1.3 Industrial Design

Industrial design is defined as the design of industrial products, which are produced in bulk in factories using mechanized production processes. Textile products and craft products are excluded from this category. Furniture is treated under interior design (III-1.2) in this study.

1.3.1 Design activities and design promotion

Design activities in the industrial design field are still limited in terms of the fields of application, and the achievements are still small.

The activities in this design category may be classified into (1) that of in-house designers of foreign affiliated companies, who have an educational background in industrial design, (2) that of employees in the marketing section or product planning section, who do not have an educational background in design, and (3) that of professional designers who make their living as a professional individual or as an employee of a design office. Some designers of the last category include those working concurrently in universities as lecturers.

Local design work by foreign designers are not common in this category of the design, except that some foreigners have been involved in the design work on furniture before the economic crisis[1]. Indonesian industrial designers who are doing design work abroad are also not known.

The Industrial Design Department of ITB first sent its graduates out into society in the 1970s. After that, Trisakti University and ISI set up industrial design departments in 1980s, followed by five other universities in the 1990s. It is estimated that there are about 250 graduates from the industrial design departments at present, including those who graduated from universities abroad.

The industrial design education was initiated by those who had had a design education in US, Germany, or Austria. Industrial design at that time was mostly based on crafts and focused on furniture design. Thus, it was regarded as a part of interior design. The major industries in Indonesia at that time included petroleum industry and agro-based industries.

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[1] One of the local manufacturers does design work at its design center in Taiwan and produces in Indonesia. This company sold products in the domestic market, but now exports almost 100% of its product after the economic crisis.

In the 1980s, industrial design in Indonesia has made a transition to technology oriented design from craft based design, with development of industry on the basis of modern technology, such as introduction of automotive industries, and establishment of BPPT.

In the 1990s, this transition was further intensified. However, with active involvement of foreign designers in design particularly of offices and hotel interiors, and with a conspicuous increase in construction, Indonesian culture and traditions have increasingly attracted the interest of the foreign designers. Design education in Indonesia has also been affected by these trends, and has changed its direction to become based more on indigenous culture and tradition.

ADPI (Indonesian Industrial Designers' Association) has around 70 members; of which 30% are in-house designers of foreign affiliated companies in the automotive and motorcycle industry. Other in-house designers include those of manufacturers of electrical home appliances and audio equipment, accounting for 10% of the members, while another 10% work at other manufacturers like plastic daily products and furniture makers. Another 10% of members are engaged in design of furniture at the offices of architects and interior design offices, while 20% are freelance designers or employee of design offices, and 20% teach at educational instituting or universities.

The importance of industrial design has not yet been fully recognized by industry. Design promotion activities in this field are not active. The following is the promotion activities seen in the industrial design field.
1) Design competition held by IDC (PDN)

Most of the designs have been for daily products to be made manually. Very few product designs assume a mechanical process of production.
2) Joint design work of manufacturers and designers or design students, sponsored by enterprises

There were some cases when gave opportunities were given to designers and design students to have the experience of industrial design work, sponsored by manufacturers, together with ADPI or universities. These opportunities were highly appreciated among the designers, but have been discontinued.

1.3.2 Design activities of electrical home appliance manufacturers

The manufacturers of electrical home appliances may be categorized into 3 types in view of their way of production. One is foreign affiliated companies, another is local

enterprises of large or medium scale, and the third is local small and micro enterprises.

The Indonesian market of electrical home appliances consists of (1) that of high-grade and expensive goods of foreign brands, (2) that of mid-grade good with foreign brands, (3) that of popular grades with cheaper prices of local brands, and (4) that of low-priced products targeting low-income urban and rural residents.

The value of the rupiah has declined significantly since last year, resulting in severe negative impact on the electrical home appliance industry. The costs of parts and materials, which are mostly imported, has increased conspicuously. Local demand, meanwhile, has decreased due to increase in unemployment, together with increase in the sales prices. As a result, many companies which had relied on the domestic market for sales have been forced to stop operation or close the company. There are no statistics showing the fact definitely, but the Study Team has received the impression through the company visits that most small and micro enterprises, and 20 to 30% of medium scale enterprises are closed or were forced to stop operation. The companies still operating are mostly those companies which had exported more than 20 to 30% of their products. The export ratio of their total sales has increased to more than 50%, or almost 100% in many cases.

According to the information obtained from many companies, local demand has decreased by around 70%. The demand from low-income urban residents and rural area seems to have declined by as much as 80%.

All the foreign affiliated companies are manufacturing their products for domestic and export markets using their own brands. They may be classified into two groups in terms of their design activities. One is those which manufacture their products with design provided by their parent company without modification at all, while another is those which modify the design by themselves, though the modification is still minimal, to meet the local needs. Most of the foreign affiliated companies fall in the former category.

The number of companies in the latter category is thought to be not more than two. They have in-house designers. However, totally new development of product models is not seen yet. Nevertheless, they intend full scale deployment of designers, understanding the design process, providing comprehensive design training by their parent company, and involving designers in market research.

In the case of local large or medium size enterprises, companies which have in-house designers are still exceptional – two or three at most. Further, all the in-house designers do not necessarily have an educational background in industrial design.

Most of these local enterprises select products to manufacture among the products

shown in such magazines as Home Appliances, which is a well-known magazine published in the US, showing a variety of Asian products. Then they procure molds and dies and component parts from Taiwan or Hong Kong for injection and assembling in Indonesia. Some of the large or medium sized companies modify models partly by themselves. Design work done by other manufacturers is limited to changes of product color, and POP, etc. alone, and not on product design.

The market section usually takes the initiative in selecting products from the magazines and catalogs. In the companies which modify their models by themselves, the owner or manager takes the initiative in most cases, though they have their in-house designers. The designers belong to the R&D section or planning section in most cases, and few designers have been educated in industrial design.

Local manufacturers, both large and medium in size, target lower-end markets, keeping out of the high-end market where foreign brand products are dominant. They have to sell their products at low prices and must make strong and continuous efforts at cost reduction.

Price elasticity of demand is strong in this country particularly among the low-income consumers, who often neglect product design and quality. As a typical example, there is an understanding on the parts of manufacturers that their products should appear to be cheap, and if the design improves their appearance so as to look valuable, consumers will be reluctant to buy, as they will expect a higher price. Further, manufacturers do not care about the durability of their products. If their products are good for one year, it is sufficient. Consumers will buy another product when it becomes unusable after one year. Both manufacturers and consumers prefer cheaper initial costs rather than quality.

Assuming the persistence of such features of the domestic market, efforts to improve product value will continue to face difficulty, particularly for those companies targeting low-end markets, until ownership of electrical home appliances becomes common among them, and their quality consciousness increases.

Most companies do not care much about the unfairness of copying a design, which seems to be one of the factors behind the lack of understanding of the importance of the design section in their companies. Many products carry Japanese brand names[2] to give consumers the image of Japanese products. Japanese products have a great image among consumers here.

Awareness of the importance of design quality is further limited among the manufacturers. There are many points yet to be improved, including those relating to

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[2] For example, Miyako, Sapporo, Meiki, Uchida.

finishing, such as the existence of a burr, shrinkage cavity, inappropriate mesh, etc. These are caused mainly by insufficient precision of the mold, or an unmatched mold with injection machine. Inappropriate selection of material is another cause for such a problem. There were some cases of shrinkage cavity and distortion of the product caused by use of polypropylene for an electric fan parts. These are problems attributable to the attitude of managements who neglect the non-price aspects of products (including design, quality and function, etc.), in favor of only heeding the low-cost requirement, and will be the serious factor impeding exports.

Major component parts are mostly imported, including molds, electric motors, switches, etc., that are assemble into finished products. In cases much as locally manufactured components like electric motors and fan blades, there are some problems in the basic engineering design of the products. Some blades are off-center and the electric fan using such a blade moves about when it is switched on, because of vibration caused by the blade. They try to reduce the vibration by putting a rubber cushion in the fan stand, which, however, does not solve the basic problem. Further, there are engineering design problems also regarding the balance between electric motor and blade used, since these components are procured separately without integrated technical consideration. Another serious problem found in the home appliances manufactured in Indonesia is a difference in rating between the indication and that of the motor actually used. Lack of allowance of cable capacity for electric current compared with the indicated rating is also a problem relating to electric safety. Regulation is urgently needed to solve these safety problems.

In the case of small and micro size enterprises, details of their situation are not available, since most of them were forced to stop operation or close their offices. However, on the basis of information regarding the products they used to manufacture and survey results of the very few companies still in operation, these enterprises may be classified into two types; companies manufacturing small wiring/lightning devices and lighting equipment, etc., and those manufacturing component/spare parts with plastics injection or metal processing.

1.3.3   Potentiality for Industrial vitalization by design promotion

Promotion of the design process in the area of industrial design helps manufacturers to approach product development from a consumer-oriented perspective by becoming sensitive to market needs and learning the ways to identify needs and wants of consumers and to attract their attention by offering the right product.

In Indonesia, such market-oriented product development is practiced to a limited extent, mainly by foreign-affiliated companies and large enterprises (most of them have or did have foreign partners) who have been doing it under the leadership of parent companies or do not have sufficient knowledge of the domestic markets.

