1 Share of Value Added in Manufacturing

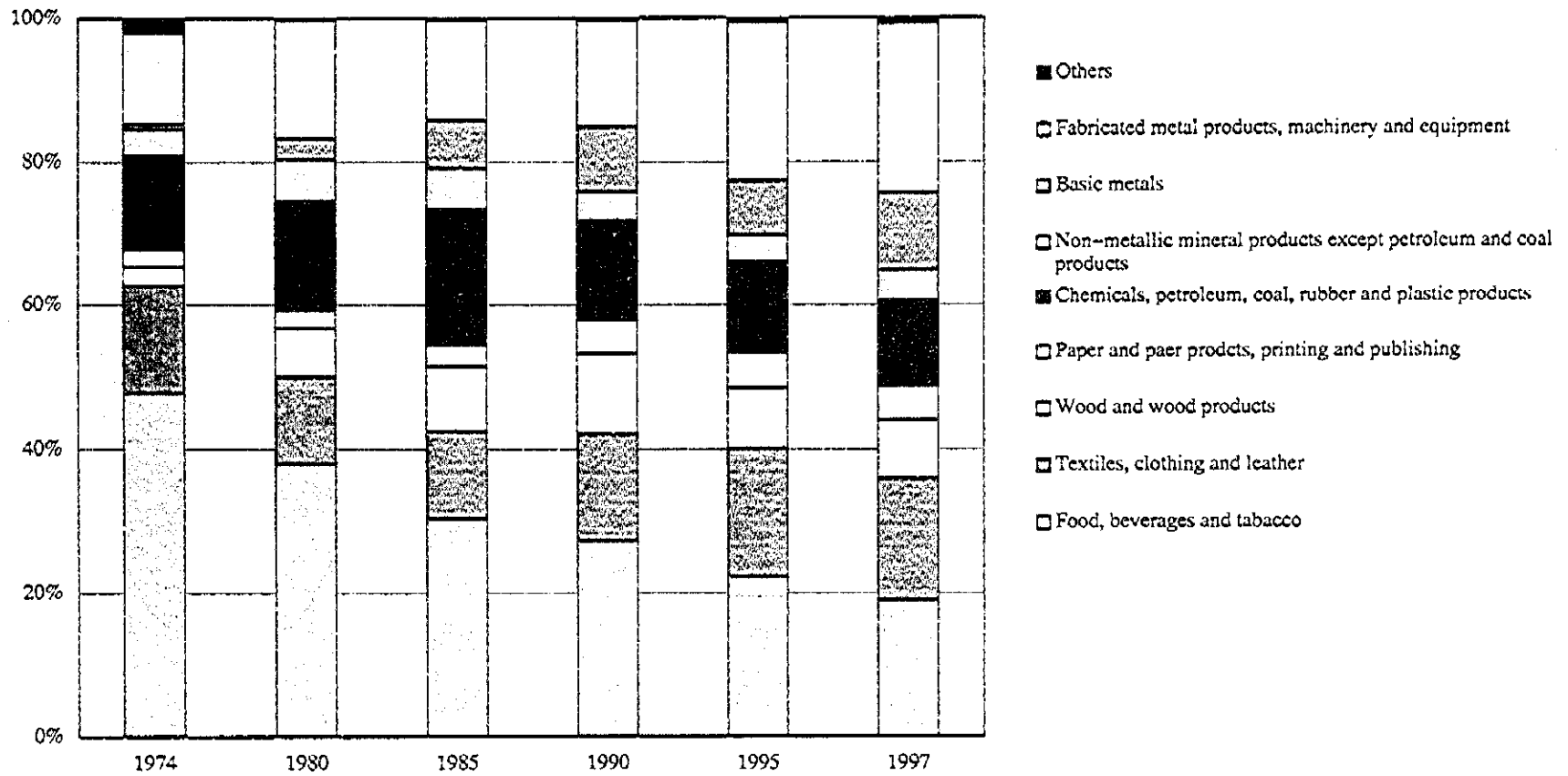
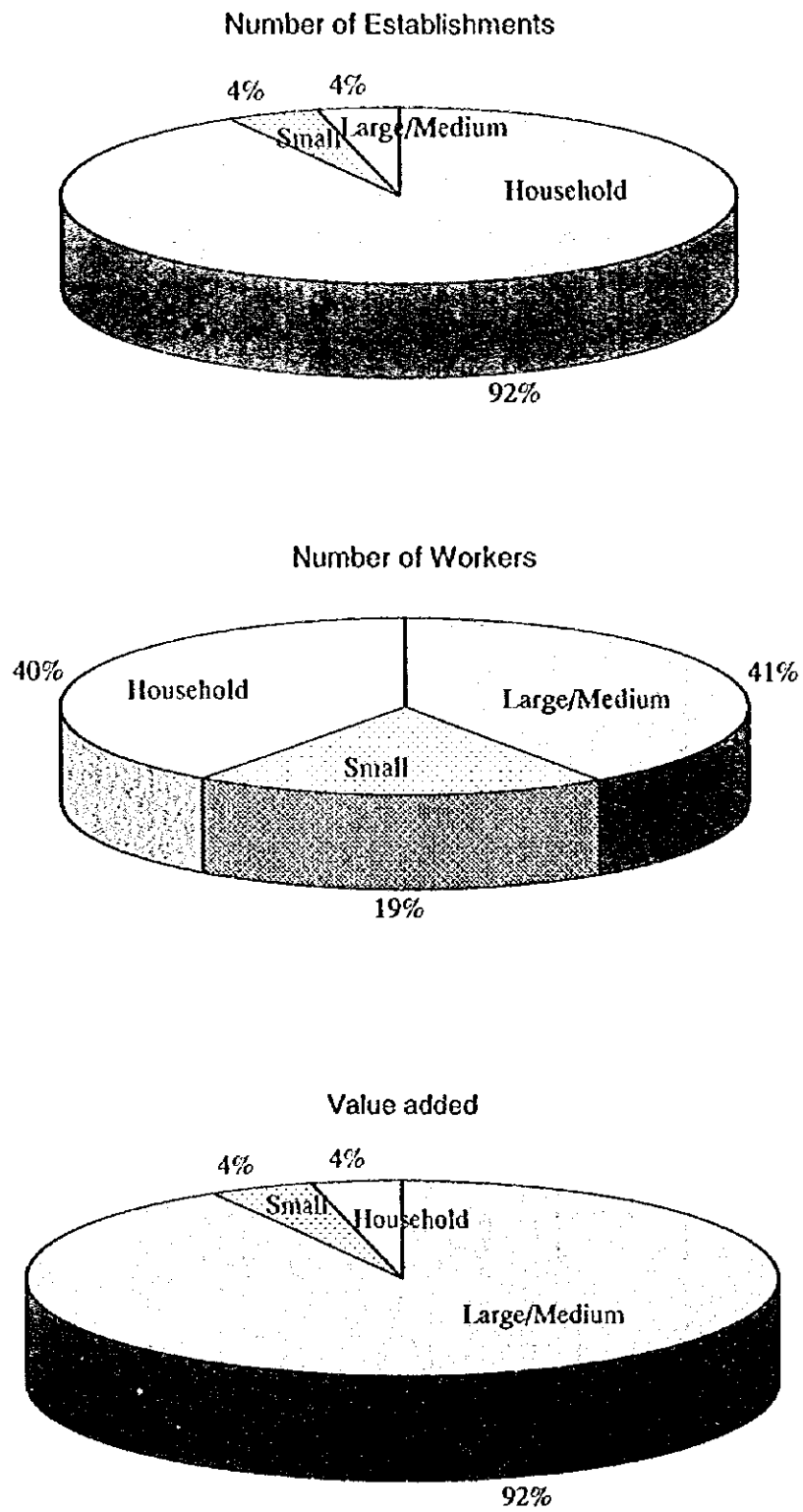