On the other hand, most SMEs do not have a formal product development process that involves planning and decision-making on the basis of market information. Instead, they develop products by relying on a limited amount of information and limited experience. For instance, smaller household appliance manufacturers often use mail-order catalogs as an important source of information on hot products. However, they do not practice any systematic analysis of catalog information to identify the market needs and their changes. Neither do they modify or adjust product models obtained from catalogs to meet the needs of the market they target. Generally, SMEs have limited access to information on consumer needs, available raw materials, technology and competitors. The design process can be used to make the most of available information and create incentives for small manufacturers to analyze the market needs, production technology and competition.

So long as they focus on low-end markets, price may become the only criterion used by factor for consumers. The design process will help analyze the consumer needs in breadth and depth, enabling them to find new market opportunities that are not fully exploited by foreign brands. Needless to say, such opportunities lead to export opportunities.

At the same time, as manufacturers have experience in market analysis, they will change their perception on desirable levels of design, quality and performance, creating another opportunity to reinforce the industrial base through the development of a productive, vertical linkage between SMEs and large manufacturers.

To move toward the above direction, design promotion in the field of industrial design should be carried out on the following two fronts.

First of all, SMEs should be a primary target for design promotion efforts. As many SME owners do not recognize the effects of design at present, they may not be highly responsive to introduction of the design process. At the initial stage, therefore, public campaigns to advertise the expected benefits should be carried out concurrently with assistance and guidance in the actual implementation process.

Another focal point is related to infrastructure development for the industry, i.e., efforts to raise design levels in the field of industrial design. This should cover all industries including foreign-affiliated manufacturers and large enterprises. By encouraging and promoting high quality design, industries and consumers will be encouraged to improve their ability to evaluate and appreciate design. This way, design

consciousness can be raised for all Indonesian products and introduction of the design process is accelerated. At the same time, the efforts will urge foreign companies who rely on product development capabilities of parent companies to do their own work and procure local materials and parts.

The most serious impediment to raising the level of industrial design is the limited opportunity for industrial designers to gain experience. As discussed above, the home appliances industry can be categorized by two types, one is the large foreign-affiliated manufacturer (ex. Japanese J/V) and another is the local large and medium size manufacturers (there being few small micro sized manufacturers). Foreign affiliated companies import almost all production materials and have very limited linkage with local companies especially in the field of design. Local companies purchase molds and parts from Taiwan and Hong Kong and assemble them, they have first priority over cost rather than design.

Judging from our experience in the industrial design workshop, the potential ability of university graduates and out-house designers to create concepts and make sketch seems promising. However, their designs are not industrial design. Their designs are mostly made in view of use of the goods, but not in view of production, as they lack technological knowledge of manufacturing process.

Actually, most manufacturers, whether foreign affiliated companies, local large/medium, or small/micro enterprises, have not provided the opportunities for industrial design. This situation is unfortunate not only for the industrial designers, but also for the industry. If the industry continues to rely on designs made abroad, neglecting to nurture local designers, they will face difficulty in the future when they try to find capable local designers.

In the educational field of industrial design, the tendency is to develop designs harmonizing those developed on the basis of Indonesian culture and tradition, and that of technology oriented. Development of such a movement in the actual design work, instead of relying much on the name value of a Japanese brand will be indispensable.

Nevertheless, since the opportunity for industrial design works available here seems very limited under the prevailing conditions of industrial development, industrial designers should also seek for chances by themselves, trying design works on daily necessities and small tools, instead of insisting on design of hi-tech products, and show excellent design work to the industry.

1.4 Package Design

The term "Package Design" used here is not limited to graphics on packages but includes the comprehensive process of designing function, shape, color and tone that meet characteristic requirements of packaging materials, as well as technical and technological requirements for printing and packaging. It is, in this respect, used as independent designing process aimed for package in the area of "Product Design".

Package design as an area is very diverse and complex in structure. This is because the type of package itself is dominated by the nature of product concerned. Also, the great variety of packaging materials available greatly expand the potential of package design. Therefore, in order to conduct an efficient and effective study, the major focus is primarily put on food products as objectives of packaging, and flexible plastic as material[1].

1.4.1 Design activity and design promotion

(I) General

The concept of Package Design is not yet well developed in Indonesia. It is still in an early developmental stage and has not gained established status as a distinctive design area. Rather, it is often viewed as part of graphic design or a medium (wrapping or container) for product marketing and distribution, that plays a minor role in the product development process. In most cases, manufacturers including top management in small- and medium-size companies see packages merely as the means to wrap up or cover products, or as an eye-catcher for the product at the time of display.

This obscure position of package design is clearly reflected in the absence of any trade association related to package design and designers' organization. In fact, package designers are not even recognized as professional category. Package design is mostly treated as part of the graphic design process and work. Graphic design itself has a relatively short history in the country and began to gain public recognition as an important area of design in the 1970s, and it has not matured enough to generate new moves to promote recognition of package design as a new category.

Graphic design was unable to gain acceptance as a major area of design in the 1960s, during which it occupied a less exalted position than other activities such as advertisement and printing. In the 1970s, as Indonesia started to pursue an open door

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[1] Demand for flexible, plastic packaging materials has been on the rapid rise in Indonesia due to the recent recession that make industries to look for cheaper materials. In particular, these materials are playing an increasingly important role in the food product market to replace carton paper packages.

policy in various areas including trade and investment, the country attracted an increasing number of multinationals, including Toyota and other major Japanese corporations, which were accompanied by major ad agencies, such as Lintas, Ogilvy and Dentsu. Gradually, the interdisciplinary function of these agencies, between marketing and design, came to be accepted among people working as graphic designers whose activities were limited within the area of fine arts rather than design; many of them were primarily illustrators, painters and decorators. This became the trigger for recognition of the importance of graphic design. In the process, graphics came to be better appreciated by the public as an important communication media, and this was accompanied by recognition of graphic design and designers.

While graphic design was still obscure in the business community, it attracted the attention of educators relatively early, although it was treated as a variant of fine arts. Nevertheless, it was not taught as an independent discipline until 1972, when Bandung Institute of Technology (ITB[2]: Institut Teknologi Bandung) and ASRI (Akademi Seni Rupa Indonesia; later renamed ISI[3] (Institut Seni Indonesia)) which launched a forward-looking educational program in the field. In fact, most senior graphic designers active in the country graduated from either of the two institutions. Thus, these institutions built the foundations for the graphic design industry in the country[4].

Although there is no accurate account of the graphic designer population in the country due to the lack of related statistical data, as much as 1,500 designers are estimated to be at work, mainly in major metropolitan areas (e.g., Jakarta, Bandung, Yogyakarta, Surabaya, Denpasar, Medan). In addition, 150 to 200 students a year graduate from higher education institutions in the design fields, and a number in gradually increasing year after year. In 1998, an estimated 500 students enrolled in graphic design schools. Large portions of the graduates from these schools work as illustrators of media companies including magazine and newspaper publishers, and many go into public relations, advertising and visual media. Some chose to become artists, while no one has become a designer specialized in package design.

At present, package design is carried out by any of the following four parties: (1) design departments of manufacturers (in-house designers); (2) design or computer

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[2] ITB separated graphic design, previously part of Fine Art Department, as an independent department to distinguish graphic arts and design.

[3] ISI was an educational institution with an emphasis on visual arts, established in the 1980s by consolidating smaller institutions teaching music and dance, traditional music and fine arts.

[4] Graduates during the period contributed greatly to the startup of the graphic design industry in the country. For instance, Mr. Cahyono, a renown designer, received art education at ASRI, became an art director in the advertisement industry, and successfully made graphic design and its value known to the public.

processing departments of printing companies or packaging materials suppliers[5]; (3) design houses with strength in graphics; and (4) advertising agencies.

As a wide variety of departments and functions are involved in package design, the design development process has a complex structure. Nevertheless, manufacturers of products for which packages are designed have the largest influence over the process by taking the initiative in determining design specifications and other requirements.

Large, and some medium-size, manufacturers which have their own design departments make package designs all by themselves and convey them to printing companies (converters) in the form of printing instructions. Converters are involved in the design development process only when specified designs cannot be printed due to peculiar characteristics of packaging materials or technical constraints; they then may propose design refinements to make the original designs suitable for printing. On the other hand, design houses and advertising agencies may participate in the design development process that takes place within manufacturers. This is divided into two types; a direct contract between the design house and the manufacturer, and a contract between the manufacturer and the advertising agency which subcontracts design work to the design house. In the former case, designs are often developed as a joint project between the design house and the manufacturer's design department, so that the design house often plays an important role. In the latter case, however, the advertising agency provides design service as part of sales promotion for the manufacturer and often uses the design house just to process graphics centered specifications. Thus, the manufacturer's design department is not directly involved in the design development process, while the advertising agency plays a relatively large role in selection of final designs.

Most small- and medium-size manufacturers do not have their own design departments. Design development is mostly handled by owners or related departments such as marketing and manufacturing. These companies generally lack the ability to develop detailed design specifications. Further, they cannot afford to outsource design work to design houses or advertising agencies. Instead, they use converters who, based on concepts (general images) given by customers, create package designs. Here, converters play a major role in the design developing process. While some of larger converters have its own design departments, a majority of them subcontract design services to design houses or freelance designers upon the customer's request.

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[5] Suppliers specialized in supply of packaging materials are often not directly related to design activities. However, here, printing companies and packaging materials suppliers are dealt in same category as both parties are members to one trade association, IPF: Indonesian Packaging Federation (discussed below).

Conceptual Diagram of the Package Design Development Process
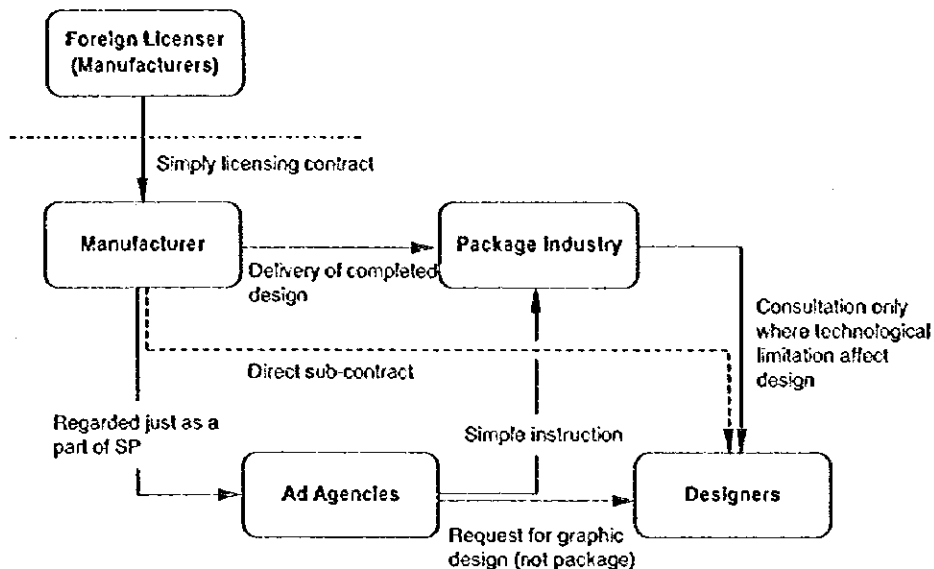
(2) Promotion activities by the Graphic Designers Association

In the design field, the organization most closely related to package design is the Indonesia Graphic Designers Association (Assciasi Desainer Grafis Indonesia: ADGI). It was founded in 1981 under the name of IPGI (Ikatan Perancan Grafis Indonesia), which was later changed to the present in 1993. ADGI's primary purpose is to improve designers' skills and promote public recognition of graphic design. The association consists of professional members (approximately 50) and associate members (120). ADGI is under the jurisdiction of the Ministry of Information.

Needless to say, ADGI's promotion activities emphasize areas related to graphic design and thus take up package design as one category of graphic demand.

Under the auspices of the Ministry of Information, ADGI held annual exhibitions from 1981 to the late 1980s as part of its efforts to promote and advertise graphic design. These exhibitions primarily displayed diverse graphic designs including stamps, certificates and testimonials, and package designs were also presented as a branch of graphic design. They were co-sponsored by newspapers, and printing and publishing industries. The first exhibition was held in Taman Miltra Budaya and later ones elsewhere including Yogyakarta and Bandung. At present, no periodical exhibition or seminar is held, except for occasional events that are held when sponsors are found.

As for international activities, ADGI held joint workshops, exhibitions and competitions with JAGDA in Japan, under the support of JDF, in 1992 and seminars (in

Fukuoka, Japan) by inviting speakers from Pentagram, New York. No periodical activities are held.

(3) Promotion activities by the Indonesian Packaging Federation

Indonesian Packaging Federation (IPF) is an non-profit organization representing the packaging industry in Indonesia, consisting of the following eight trade associations organized by packaging materials and related converters such as plastics, glass and corrugated cardboard, and the Indonesian Packaging Institute (IPI), an R&D and human resources development arm of the industry. IPF is a member of Asian Packaging Federation (APF) that is organized by packaging industries in Asia (established in 1967). Its mission is to promote cooperation among related industries in packaging-related fields, including technology, education, design and standardization.

1) Association of Indonesian Plastics Industries
2) Association of Indonesia Glass Manufacturers
3) Association of Indonesian Corrugated/Cardboard Packaging Industries
4) Association of Indonesian Flexible Packaging Industries
5) Association of Indonesian Can Packaging Industries
6) Association of Indonesian Woven Polyolefine Industries
7) Association of Indonesian Jute Bag Manufacturers
8) Association of Indonesian Processing and Packaging Machinery Manufacturers
9) Indonesian Packaging Institute (IPI)

As IPF is basically an organization of packaging materials manufacturers and converters. Its activities emphasize technical support and education related to package printing techniques, and dissemination of information on packaging machinery and materials. Although it is not primarily concerned with package design, IPF has been participating in an international competition on package design since 1992, called "Asian Star Award Packaging Design[6] " which is annually held under the co-sponsorship of 16 APF member organizations in 14 countries.

Within the country, IPF hosts annual package design competitions which are under the auspices of the Ministry of Industry and Trade and in collaboration with BAPPENAS and educational institutions. The 1998 competition, for which an official invitation was issued in September, was participated by 25 individuals and companies and was held in Taman Mini Indah on October 20. Entries were judged by a jury consisting of

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[6]   See http://asian-packaging.com/history.html.

representatives from Ministry of Industry and Trade, BAPPENAS, ITB, IPF and IPI. Participants were asked to propose package designs for traditional food in Indonesia for export purposes. Although this is an interesting event, it must improve in many areas such as publicity and evaluation criteria and it has yet to become a major event involving consumers and industries.

1.4.2 Design activities in the packaging industry

(1) Food manufacturers

In Indonesia, the food industry is the largest package consumer. According to the packaging industry's estimates[7], approximately 60% of total package production goes to the food industry. By the type of packaging material, flexible plastic package that is the subject of this study is estimated to represent one-fourth of the total on average, with some variations among different products to be packaged.

Generally, package design in the food industry is handled in either of the following two ways; it is integrated in the in-house design management process or is outsourced without major involvement of internal resources. The former is mainly seen in larger, general food manufacturers and foreign companies which have their own design departments, while the outsourcing is usually exercised by relatively small manufacturers which do not have internal design resources.

In both cases, however, the focal point of package design (particularly those using flexible plastic packaging materials) is placed on graphics, and few designs incorporate other elements required by products to be packaged, such as functions and quality of packaging materials[8]. This seems to reflect perceptions of general consumers of packages. Various surveys revealed that general consumers tended to buy products with lower prices and were not concerned with poor package quality, even if it adversely affected product quality (e.g., poor sealing that allows moisture or outside air to enter the package and creates a risk of spoilage). Furthermore, they are usually reluctant to buy products in seemingly high-grade package because they suspect that the package cost takes up a relatively large part of sales price[9]. In response, manufacturers try to minimize package costs and focus on efforts to make products visible when displayed at storefront, resulting in high priority being given to graphic design.

The result of the present survey conducted for flexible plastic packaging materials

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[7]   Estimated by an IPI member in IPF.

[8]   In many cases, foreign JV companies often receive the complete design from mother companies and have no freedom to change it.

[9]   A survey on food packaging in the market, conducted as a part of the workshop under this study, showed the similar trends.

indicates that the packaging cost in the food industry accounts for 7-10% of retail price. On the other hand, data provided by the local chamber of commerce and industry estimates that the total packaging cost, including package design, accounts for 20-35% of retail price. These percentages make a sharp contrast to those for medical products where flexible plastic packaging materials are extensively used, which are very high (70-75%). The lower percentage of the packaging cost seems to reflect the level of expectation held by consumers toward food packages in terms of function and quality, in addition to the difference in functional and quality requirements for the two different product categories that reflect their characteristics.

Percentage Share of Packaging Cost in Retail Price of Various Products

Source : Indonesian Chamber of Commerce and Industry
* : Packaging cost includes cost for "Design".
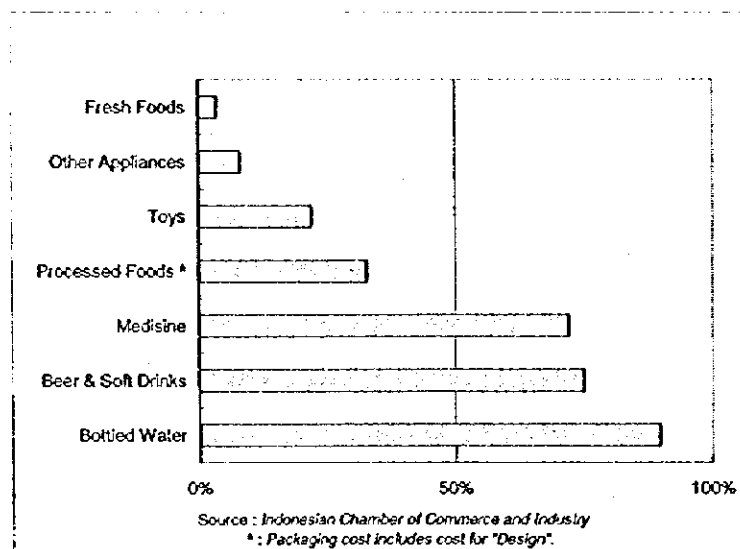
1) Large-size Food Manufacturers

Large-size, and some medium-size, food manufacturers and multinational companies usually have their own design departments that are primarily responsible for management of the package design process. Design activities at a general food manufacturer, described below, can be considered as typical of the manufacturers of similar size.