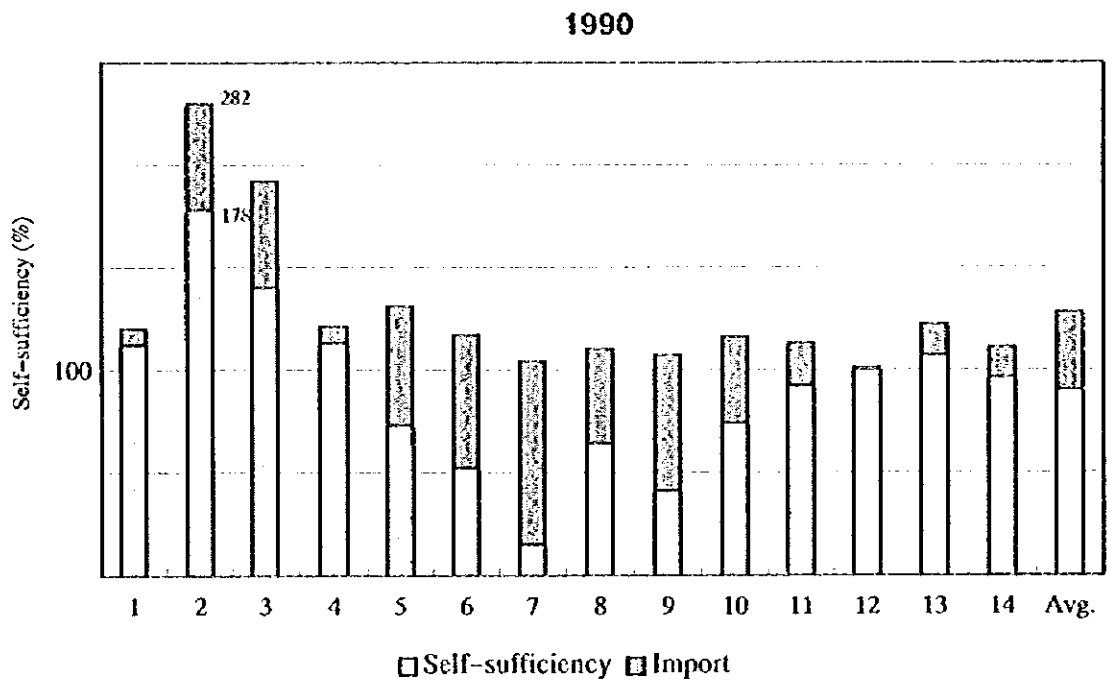
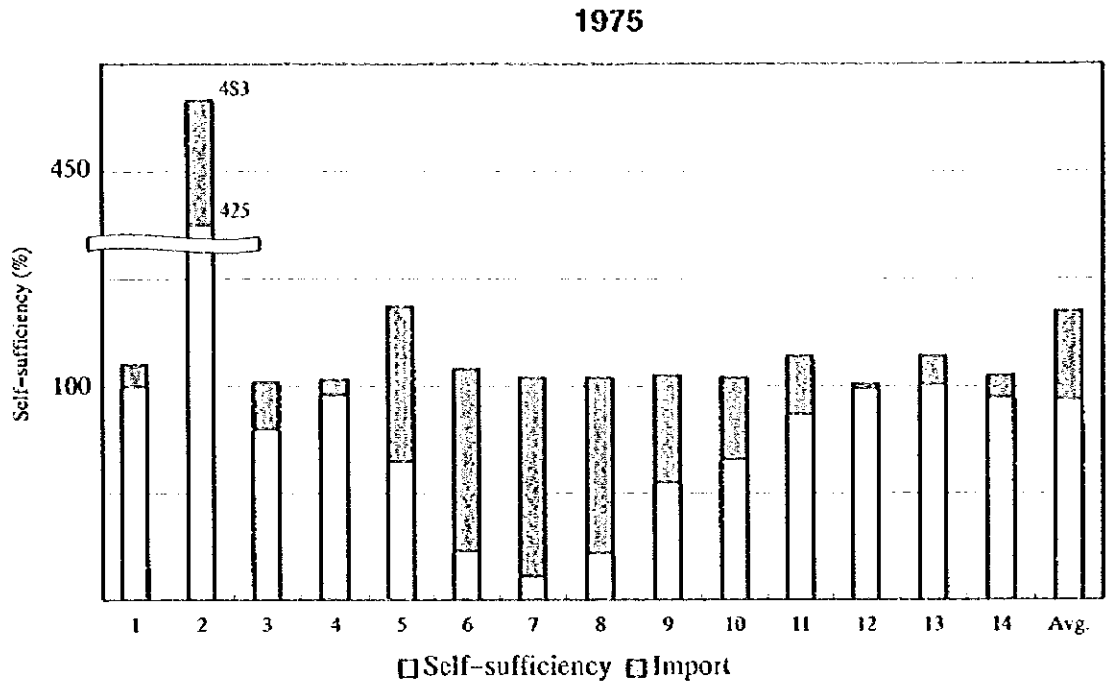


Figure I-3-2 Comparison of Manufacturer by Size



Source: BPS, Statistical Year Book of Indonesia

Figure I-3-3 Self-sufficiency in Indonesia



Classification

1. Agriculture, Forestry and Fisheries 2. Mining 3. Textile 4. Light industry 5. Chemical
 6. Metal 7. General Machinery 8. Electrical Machinery 9. Transportation Machinery
 10. Other Manufacturing 11. Public Utilities 12. Construction 13. Transportation 14. Service

Source: Institute of Developing Economies



4 Historical Background and Current State of Design Promotion in Indonesia

4.1 Historical Background

While the government takes nominal leadership in design promotion activities, in actuality it is the design community and universities that support the activities. There is, however, lack of an active involvement of industry. This fact is clearly shown in the result of questionnaire survey carried out for this study (for detail, see III-8). According to the questionnaire survey, enterprises which have participated in events or programs related to design promotion, accounts only for 10% of the surveyed enterprises. Further, around 70% of enterprises pointed out that reference, imitation, or improvement of similar articles on the market is their way of original design development. This fact shows that most of them do not recognize the real effect of design.

In Indonesia, a need to establish a national design center was first proposed as part of the nationwide design promotion effort by designers who participated in construction of the Indonesian pavilion of the Osaka International Exposition in 1970. However, it took some time to realize it.

In 1977, a major design seminar was held for the first time in the country. It was primarily planned by the Ministry of Trade and UNIDO, with the support of the Ministry of Industry¹, and government organizations, design educational institutes and industries participate.

In 1985, UPDN conducted a survey on the establishment of a design center. With the cooperation of the Institute of Technology Bandung (ITB), it found that 84% of small- and medium-sized enterprises wished to have such facility that can contribute to the improvement of product quality.

Started in 1990, a variety of design promotion activities were conducted with the cooperation of the Japanese government, including official programs, seminars and conferences, workshops, exhibitions, and business shows.

In 1995, the Design Council was established as a place for discussion and coordination on national policy in the design field, and the Design Center was organized to implement policy decided by the council.

¹ In 1995, the Ministry of Trade was merged with the Ministry of Industry to become the Ministry of Industry and Trade.

At present, Indonesia needs to have comprehensive and integrated promotion policy and develop the infrastructure to combine existing programs and activities to a synergetic level.

4.2 Current State and Major Issues of Design Promotion Policies, Systems and Organizational Set-up of the Government Sector

At present, design promotion efforts by the government are led mainly by the Ministry of Cooperatives, Small and Medium Enterprises (MOC&SME)¹ and the Ministry of Industry and Trade (MOIT). However, these two ministries are not directly involved in design promotion policy, but their divisions responsible for SME promotion policy as well as export promotion policy are interested in design promotion for the interest of implementing their policies, and they hold projects sporadically. Thus, there is no department or division that devises and materializes national design development policy. Indonesia Design Center (IDC/PDN) has proposed a design promotion program entitled "Design Center: Toward the New Century," which is considered to be the sole design promotion policy in the country². The core organization to promote design at a national level consists of the Design Council and PDN. The Design Council was established in 1995 under a Decree of the Minister of Cooperatives, Small and Medium Enterprises, for the purpose of discussing and coordinating design promotion policies made by various ministries. As shown in Table I-4.2-1, the Council was represented by the Ministry of Education and Culture, National Development Planning Agency (BAPPENAS) and Agency for Assessment and Application of Technology (BPPT), besides the above two ministries. In reality, however, the council is not very active and no detailed records of discussion has been kept³.

The Design Center (IDC: Pusat Design Nasional (PDN)) was established in 1996 based upon the proposal of the Design Council and under the supervision of MOC&SME⁴. Although the center is a permanent organization, it is positioned as a project within the ministry. While its office has been gradually expanded, PDN is mainly staffed by volunteer members from the design industry and there is no full-time staff. PDN's recent activities are summarized in Table I-4.2-2.

In addition, related activities could be conducted at the local government level, although no effective activity has been reported so far.

Further, all the above government agencies are suffering from operation budget and capable staff constraints. This situation will not change in the near future, and therefore the promotion measures must be planned so as to leverage the vital power of private sector.

¹ The Ministry of Cooperatives and Small Enterprises at the time of the ministerial decree.

² The program has been submitted to the two ministers, waiting for formal approval.

³ Two council meetings have been held since its foundation.

⁴ Under direct supervision of the Councilor to the Minister in charge of business networking.

There are quasi-government organizations involved in design promotion and utilization, most of which deal with the craft industry, such as National Craft Council, Design Development and Training Center, TMII, under the MOIT. All of them are responsible for promotion of the craft industry, but none have been very active recently due to the lack of funds, manpower and a well-defined action policy.

In Indonesia, universities have been playing an important role in design promotion. In fact, ITB has introduced the concept of design to the country and still holds the leadership position in design education. It is actively engaged in public education in addition to academic education and research. There are many schools offering design education, both public and private, from which over 2,000 graduates will be produced in the next few years.

Vocational training is under supervision of Ministry of Labor. However, design education is also provided at SMIK, which is a design-related technical institute under the Ministry of Education and Culture. It provides training on craft and furniture making skills for the support of local enterprises.

Activities of quasi-government organizations and vocational training schools are described in III-1.5. University design education is discussed in I-4.4.

(1) Ministry of Industry and Trade

The organizational chart of the ministry is presented in Figure I-4.2-1. The following departments and agencies are closely associated with design promotion. Their functions and activities are described in I-3.2.

- 1) Small-scale Industry Development Agency (BAPIK)
- 2) Directorate General of Miscellaneous Industries
- 3) Directorate General of Metal, Machinery and Chemical Industries
- 4) National Agency for Export Development (NAFED)
- 5) Agency for Research and Development of Industry and Trade (BPPIP)

In practice, however, few design promotion activities are conducted by any of the above organizations, and none uses design in performing its functions. The current level of participation in design promotion activities, together with future potential, is described for each organization as follows.

BAPIK has been carrying out support programs for SMEs over the past two decades, including training programs for human resource development, support for sales promotion at product exhibitions, and technical guidance by UPT and/or TPI. While these programs have not been highly successful probably because they were broad in scope and small in scale, they constitute the foundation of implementing design-oriented industrial development projects targeting a specific area or industry. BAPIK has also carried out various projects to foster the craft industry through the National Craft Council, such as design competitions. However, all of them were too small to produce significant results and were suspended for the past two years due to the lack of budgetary allocation. National Craft Council has a nationwide organization that can be used for future design promotion activities, although its activity and operation policy needs to be reviewed and modified.

Directorate General of Miscellaneous Industries and Directorate General of Metal, Machinery and Chemical Industries are positioned as policy implementation organizations related to their respective industries. Almost no design-related activity has conducted, while they have been holding exhibitions to support sales of products of their respective industries on a regular basis. There are many areas for improvement, however, including the place of exhibition that is now held only within the building of MOIT.