General food manufacturers consist of diverse categories according to product lines they offer, such as instant noodles, flour, snack food, baby food, seasonings and dairy products. Usually they have design departments that handle design works for all product lines. The manufacturer surveyed under this study employs over 20,000 workers, and maintains a small design team with 10 personnel consisting of a designer,

eight computer operators and a studio manager. Design management is concentrated in this team while advertising agencies and design houses outside are hired as required.

In this case, design work starts when one business department sends a design request to the design unit by presenting detailed information including a deadline for the final design, desirable color and tone, critical design specifications, market positioning of the product to be packaged, brand (product) specifications, targeted consumers and their characteristics, types of media to be used for sales promotion, competitive products, their suppliers and price ranges, and product background. Based on the request, the design unit develops the package design by primarily relying on its internal resources.

The design unit receives detailed market information from each business department that conducts extensive market research related to the product. It obtains additional information through discussion with the department for the purpose of check and review to see if the original request is sufficiently reflected in the design it is working with.

One characteristic to be noted in design management in Indonesia is that the life cycle of one design is relatively long. In fact, many manufacturers ensure that new designs are not significantly different from the previous ones. The efforts seem to go beyond the usual practice at many manufacturers worldwide to keep all designs consistent to secure a specific corporate/brand identity. Some pointed out that Indonesian manufacturers had to be extremely cautious about consistency of their product and package designs because consumers tended to consider any design modification to be a sign of imitation even if modifications were minor (unless new designs keep the company's established product (brand) identity). Such reaction by consumers reflects the fact that imitation of popular products (counterfeit goods), rampant in the country, often starts from the copying of product design. Also, it explains why the large manufacturer surveyed can handle design work for diverse departments and products with very small design team.

2) Small and Medium-size Food Manufacturers

In contrast to the large manufacturers described above, smaller food manufacturers that do not have their own design departments create package designs with the aid of outside companies (mainly converters). A basic idea or image is created by employee of the manufacturer who have some knowledge of graphic design -- generally belong to sales, marketing or product development department, or even the owner in the case of a small manufacturer -- and is presented to the converter. The converter develops several design proposals, from which the manufacturer makes a selection. As smaller manufacturers cannot afford to hire in-house designers or use design houses due to cost

constraints, design activities are fairly limited in scope and budget. In fact, package design by smaller food manufacturers depends heavily on the design capabilities of converters.

It should be noted that only a handful of large manufacturers treat package design as part of their overall design process and generally succeed in maintaining a desirable level of design quality, while most food manufacturers are small- or medium-size and lack design capabilities and resources. The large manufacturer surveyed in the present study pointed out that it could expect a sufficient level of design service only from Japanese-affiliated advertising agencies and design houses in Singapore, while few local design houses, suppliers of packaging materials and printing companies were able to meet the company's requirements. This suggests that, in the interest of overall development of the domestic package design industry, it is important to strengthen or upgrade external design resources such as advertising agencies and design houses, which constitute the industry's infrastructure and are as important as education of designers.

(2) Converters

The industry has entered into a severe recession due to the general economic downturns, particularly after May 1998. There were an estimated 200-300 converters, a majority of which have reportedly suspended their operations or have gone out of business. Many of surviving companies which have cylinder and reprographic equipment (around 50% of total) manage to keep their head above water. Even larger converters are expected to see their profits reduced by half compared to good profits enjoyed during the early 1990s.

At present, the market is dominated by a handful of companies that are top ranked in terms of quality, technology and design, notably Dai-Nippon, Toppan and IndoKonverta. Technologically, Japanese printing companies have achieved the most advanced level in the world. Like other countries, Indonesian converters try to follow the Japanese technology as the more or less de-facto standard in printing. As for materials, demand for flexible plastics, particularly Stand Pouch, is on the rise in the domestic market, largely because of cost advantages their offer. On the other hand, growth of demand for paper packages is slower partly because of relatively high cost, various limitations in terms of paper quality requirements, papermaking and printing (offset) technology, and the country's humid climate which makes paper package less suitable.

In the design development process, clients (customers) generally take the lead. Therefore, when clients could hire designers, those in-house designers could develop their own designs to a near-completion stage and furnish them to converters. As a result, few converters need to have their own design departments, or even those who have ones only need to hire a few designers. Even leading converters could operate with a few employees who have some design experience and are responsible for checking designs brought by clients. Some converters organize project teams consisting of members from production, R&D and other departments. Also, some maintain cooperative relationships with design houses and designers outside to obtain their help whenever needed. While converters are expected to provide design service if the client is unable to do it on its own, it is true that there are a number of small converters which do not have cylinder and reprographic equipment, not to mention design resources. These printing companies, although classified as converters, are unable to outsource design work and cannot offer sufficient levels of printing quality or design.

Basically, the converter is responsible for refinement of designs for large enterprises (largely multinationals) or of preliminary designs proposed by advertising agencies who receive a product development and promotion contract including design. Converters are expected to demonstrate their skill levels by making print as accurately as the original design. In addition, they are often asked to make advice on selection of packaging materials and are thus required to have expertise in packaging materials and know-how on the level of reproduction compared to original design. They also carry out joint refinement jobs with mid-sized companies by using preliminary designs or make a model on the basis of a specific idea or image.

Parties involved in the design process are, in addition to in-house designers of client companies, the advertising agency, the design house and the free-lance designer. Among them, the converter sometimes deals with the reproduction house who is responsible for color separation, while it increasingly works with foreign design houses (recently, those in Singapore or Taiwan).

So far as the client takes initiative in making a final design, few problems occur (if one occurs, it can be settled between the client and the converter). On the other hand, when a designer of the agency or the design house or a free lance designer takes the initiative, various problems arise, such as "design specification without consideration to limitation of printing technology" and "the lack of clear responsibility for final decision on a matter that requires discussion among related parties". In particular, most designers of advertising agencies or graphics designers have little knowledge of

photogravure and specify designs based on offset printing techniques. Also, overseas agencies, having little background knowledge on the Indonesian industry, issue (unrealistic) design instructions that do not take into account local conditions. Thus, some point out, the importance of close communication with the agency or the external designer. Also, as the agency emphasizes sales promotion and has less concern about technical constraints arising from printing techniques, growth of design houses that can handle package design is highly desired.

In the package industry as whole, package design will be increasingly recognized in its entirely, including packaging materials and shape, to reflect the current state of physical distribution, in addition to mere graphic design. For instance, the current distribution system requires two weeks for products to be transported from Jakarta to Irian Jaya, and the package plays an important role by showing vital information on shipment conditions including the date for the end of the "tastes best" period. While the physical distribution system needs some improvement in this case, it is also pointed out that package design must take into account the prevailing shipment conditions.

(3) Advertising agencies

At present, there are 186 advertising agencies in the country; they are the members of the Indonesian Association of Advertising Agencies. They are primarily active in media advertising and sales promotion, and they seem to play some role related to package design or affect it as part of their activities.

As the agencies handle the entire sales promotion process, package design does not receive strong attention in this process. Package design is often made by a graphic design house on a contract basis, based on the agency's initiative (a fixed idea and/or image). Larger agencies sometimes use creative staff with graphics educations to develop the original idea. In the majority of cases, however, very rough designs are provided to converters for refinement. Overall, package design is not considered as a separate field of design in many cases, and little resources are devoted to package design despite the fact that the agencies have a relatively large influence on design.

1.4.3 Potential for Industrial vitalization by package design promotion

Unlike other design fields including industrial design, package design does not deal with the product itself and plays an important role in the product distribution process. Thus, it does not produce direct effects on product sales, which are largely governed by improvement of product design and quality.

Nevertheless, package design is an effective and direct medium to convey product information to the market in a visual way. Unfortunately, however, smaller manufacturers do not have sufficient financial resources or know-how to incorporate package design into their product development and marketing strategy. Concerted efforts to improve package design can be a significant help for SMEs.

As pointed out above, package design does not have recognition as a separate field of design. If enterprises related to package design start to cooperate and act collectively, the package industry, dominated by small- and medium-size enterprises, will be revitalized.

If promotion of package design serves as a springboard for the packaging industry, it will enable smaller manufacturers who cannot afford to improve package design for economic or technical reasons, to expand their capabilities, providing high quality packages that are suitable for product or market needs. Excellent package design allows manufacturers to use standard packaging materials and forms for entire series of products. If the packaging industry launches initiatives to promote such standardization, high quality packaging can be provided in an efficient and economical manner for a large number of small manufacturers who make similar products. Furthermore, package designs provide a market information function. If such information is accumulated within the industry and is made accessible to manufacturers, small companies who cannot conduct continuous market research will be allowed to visualize their target markets in the process of selecting package design. In other words, package design can provide a window for manufacturers to the market, through which they may be able to find a niche market[10]. As for export promotion, package design will play an increasingly important role in addressing the foreign market needs related to environmental protection. As recycling and those use of raw materials continues to increase in importance in more and more markets, especially those of industrialized nations, the ability to offer package design that appeals to environment-conscious consumers is increasingly becoming a clear comparative advantage in export markets.

The primary target should be set on the food industry that is dominated by SMEs and consumes approximately 60% of package production in the country. The industry, while offering a wide variety of products, allows standardization of packaging materials and forms for a particular product group.

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[10] For instance, a clear liquor brand "Iichiko" has successfully explored an entirely new market by using a new package design and product image promotion strategy, and the use of a stand pouch package for liquid household detergent helped expand the market by means of refill demand.

This is also an area where there is much room for improvement of packages in functional and graphical aspects, so that the effects of introduction and improvement of design can stand out. In particular, package designs for products which are internationally competitive in quality, including coffee, tea, spice, snack foods such as fried fish paste and banana chips, and candy, can be improved significantly, particularly in terms of function, and be turned into truly competitive products. In the medium term, household consumer goods such as detergents and shampoos can be a primary target for design promotion as their packages must be lighter and recyclable in response to environmental concerns and need for economy of production.

As for craft products, they are still sold as "souvenirs" in many cases or are manufactured according to the buyer's instruction, so that they are considered as unsophisticated products and have not reached the stage of being ready for introduction of package design, albeit high potential does exist for volume production by using abundant resources. It can only be given high priority when evolution from traditional craft to modern one becomes routine and well established in the industry.

Promotion of package design must start from the strengthening of linkages among the packaging industry (e.g., packaging material suppliers and converters), design houses and advertising agencies. Then, a mechanism should be developed to make package design information for a particular market accessible to SMEs who suffer from poor financial resources and knowledge to incorporate package design in a strategic manner. If these efforts are taken effectively, a system to provide packages with good economy (low cost) and high quality will be established.

Or, it may be an effective measure for the industry and the government set up an organization like a package design clinic for consultation and providing information accumulated in the industry regarding materials, shapes and markets.

As for improvement of package design itself, it is most important to correct a common belief that package design is one part of graphic design.

Package design consists of several elements; visual communication, verbal communication and functional communication. Among them, graphics play an important role in visual and verbal communications, and the most important issue to address in this context lies as to how graphic design should be implemented for packaging materials. At present, the mainstay of graphic design is based on use of offset printing. In the future, however, graphic design is expected to support other printing techniques, such as photogravure, silk screening and pat. As pointed out earlier, designers or advertising agencies often give design specifications to converters without regard to limitations of

printing techniques. Verbal communication must convey legally required information correctly, as well as convey production information, and in this regard, the responsible design department is expected to have sufficient expertise and resources.

Probably, functional communication requires the most drastic change. Functions to be provided by a package for a particular product (air or water tightness, light shielding, moisture retention, etc.) must be built into the package in the most suitable manner. It is important for the industry to recognize that package design is a technological concept that should embrace the above requirements. For this purpose, the industry needs to have a wealth of information and knowledge on packaging technology, characteristics of packaging materials, packaging materials and forms suitable for distribution, stacking efficiency, user-friendliness to represent interface with consumers, and the hottest issue of all, environmental protection.

Also, as the packaging industry is capital-intensive in nature, package design plays a vital role in affecting the economy of package assembly and installation equipment, and the industry should accumulate necessary knowledge and information from the viewpoint of not only minimization of package costs for a particular product, but optimization of corporate capital investment, management and product development plans as well.

Finally, to reinforce supply capabilities of the package design industry (community), it is critical to encourage integration of package-related activities. While there is no trade association representing package designers or suppliers, various organizations are closely related to package design, such as Association of Graphic Designers (ADGI), Package Federation (IPF) which handles printing, packaging materials, packaging equipment and technology, and Association of Advertising Agencies (PPPI). A degree of coordination of their activities would be very important to let the public recognize package design as an independent field of design, just as graphic design was adopted as an interdisciplinary field straddling marketing and design.

1.5 Craft Design

(1) General

1) Categories and producing centers of crafts

In Indonesia, diverse craft products are made in various areas, using a wide variety of materials including wood, bamboo, leather, ceramics, stone, textile (weaving and dyeing) metal, and glass. In the four segments under study (wood, bamboo, leather and ceramics), numerous types of craft products are also made[1].

Craft products made in Indonesia can be classified into four categories: "traditional craft," "modern craft," "souvenir" and "others (contract manufacture)" (see Table III-1.5-1).

Generally speaking, product development and design in the Indonesian craft industry mostly follow traditional designs that have been inherited over generations or imitate (or borrow ideas from) products made in industrialized countries. There are few cases of non-traditional product development and design actively initiated by local manufacturers.

Of the four categories under study, some modern craft products adopt new designs (therefore using design for the purposes contemplated in this study), while others primarily are designed on the basis of traditional shapes, colors and other elements or are similar to products made in industrialized countries.

2) Market positioning of crafts

In the Indonesian language, the word "craft" does not have an exact counterpart, and two words "kerajinan" and "kriya," each having some elements of "craft" are usually used according to the context.

Kerajinan means a hand-made product made by a home industry in a local community or village. Generally, it refers to low-priced and low-quality products made by local residents.

On the other hand, kriya means a high-grade, hand-made product. Traditionally, it refers to a gift to a high personage, e.g., a product made by weaving various materials made from plant materials.

Generally, kerajinan is widely used to refer to the word "craft" in English, and as a result, "craft" tends to be viewed as a mediocre product. While many craft products are sold as high-quality souvenirs of the country at high-grade department stores and

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[1] Locations and details of craft producing centers have still to be clearly identified. Table III-1.5-2 lists major craft producing districts that supply widely known products.

hotels in large cities, they are not always accorded high status in the country.

(2) Current state of design activities by private enterprises and localities

 1) Traditional craft products

Traditional craft products are considered to represent "people's culture" that has been continuously inherited from early times and reflects tradition, ethnicity, history, religious belief, worship, custom and climate in various regions. They have incorporated the currents of the times and have gradually and partially changed their forms and styles to this date.

Products in this category include wood or leather-made puppets associated with Ramayana, which are used in wayang, wood carved masks used for theatrical performance or dance (using motifs borrowed from Ramayana), wood carved furniture, ornaments and decorations, household goods (e.g., baskets and sieves), and unglazed pottery (terracotta, bottles and pots). Also included are textile products (batik and ikat) and silver tableware and decorations.

Table III-1.5-1 Four Categories of Craft Design

| Category	Origin and Characteristics
Traditional (ethnic) craft products	● Craft products considered to represent "people's culture" that is founded upon tradition, ethnicity, history, religious belief, worship, custom and climate in various regions of the country. ● They have been inherited over many generations with gradual and partial changes incorporated to reflect the needs of the times.
Modern craft products	● Craft products that share a common element with traditional craft design in its close association with "people's culture" that forms the backbone of the country's tradition. It is developed for modern daily use by taking into consideration modern lifestyles and the global market environment (e.g., differences in the daily-life environment and consumer preferences). ● In most cases, professional craft designers are fully involved in the product development, manufacturing and sales processes. ● This category is positioned as a key area of craft design to be included in the country's export promotion efforts.
Souvenirs	● Craft products developed to meet the needs for "souvenirs" by foreign tourists. Based on Indonesian tradition (ethnicity).
Others	● Craft products that have emerged from an economic background, e.g., presence of low-cost labor and abundant natural resources, rather than traditional (ethnic) background. ● Other craft products made on a contract (subcontract) basis and those imitating products in industrialized countries.

Table III-1.5-2 Indonesian Crafts by Region

|	Wood	Bamboo	Leather	Ceramic	Textile	Silver	Paper	Tin	Antique Furniture	Others
East Java			♥ Bag							
☞ Yogyakarta	♥		♥ Bag	♦	♥ Batik	♥				♣ Stained glass
Surakarta (Solo)					♥ Batik					
Surabaya			♥							
Central Java										
Pekalongan					♥ Batik					
West Java										
☞ Jakarta										♥ Banana, Pineapple
☞ Bandung	♥			♦			♥	♥		♥ Blacksmith (hardware)
☞ Cibaduyut			♥ Footwear							
☞ Plered				♥ Colorful						
Cirebon				♥	♥ Batik					♥ Paints on glass, Rattan
Tasikmalaya		♥								
Madura					♥ Batik					
☞ Bali	♥		♣		♥ Ikat				♥	
☞ Ubud	♥	♥		♦						♥ Stone (statue)
Lombok				♥ Biscuit	♥ Ikat					
Borneo										
Kasongan				♥ Terracotta						
Sulawesi				♥ Colorful					♥	

Notes: ☞: Craft producing sites visited by the Team, ♥: Producing center, ♦: Stoneware, not village, ♣: Not village