NAFED is primarily responsible for holding trade shows and sending export promotion missions. In particular, it has been managing a major trade show "Resource Indonesia" since 1985, which is descended from the "Jakarta International Trade Fair" held by the then Ministry of Commerce since 1969. NAFED's trade shows including Resource Indonesia have participation by foreign buyers but have failed to produce significant results as measured by the number of deals closed. In fact, many participants complain after the show about the lack of inquiries. Furthermore, NAFED lacks the ability or resources to provide guidance for local enterprises with high growth potential to improve their competitiveness in the export market.

Finally, BPPIP has 23 research institutes, 9 specialized in various industrial fields and 14 that serve specific regions. Some of them provide technical assistance for individual enterprises. In particular, Institute for Research and Development for Ceramic Industry (BBK) has designers who are responsible for research and technical assistance service related to product design. Nevertheless, the technical consultation system does not seem to function fully as intended, partly because a methodology of research and consultation is not established.

(2) Ministry of Cooperatives, Small and Medium Enterprises

The ministry is responsible for management of overall policies related to cooperatives, which were previously formulated and implemented by different ministries according to their jurisdiction, including the Ministry of Agriculture (agricultural and fishing cooperatives) and the Ministry of Transport (cooperatives related to transport business). Up to mid-1998, it was called the Ministry of Cooperatives and Small Enterprises and changed to the present name, or MOC&SME.

As shown in the organizational chart (Figure I-4.2-2), the ministry consists of an administrative department, a R&D department, an audit department, and three directorates responsible for policy implementation related to cooperatives, SMEs and finance. It maintains 27 prefectural offices (KANWIL) and approximately 300 district offices (KANDEP).

Cooperatives in Indonesia are generally classified into village unit cooperatives (KUD) and urban cooperatives. KUDs are located in rural areas and one KUD is organized for a given specific district. Membership includes farmers, fishermen, craftsmen, and owners of microenterprises and retail stores. KUDs conduct a variety of businesses, including collection and marketing of agricultural products, distribution of daily goods and farming supplies, financial service, and power generation. Urban cooperatives are organized according to a trade or business purpose, and include credit associations, business cooperatives organized by taxi and bus drivers, communication, power generation and distribution.

MOC&SME has agreed with BAPPENAS, MOIT and other organizations to play a central role in design promotion activities in the entire country. In particular, it is responsible for:

- 1) Overall management of design promotion activities (responsibility of the counselor to the minister, in charge of business networking);
- 2) To serve as the secretariat of the Design Council; and
- 3) Establishment and management of the Design Center one of the ministry's projects.

In particular, it has established the Design Center within its training center site, assigns its staff to its operation and management, and hires part-time staff. Most of activities are conducted by the Design Council and PDN. It plans and requests of BAPPENAS an annual budget for design promotion. The budgets allocated in recent years are summarized as follows:

1995/1996	Rp. 500,000,000
1996/1997	Rp. 250,000,000
1997/1998	Rp. 250,000,000
1998/1999	Rp. 150,000,000

There are several SME-support programs which can be used for design promotion purposes, as follows, but none specifically target design.

- 1) Training centers throughout the country, offering training courses for cooperatives and SMEs.
- 2) Business Consultative Clinic for SMEs
- 3) Loan and credit program for cooperatives and SMEs

The above loan program, support for cooperatives, and support functions of prefectural and district offices can be used for design promotion purposes, if they are linked to the fostering of SMEs, as feasible in MOIT's programs.

(3) Design Council and Design Center (IDC/PDN)

The history of the Design Center dates back to February 1995, when a working group to discuss its establishment was organized, under a decree of the Minister for Cooperatives, Small and Medium Enterprises, by design experts and representatives of universities, designers' associations, industries and government authorities. The working group recommended the establishment of the Design Council to discuss and coordinate national design policy; it was inaugurated in September 1995.

There is no detailed record of the council's activity, and it has reportedly been conferred twice since its establishment, but apparently not fulfilling its role of discussing and coordinating design policy. Also, there is no formal mechanism to implement policy agreed within the council.

At present, the government is working to reorganize the council as an organization under a presidential decree to assume broader responsibilities.

In April 1996, the Design Council decided to establish the executive committee at the Design Center, and its chairman organized the Indonesia Design Center (IDC/PDN).

The Design Center has the mission of providing policymakers with information useful to address design-related issues such as: 1) the shortage of design experts, 2) the lack of awareness of design's value and importance by industry, and particularly by SMEs; and 3) the lack of information and awareness of design and other intellectual property rights. It is also positioned as a major body to develop and promote public education programs and

projects to enlighten industry (especially SMEs) and the general public about design and its value to society.

The programs are primarily planned to cover the following seven fields: 1) human resource development; 2) public relations; 3) consulting; 4) research and study; 5) quality control and intellectual property; 6) support for cooperation among design associations; and 7) information service.

While the Design Center has been established as a permanent organization, it is legally defined as a project managed by MOC&SME, not an ad-hoc organization under the ministry. Thus, its budget is allocated by BAPPENAS as part of the ministry's project budget. The center is managed by the executive committee headed by the councilor to the minister of MOC&SME and consisting of representatives of the design community. It has no full-time staff and its day-to-day management is handled by one official of the ministry and several volunteers coming from the design industry.

Despite its defined function, namely to cover broad areas, the Design Center has faced difficulty in developing and implementing its own activities and programs due to the shortages of staff and operating budget. Furthermore, it is not yet recognized well among industry and the general public.

Table I-4.2-2 (previously cited) summarizes major activities conducted by the Design Center.

Table I-4.2-1 Design Council Committee Members

Government	MOC&SME, DG of Small Enterprise Development
	MOIT, DG of Small-Scale Industries and Trade
	NAFED
	BPPT
	Ministry of Education and Culture
	BAPPENAS
Educational Institution	Institute of Technology Bandung
Private/ Association/ Individual	Indonesia Interior Design Association
	Indonesia Graphic Designer Association
	Indonesia Fashion Designer Association
	TIARA Indonesia
	Astra Company International
Individual Designer	