Wood carving in Bali
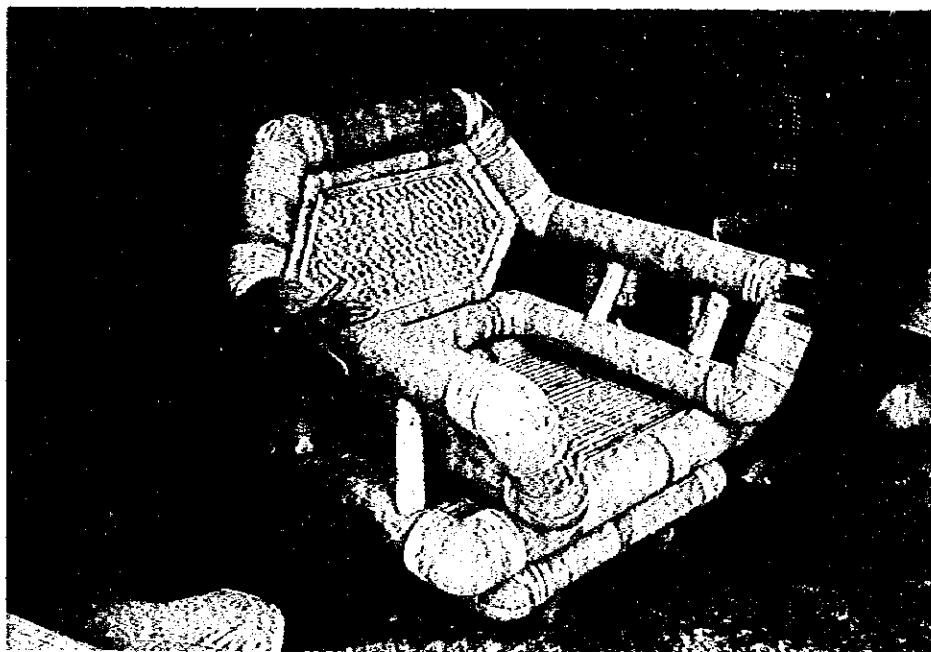
Bamboo furniture in Bali
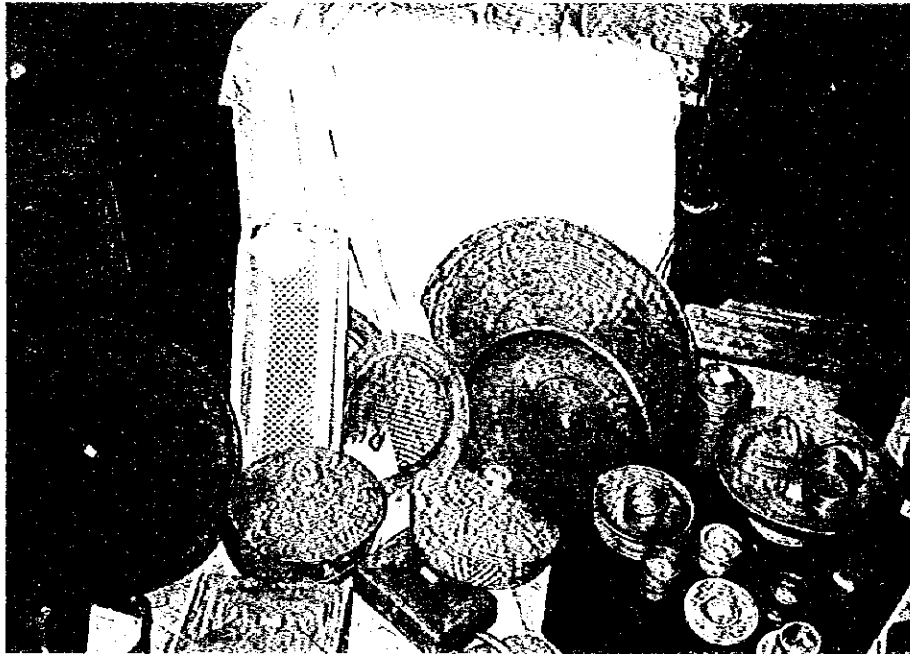
Baskets and other products displayed at the Bali Export Trade Center

In Indonesia, craft products in this category are still manufactured in large quantities by using traditional production techniques inherited over many generations. For instance, highly sophisticated wood carving techniques have been inherited mostly within the same family. Unfortunately, however, most of these techniques are not transmitted with basic drawing techniques (to observe and represent an object in the form of precise preparatory drawing), resulting in craft works that often lack an overall balance in shape.

Another problem, perhaps more important, is found in the fact that these traditional craft products are not widely used in the daily life of local people, or they have not been improved to meet requirements in modern life. Instead, they are sold to foreign tourists as Indonesian "souvenirs" or exported to industrialized countries in the case of high-grade wood products. Furthermore, most of them are not used for the intended purposes and are treated as interior decorations or ornaments.

The craft products are made on the basis of traditional designs, including specific shapes, colors and patterns, which have been handed down to the craftsmen of today. Thus, professional craft designers are not involved in the design and production process of the traditional craft products.

Since designs in the traditional craft category often mean traditional (inherited) colors and shapes, generally, craftsmen and craft shops making these products do not understand the concept of design that is the subject of this study.

2) Modern craft products

Modern craft products share a common element with traditional craft products; they are closely associated with "people's culture" that forms the backbone of the country's tradition. Modern craft products primarily differ from traditional ones in that they are made for modern daily use by taking into consideration of modern lifestyles and the global market environment (e.g., differences in the living environment and consumer taste).

Products in this category include toys made of wood and assorted materials, exterior and interior decorations and household goods (such as desktop items, sieves, baskets, tableware) that are made of wood, bamboo or ceramics.
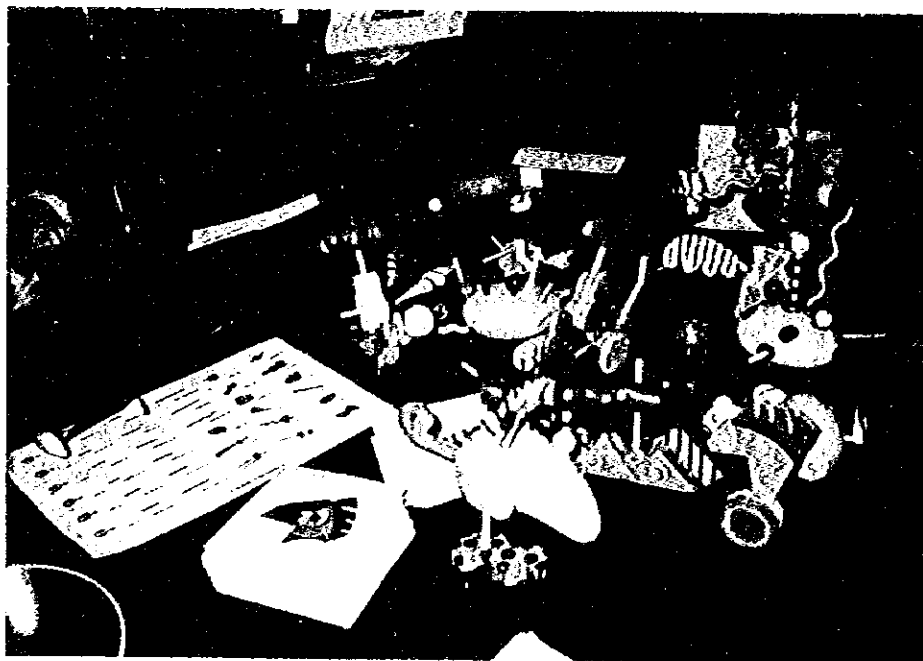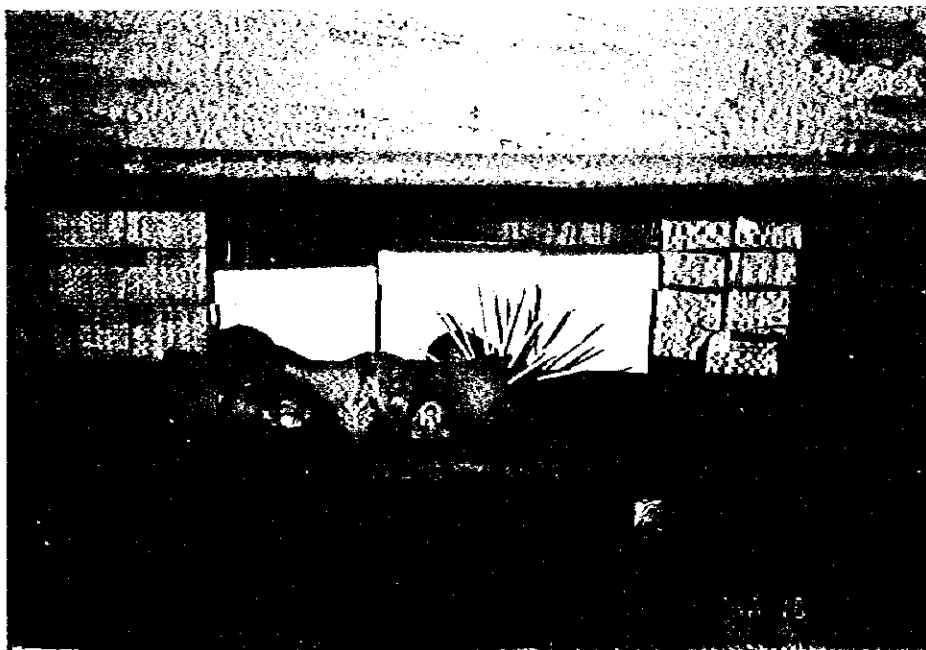