Table I-4.2-2 Activities of PDN

	Design Competitions	Exhibitions	Training & Seminars	Surveys
1995/96	<p>▼ Asia Fashion Design Competition 1995</p> <p><Theme> Raw-material produced by small enterprises/or craft workers</p> <p><Participants> 11 Asian countries</p> <p><Target> Designer and SMEs</p> <p>▼ Product Design Competition</p> <p><Theme> Human and kitchen appliances</p> <p><Output> 5 products (winner)</p>	<p>▼ Product selected from Design Competition</p> <p><Exhibits> Design awarded products Japanese G-mark products</p>	<p>▼ Wooden & rattan furniture</p> <p><Target> Owner and production Manager (40 Participants)</p> <p><Place> Jakarta</p>	<p>▼ Craft Industry survey by ITB</p> <p><Purpose> To prepare JICA Design Promotion Study</p> <p><Out put> Report</p>
1996/97		<p>▼ Exhibition in Taman Mini Indonesia Indah</p> <p><Exhibits> Product selected from Design Competition '95 15 selected product of SMEs</p> <p>▼ Roadshow activity in 10 provinces</p> <p><Purpose> Campaign for Design competition 1997</p> <p><Places> Jawa, Sumatra, Sulawesi Bali, Jambi (10 Provinces)</p>	<p>▼ Leather & Packaging Design training</p> <p><Target> Owner and production Manager (39 participants)</p> <p><Output> Leather bag model & Package Design</p> <p>▼ Seminar on Rattan & wooden furniture</p> <p><Target> ASMINDO members</p> <p><Output> Displayed new design of rattan furniture</p> <p><Designer> Kamal & Nobon</p>	
1997/98	<p>▼ Design Competition '97</p> <p><Theme> Agriculture equipment & cleaning tools</p> <p><Participants> 17 Designers</p>	<p>▼ Exhibition 1997 in Jakarta</p> <p><Exhibits> Winners Design Competition 1997</p> <p>▼ Exhibition 1997 in Jakarta</p> <p><Exhibits> Machine for SME's International exhibition</p>		
1998/99	<p>▼ Good Design Selection '98</p> <p><Target> Home appliances, Packaging and Sports Article</p>		<p>▼ Packaging Design consultation</p> <p><Members> Member/tenant of BCC in MOC&SME (planning)</p>	

Figure I-4.2-1 Organization of MOIT

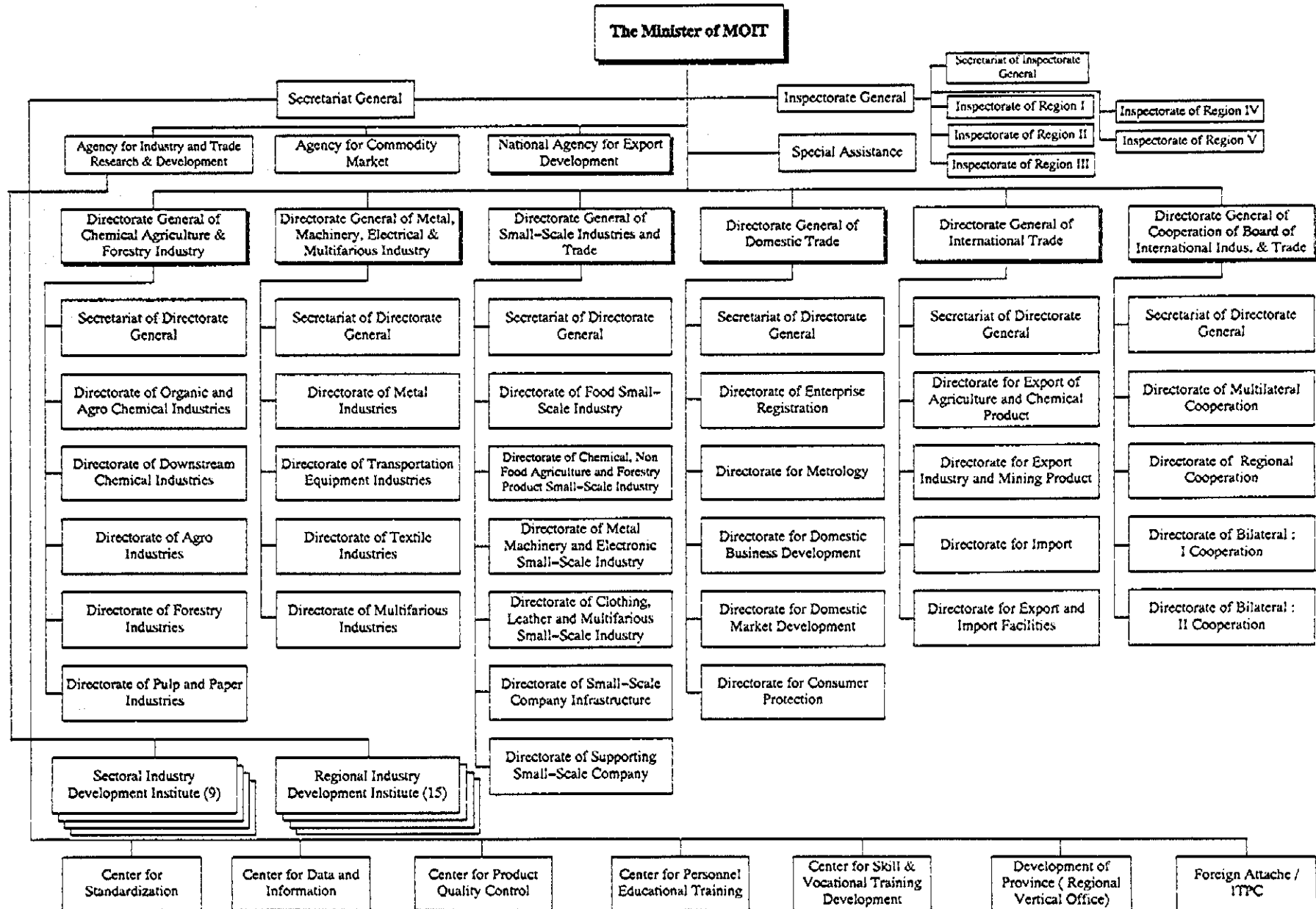
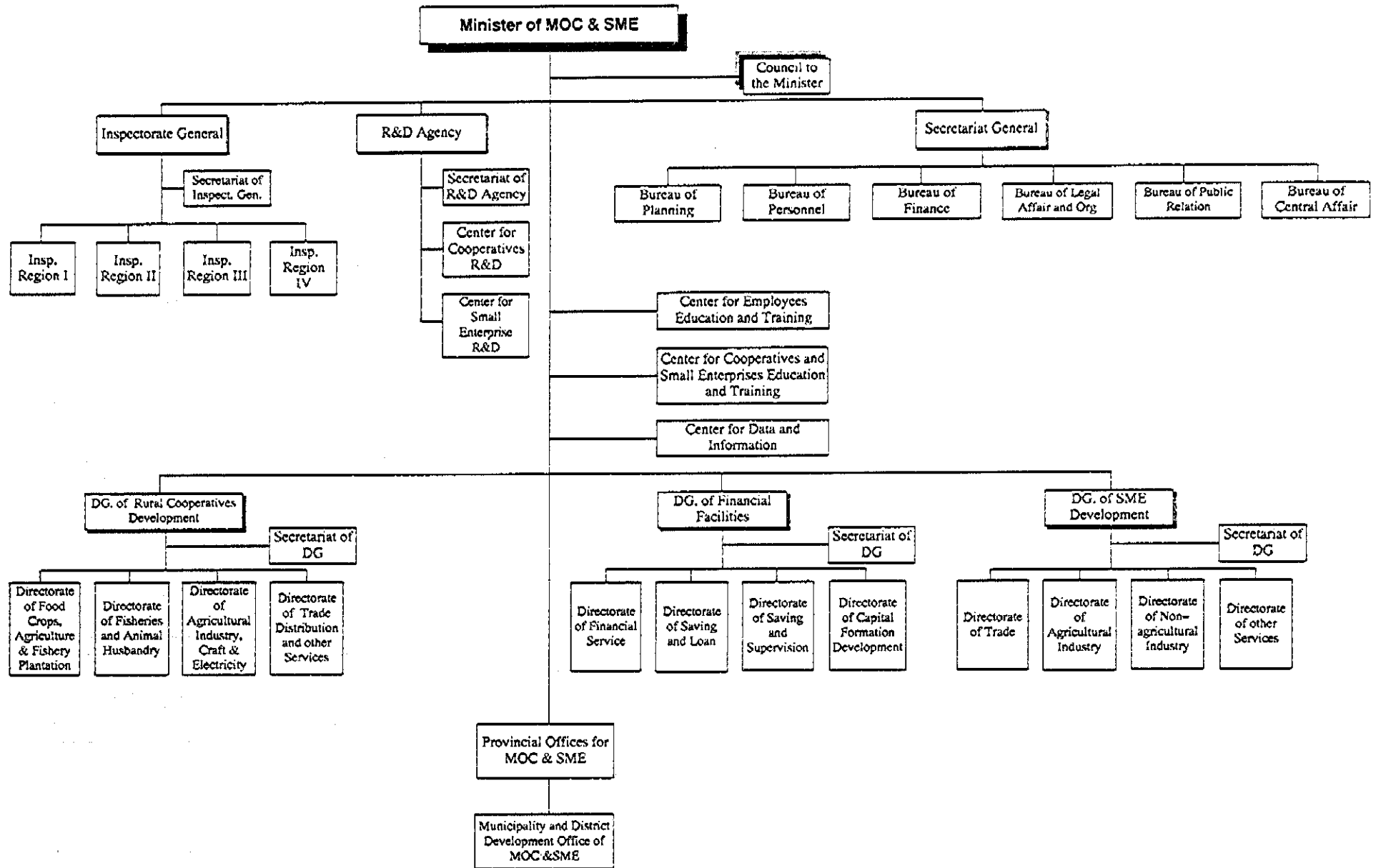


Figure I-4-2-2 Organization of MOC&SME



I-4-12

4.3 Current State and Major Issues of Design Promotion Activities, and Systems of the Private Sector

Generally speaking, design promotion activities by the private sector are still in their infancy and not very active. Major reasons for this are: 1) the lack of recognition by industry and the general public of benefits that may be expected and received from design promotion; 2) a weak financial base of organizations involved in design promotion; and 3) the lack of experience in promotion activities that produce results.

Nevertheless, as seen in the following findings, contribution or participation by industry can be expected once they recognize importance and benefits of design.

Design promotion activities by the private sector are carried out by designers' associations, industrial associations, individual enterprises and groups, and ad-hoc organizations (foundations) to promote the craft and other industries.

Designers' associations are Interior Designers' Association (HDII), Industrial Designers' Association (ADPI) and Graphic Designers' Association (ADGI). They are basically professional organizations whose missions are to promote public recognition, protect the interests of their members and explore the market. At the same time, some of them are members of respective international organizations (federations) and are engaged in international exchange and communication.

Among the three associations, the Interior Designers' Association has the longest history and the largest membership. It has been involved in various activities on a relatively continuous basis, since 1994 when it held design seminars in cooperation with JDF as part of efforts to establish the Design Center. On the other hand, other two associations have relatively small memberships and do not have a strong financial base, so that they are not active in design promotion unless they find domestic or foreign partners.

Nevertheless, activities of PDN are primarily supported by active members of these designers' associations, which are thus considered to be most active participant of the ongoing design promotion efforts.

Further, Jakarta Design Center is a private company specialized in interior design, which was established under the sponsorship of the Interior Designers' Association and conducts public activities related to design promotion besides its commercial activity.

Few activities are conducted by industrial associations, except for some companies or groups that are ahead in incorporating design into their business activities. For instance, National Gobel has conducted a program to provide designers with practical experience in

cooperation with the Industrial Designers' Association. Philips has been commissioning design work to a university in an attempt to help develop design skills of students. Similarly, several other companies offer internship programs for students. Notably, the Lippo Group has established a private university including a design department that has the best educational facilities and equipment in the country.

Promotional activities by commercial establishments (such as department stores and trading companies), as part of their social contribution, are also new to the country. However, large department stores sell craft products by discovering relatively unknown production centers giving them some advice on design. Also, the Craft Export Trade Center in Bali explores and assists crafts workers and products.

Finally there are various organizations that can promote the craft industry, which are supported by charitable persons. Their activities are largely limited due to the lack of resources.

There is no case of design promotion activity led by news media and art museums.

Activities of the designers' associations are described in III-3. Also, I-4.4 discusses design departments of private universities established by corporate groups, and III-1.5 the organizations promoting the craft industry.

4.4 Design Education

4.4.1 General

Higher educational institutions in Indonesia, which have design-related departments or programs, are listed in Table I-4.4-3. Colleges and universities that grant degrees as well as vocational or technical training schools are offering design education.

The school system in Indonesia consists of six-year elementary schools, three-year middle schools, three-year high schools, and four-year colleges and universities, with compulsory education up to middle school. The number of schools and students in each tier of the present school system are summarized in Table I-4.4-1. While the numbers of universities and students have been on the rise since the 1990s, reflecting the growing needs for higher education, the persons who have completed higher education as a percentage of population older than 15 years of age are still few and are estimated to be less than 10% (1.9% as of 1992). In the higher education system, private schools dominate and outnumber public schools, 1,200 (1.7 million students) vs. 57 (800,000; data provided by Trisakti University), whereas the number of students per public school is ten times that per private school.