Wooden toys (Bandung)
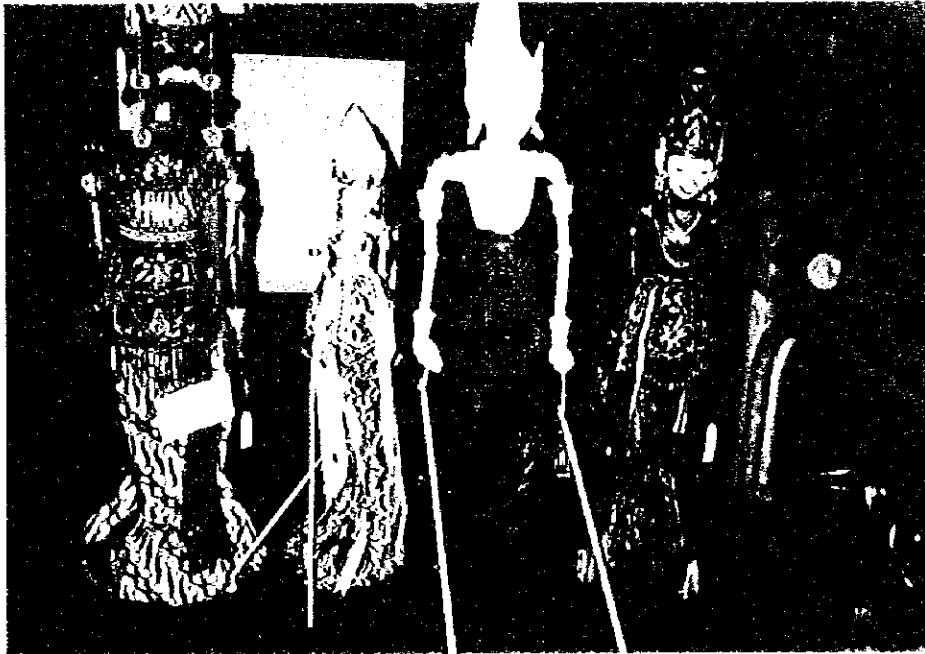
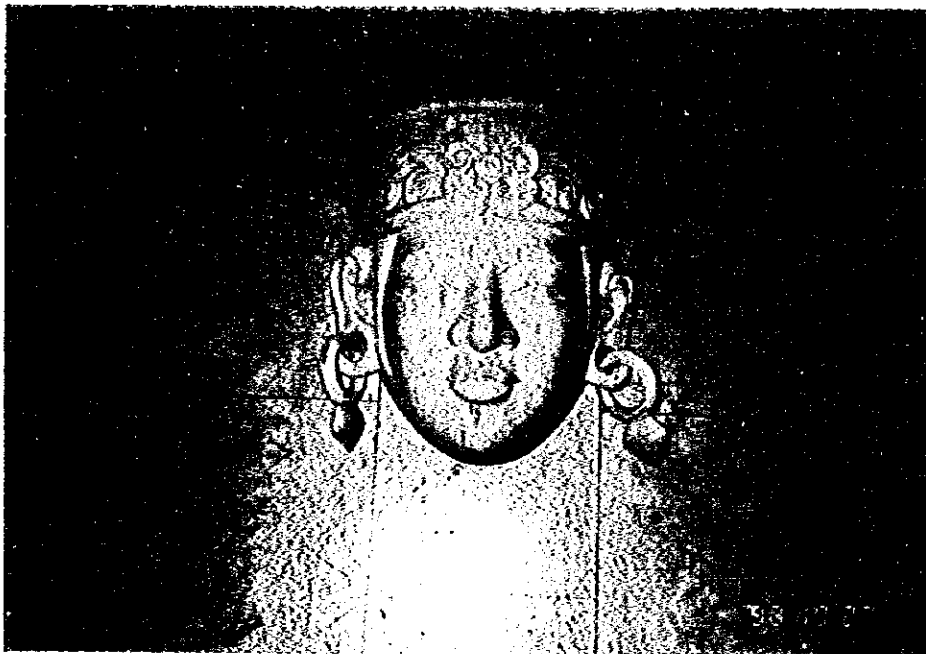**Adaptation of wayang dolls to modern craft (Bandung)**

(The second from right are to be sold to Japanese tourists, completed by leaving the ground exposed without color coating)

Ceramic household goods (Yogyakarta)

Ceramic tableware (Bandung) (Note: these products are not merchandise)

Wooden mask (Yogyakarta)

(In the middle of the production process of making a souvenir. Without color coating, this can be exported to Japan as a modern craft product. The product represents excellent carving skills.)

It should be noted that modern daily life is not limited to daily life of Indonesian people, and rather, it refers to life in various parts of the world. In this sense, modern craft products can be a primary candidate for export promotion utilizing craft design.

At present, modern craft products made in the country are still limited in variety and quantity, although production has been steadily rising. In the design and manufacturing process, professional designers having sufficient educational background are widely involved in various stages including product development, marketing and sales.

In fact, this is the area where professional craft designers actively participate in the product development process.

3) Souvenirs

Craft products classified as souvenirs are manufactured in large quantities to meet the specific needs of foreign tourists visiting the country. As Indonesia is endowed with diverse tourist attractions including historic sites and resort areas, which attract a large number of tourists from overseas, a variety of craft products are designed and manufactured to constitute an integral part of the country's major industry.

Souvenir craft products are mostly designed on the basis of motifs that originated in the country's ethnic and cultural heritage and assets, and which are expressed in a variety of forms. Products in this category include wood- or leather-made wayang puppets, masks, dolls and masks printed by the batik-like method, wood or bamboo musical instruments, exterior and interior decorations, leather fans, textile products (ikat and batik) that emphasize an Indonesian flavor, and silver accessories.
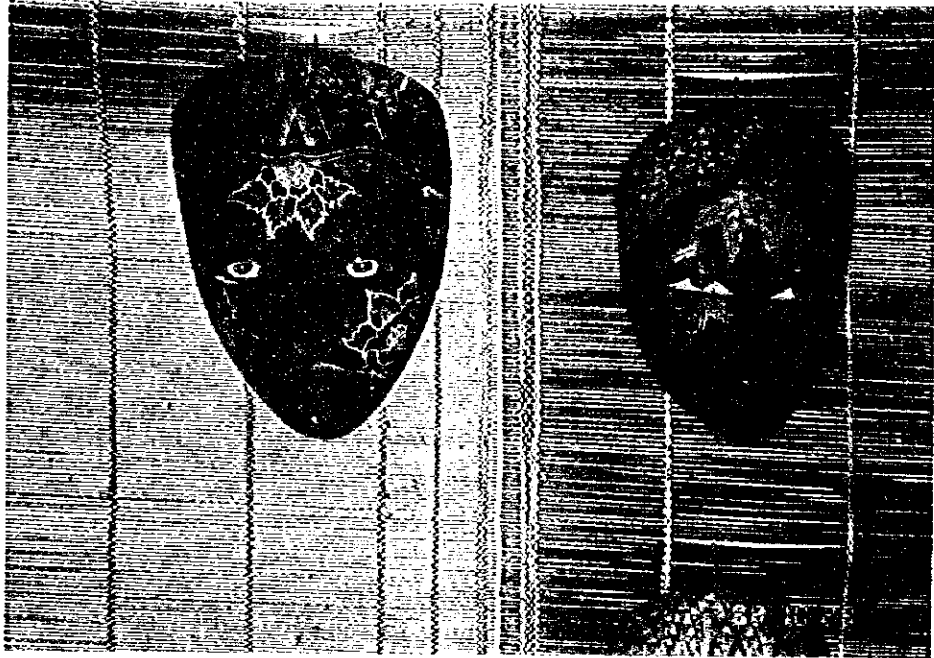
Traditional mask printed by batik method (displayed at the Bali Export Trade Center)

Wayang doll (Yogyakarta)

Leather fan (Center; Yogyakarta) (designed for sale to Japanese)

These products include those that may also be classified as traditional (ethnic) craft products. This clearly reflects the fact that not only do most souvenir craft products incorporate traditional design elements but, as pointed out earlier, traditional craft products are no longer associated with the life of ordinary people today and instead find their raison d'etre by serving foreign tourists.

Most designs seen in this product category are based on themes or patterns used in traditional (ethnic) craft products. The designs are developed according to buyers' requests, or craft shops or craftsmen develop their own designs. Generally, professional designers are not involved in the development process.

Thus, in the world of souvenir craft production, the word "design" is often used to express traditional (inherited) shapes, patterns and colors. Craft shops and craftsmen making these products do not understand the concept of design that is the subject of this study.

4) Other products

In fact, this category embraces a wide variety of craft products and is considered to be a major source of craft production in the country. Diverse products classified in this category have one thing in common. Unlike craft products in the other three categories that share the country's traditional background, they have emerged from an

economic background, e.g., presence of low-cost labor and abundant natural resources.

The category includes craft products made by craftsmen or shops under the contract (or subcontract) to buyers (both domestic and foreign) or larger craft manufacturers and according to design specifications issued by them, as well as craft products that imitate those made in industrialized countries. Some craft shops manufacture products of imitated designs and sell them at their own shops; leather cloth is an example.