**Table I-4.4-1 Number of Schools and Students
by Educational Stage**

	Number of Schools ¹⁾	Number of Students ¹⁾	Number of Schools ²⁾	Number of Students ²⁾
Elementary School	171,455	29,598,790	n.a.	25,000,000
Middle School	26,127	6,741,940	n.a.	7,500,000
High School	13,126	4,165,350	n.a.	4,000,000
Universities	1,112	1,794,056	1,257	2,500,000

Notes: 1) as of 1992, 2) as of 1997

University includes polytechnics and academies

Source: 1) Jakarta Japan Society: "Indonesian Handbook 1995/1996"

2) Trisakti University

Higher educational institutions offer degree courses (Sarjana) in various fields and/or non-degree courses that include diploma programs (generally a few years), or are polytechnics and academies¹. Students enrolled in higher educational institutions by specialty are as shown Table I-4.4-2. Although accurate data on students specialized in design fields are unknown due to statistical limitations, students who are specialized in the fields of humanities, arts or languages, which contain design courses, account for 4% of the total, or 77,000.

Table I-4.4-2 Number of Students by Speciality

Specialities	Non-Degree	Degree	Sub-Total	Ratio (%)
Engineering	38,750	201,346	240,096	13.4
Science	531	17,919	18,450	1.0
Agriculture & Fisheries	10,243	109,562	119,805	6.7
Information	3,889	8,625	12,514	0.7
Economics & Business Management	209,173	537,040	746,213	41.6
Law & Politics	7,708	211,016	218,724	12.2
Humanities, Arts & Languages	25,832	51,205	77,037	4.3
Medicine & Public Health	3,326	35,145	38,471	2.1
Education	66,936	255,783	322,719	18.0
Total	366,388	1,427,668	1,794,056	100.0

Source: Ministry of Education and Culture, 1992

4.4.2 Design Education and the Learning Environment²

(1) Facilities and equipment

In Indonesia, there are large differences between public and private institutions and between urban and rural areas in educational facilities and equipment available for college design education. For instance, public universities in rural regions (such as Universitas Sebelas Maret in Solo ISI in Yogyakarta, and Udayana University in Bali) have poor educational infrastructure including physical facilities, equipment and reference materials. They also lack physical space for students to perform creative work and research projects. Many of them do not have adequate laboratories, workshops and/or libraries. Thus, they are far from providing a learning environment to foster

¹ Diploma programs are equivalent to junior colleges in Japan, polytechnics to technical colleges, and academies to vocational and technical training schools.

² The following data and information are based on the field study conducted at eight universities in Table I-4.4-3 (all of them offer degree programs). The design education at SMIK is described in Table III-3-1 (9).

creativity, aesthetic sense and the sense of comfort.

In contrast, many private universities in and near Jakarta (such as Trisakti University and Pelita Harapan University) have abundant financial resources and have facilities and equipment that are equivalent to or better than those in industrialized countries. A primary example is Pelita Harapan University, which was founded by the Lippo Group, one of the leading conglomerates in the country. As it receives a large amount of funds from the parent company, and because its design department is under the School of Technical Engineering and is allowed to share resources with other engineering departments, there are three computer laboratories available (30 terminals each) for graphic design education. Also, advanced CAD/CAM systems made in Germany are used for industrial design education (rarely used at the college level elsewhere).

On the other hand, ITB, a national university situated in Bandung, is highly reputed for its design education and boasts many years of educational experience (it started visual arts education in 1947). Although it has sufficient facilities and equipment to meet the traditional needs and requirements for design education, it must switch to a more advanced educational approach using high-tech, as is evident from the educational equipment and reference materials now in use. In particular, it clearly lags behind in the use of computers that are becoming essential in today's design work; it has only three personal computers (relatively old models).

**Table I-4.4-3 Higher Educational Institutions
Offering Design-related Education**

Name	Location	Public/Private
Universitas Sebelas Maret	Solo	Public
Institute Seni Indonesia (ISI)	Yogyakarta	Public
Udayana University	Bali	Public
Trisakti University	Jakarta	Private
Universitas Tarumanagara	Jakarta	Private
Institut Kesenia Jakarta	Jakarta	Private
Universitas Pelita Harapan	Jakarta	Private
Institut Teknologi Bandung (ITB)	Bandung	Public

(2) Faculties

Compared to facilities and equipment, private schools are not necessarily superior to public schools in terms of the quality of the faculty. For instance, faculty members who hold master's or doctoral degrees as a percentage of the total are 40% at public schools versus 15% at private schools.

All higher educational institutions registering with the Ministry of Education and Culture are accredited by the Ministry, that rates them according to the following criteria and makes the results known to the public:

- 1) Faculty (qualitative and quantitative assessment, and academic standing)
- 2) Facilities (availability of laboratory, library, etc.)
- 3) Organization and finance
- 4) The number of graduates

Of the above evaluation criteria, the academic standing of a faculty is defined under the ministry's decree as follows. Note that performance evaluation of faculty for promotion are made in the three areas of education, research and social contribution.

- 1) Junior lecturer
- 2) Lecturer (with teaching experience of 10-15 years)
- 3) Junior professor
- 4) Professor (with teaching experience of 15-20 years)

Many universities and their departments, including design departments, are striving to recruit faculty members with good background and improve facilities in order to obtain a high level of accreditation. Intensive competition creates some problems, e.g., some faculty members of public universities lend their name to private universities so that they are included in the faculty list to obtain better rating.

In fact, many design instructors also work at design offices to make living, because they are not well paid by universities and other educational institutions. For instance, faculty members of Sebelas Maret University receive the average salary of 750,000 rupiahs per course (over 8 months). The situation clearly discourages universities and their faculty members from introducing new educational methods or develop long-term, challenging programs, and prevents healthy advancement of the education system and its quality. While some universities including ITB conduct joint research projects with the government or corporations, most of them seem to be motivated by their advertisement effect and can be terminated if their business performance declines. In fact, joint research projects have been on the decline since the economic crisis, both in number and amount of funds contributed.

4.4.3 Educational Curriculum

Colleges and universities in Indonesia are required to provide education according to the national standard curriculum specified by the Ministry of Education and Culture (the ministry's decree No. 0312/P/1994). Students are required to complete courses equivalent to 144 – 160 credits (more or less the same as requirements in the U.S.), of which 60% must be subjects designated by the government under the national curriculum, while the remaining 40% can be determined by each university at its discretion (these are called local contents). In practice, however, the local contents must be approved by the Ministry of Education and Culture. Another characteristic peculiar to the university curriculum is the lack of difference between universities because most universities develop their curricula on the basis of those offered by renowned universities such as ITB and ISI. The situation is also seen among private universities despite the fact that they are competing against each other.

The national curriculum covering design-related courses is outlined in Table I-4.4-4.

Public opinion on the current national curriculum is divided into two. One view is that the curriculum should only specify standard names of subjects to be taught, while the contents of each subject can be determined by each university, thereby to ensure diversity of education. There is an opposite view, particularly among private universities that are facing competition owing to the increase in the number of design departments and programs since 1990, demanding reduction or abolishment of the standard curriculum to enable differentiation by offering an original curriculum to attract students.

At present, a small number of universities offer educational programs in the design field that emphasize traditional forms, colors, techniques and other features peculiar to each locality. Rather, most of them focus on internationally acceptable design education. An attempt to integrate traditional elements and modern technology is being made in the field of craft design at Udayana University in Bali, but works made under the project have still to reach a level to make craft design and commercial souvenirs clearly distinguishable.

To enable designers to productively apply their skills for industrial promotion and product development purposes, basic design education is essential. Also required is indigenous design methodology that is founded upon the local environment and conditions, because many design methods taught and practiced in the country were imported from Europe and the U.S. (particularly, the German Bauhaus). To achieve these goals, a curriculum that can bring out originality from Indonesian students must be developed.

**Table I-4.4-4 National Standard Curriculum Provided by
the Ministry of Education and Culture**

Course-Sectoral Subjects			
Subjects	Credits	Subjects	Credits
Religion	2	Indonesian Language	2
Pancasila	2	English	2
Nation Resilience	2	Aesthetics	2
Basics of Natural Science	2	History of Indonesian Visual Art I, II	4
Basics of Social Science	2	History of Culture	4

Visual Comm. Design Programme	
Subjects	Credits
Design Methodology	2
Basic Design I, II	4
Design Appreciation I, II	4
Technical Drawing	2
Drawing	2
Communication Process	2
Management	2
Audio Visual I, II	4
Photography I, II	4
Illustration I, II	4
Graphic Products Methodology	4
Psychology of Perception	2
Alphabetic Appreciation	2
Visual Comm. Design I-V	30
Final Project	6

Product Design Programme	
Subjects	Credits
Design Methodology	2
Seminar	2
Basic Design I, II	4
Design Appreciation I, II	4
Technical Drawing	2
Ergonomics for Design I, II	4
Management I, II	4
Basics of Physics	2
Building Static	2
Material & Process	2
Technical Presentation	2
Workshop Practice	2
Products Design I-V	30
Final Project	6

Interior Design Programme	
Subjects	Credits
Design Methodology	2
Basic Design I, II	4
Design Appreciation I, II	4
Technical Drawing	2
Ergonomics for Design	2
Project Planning Overview	2
Management	2
Furniture Design I-IV	8
Building Physics	2
Building Technique	2
Building Construction	2
Building Static	2
Materials	2
Interior Design I-V	30
Final Project	6

Craft Design Programme	
Subjects	Credits
History of Western Visual Art I, II	4
History of Oriental Visual Art	2
Research Methodology	2
Seminar	2
Basic Design I, II	4
Design Appreciation I, II	4
Visual Arts Appreciation	2
Drawing I, II	4
Ornament I, II	4
Technical Drawing	2
Management	2
Production Technique	2
Visual Arts Critics I, II	4
Materials and Technique of Craft	2
Ceramic Craft I- VII	32
Metal Craft I- VII	
Leather Craft I-VII	
Textile Craft I-VII	
Wooden Craft I-VII	

Source: Ministry of Education and Culture, National Curriculum of Arts Degree, Decree of No.0312/P/1994

4.4.4 Tuition

There is a large difference in tuition for design programs between public and private universities. For instance, ISI collects the annual tuition of Rp 500,000, and Seblas Maret University Rp 400,000. Among private universities, Tarumanagara University is said to require the lowest tuition, Rp 1,650,000, Trisakti University Rp 2 million (plus Rp 10 million as the entrance fee), and Pelita Harapan University Rp 3,240,000. The largest difference between public and private universities exceeds eight times. While most universities offer scholarships, the amounts available have declined recently as both private companies and the government cut back their spending due to the recession.

Facing financial difficulty, some universities now admit more students than their quota, to secure income. Consequently, this has deteriorated the quality of design education (in addition to that in other fields). For example, ISI has 1,300 students in design-related departments (450 in fine arts, 450 in craft and 400 in design), Taramanagara University (private) 910 and Trisakti University 2,300 (compared to 150 instructors – 15 students/instructor). On the other hand, Pelita Harapan University, which is rather an exceptional case of attempting to improve educational quality, rather than expanding of enrollment, has only 400 students against 39 teaching staff (ten students per instructor).

4.4.5 Employment Situation for Design Graduates

In Indonesia, many universities emphasizing design education offer internship programs with cooperation of design firms and other related companies. An increasing number of graduates find their jobs through the programs. Major employers of graduates from design departments by specialty are summarized as follows.

Major Employers of Design Graduates by Specialty (Examples)

- (1) Visual communication design
TV stations, advertisement agencies, newspapers, publishers, congress organizers and shopping malls
- (2) Product design
Interior design offices, consulting firms, furniture manufacturers
- (3) Interior design
Automakers and other manufacturers
- (4) Craft design
Jewelry design offices

It should be noted, however, that a high percentage of design graduates open their own design offices and studios, alone or together with friends. In the case of Japan, most of design graduates get job in companies. For instance, major employers of design graduates from Tama Art University, a design college of the longest history in Japan are summarized as follows³:

- Graphic design department: Advertising agencies, video game developers, publishing companies, design offices
- Product design department: Automakers, electronics manufacturers, other consumer goods makers
- Textile design department: Fashion and textile companies, interior fabrics manufacturers, apparel manufacturers, fiber and yarn manufacturers, and distributors and wholesalers
- Environmental design department (interior design, architectural design, landscape design): Architect offices, interior design offices, housing companies

As there is still sizable demand for design in the country, many of them can start their own career. Nevertheless, designers may face less favorable market conditions as private universities that were founded 3-4 years ago will send out a large number of graduates next year-around 600 each.

As graduate programs in the design field are offered by a handful of institutions including ITB and ISI (affiliated with Gadjah Mada University, Yogyakarta), and it is very costly to study in the U.S. or Europe, there are a relatively small number of design graduates with master's or doctoral degrees. For instance, at Trisakti University, only 4 out of 150 faculty members hold a doctoral degree, 3 out of 93 at ISI, and 2 out of 80 at Tarumanagara University (private).

³ Home page, Tama Art University, Japan