Products in this category include wood ornaments featuring animals and fruits (roughly carved and coated with wall paint), storage boxes, accessories boxes, furniture, leather bags, belts, shoes and cloth (jackets, coats, vests), and bottles and pots made from unglazed pottery coated with wall paint.
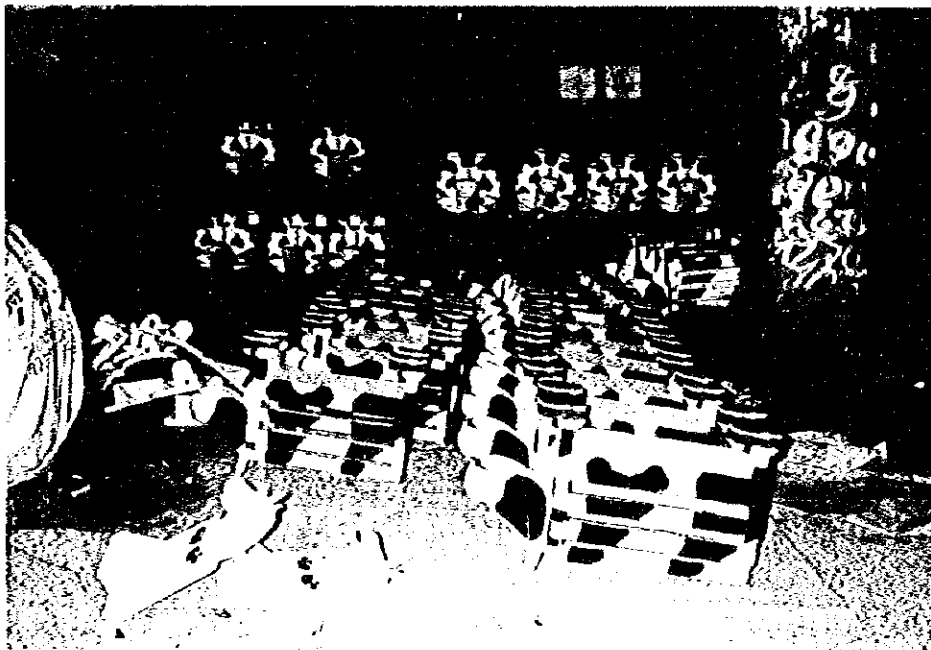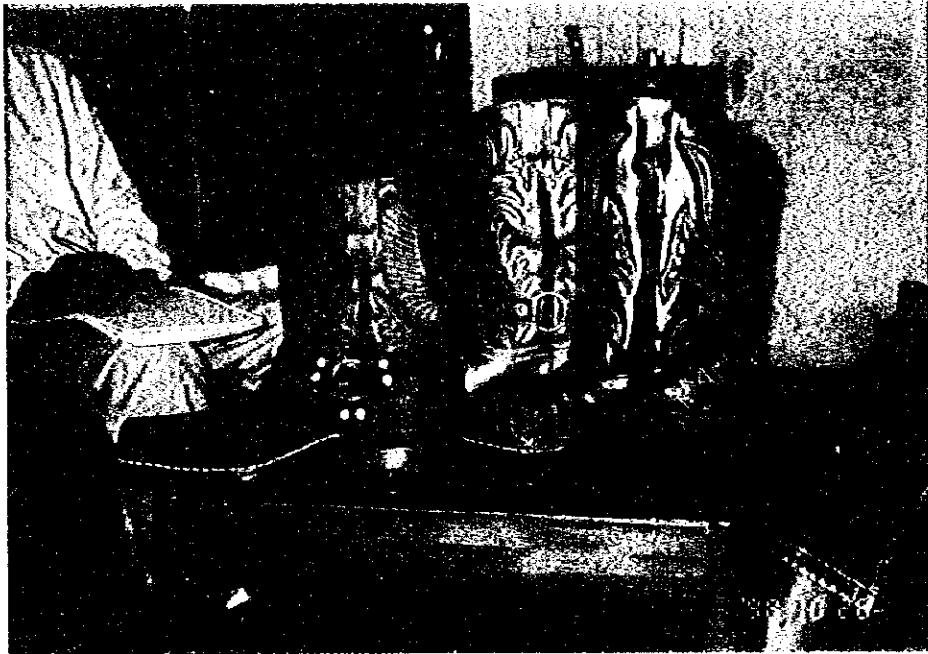

Wooden toys (Bali)
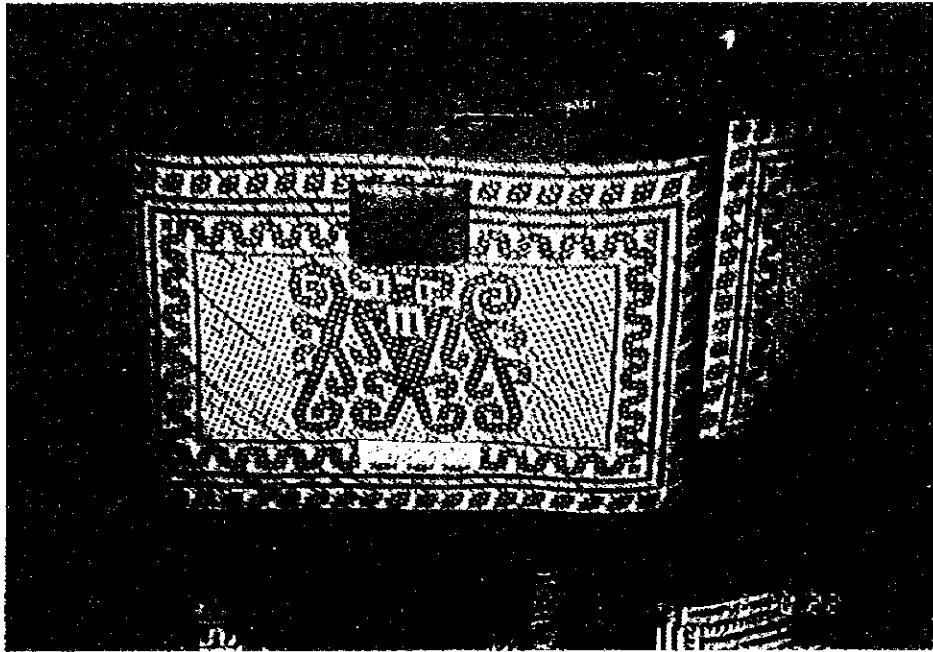
Leather bag (woven grass on surface) (Yogyakarta)

Leather bag (Yogyakarta)

Leather shoes (Bandung, Cibaduyut)

(Note: The boots in the photo were made by a manufacturing factory having high levels of production technology.)

Ceramic pot (Plered)

Generally, product designs and specifications are given by buyers (domestic or foreign) to manufacturers or craftsmen in a variety of forms, e.g., a sketch with written instructions is issued or photos are cut out from fashion magazines (with or without instructions on modification) are handed over. Typically, fashion magazines published in the U.S., Europe and other industrialized countries are used as source of imitation.

In some cases, craft shops or craftsmen develop their "original designs" by copying or modifying designs on foreign magazines and obtain the order from buyers through negotiation.

Usually, professional designers are not involved in the design and production process of these products.

Again, the word "design" means merely general patterns and colors among manufacturers and craftsmen of products in this category, who do not understand the concept of design that is to be disseminated under this study.

In many cases, imitated designs lack the sophistication of original designs developed in industrialized countries.

Also, production techniques, including basic ones, do not reach a sufficient level to ensure high quality on a stable basis. Thus, substantial efforts will be required if the craft products are to be exported to Japan and other industrialized countries[2].

As discussed earlier, craft products of the "others" category are virtually serving as the foundation of the country's craft industry. Yet, most products do not offer high quality. Their production is motivated by availability of low-cost labor and/or natural resources, rather than craftsmanship. From the goal of promoting exports of craft products, therefore, the current situation that craft products of this category represent major portions of the industry is not desirable (See Table III-1.5-3).

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[2]   There are a few cases in which high levels of production technology are maintained, such as the sewing of leather cloth.

Table III-1.5-3 Major Craft Products, Markets and Production Techniques by Design Category and Raw Material

Category	Wood		Bamboo		Leather		Ceramics	
Traditional (ethnic) craft products	Major products:	Wood carvings, masks, dolls, and puppets (for wayang)	Major products:	Household goods (e.g., baskets and sieves) Furniture (sofas and chairs, chests)	Major products:	Puppets (for wayang) and greeting cards	Major products:	Terracotta, jars and bowls (unglazed, no glazed pottery)
	Major markets:	Domestic (mainly foreign tourists) and export	Major markets:	Primarily domestic (furniture for export)	Major markets:	Domestic and export	Major markets:	Primarily domestic, partially exported
	Production techniques:	Relatively high but many problems	Production techniques:	Not very high	Production techniques:	Not very high	Production techniques:	Not very high (excellent mold making techniques)
Modern craft products	Major products:	Toys, puppets, household goods, interior and exterior decorations	Major products:	Household goods (including products incorporating new ideas) and interior decorations	None		Major products:	Household goods (stoneware)
	Major markets:	Mainly exported to the U.S., Japan, the EU, or sold to foreigners in Indonesia	Major markets:	Mainly domestic			Major markets:	Domestic and export
	Production techniques:	Relatively high but many hurdles to be cleared to meet requirements for truly modern craft.	Production techniques:	More refined than traditional craft			Production techniques:	More refined than traditional craft (many hurdles to be cleared to become truly modern craft)
Souvenirs	Major products:	Puppets and masks (based on ethnic motifs and variations, e.g., batik print on puppet)	Major products:	Musical instruments (bamboo flutes and Anguslang)	Major products:	Puppets, tapestries and fans (incorporating ethnic motifs attractive to foreign tourists)	None	
	Major markets:	Domestic (mainly foreign tourists in Indonesia) and export	Major markets:	Domestic (mainly foreign tourists)	Major markets:	Domestic (mainly foreign tourists) and export		
	Production techniques:	Diverse (high to low)	Production techniques:	Not very high	Production techniques:	Not very high (same as traditional craft)		
Others	Major products:	Ornaments, decorations (animals, fruits, etc.), furniture, boxes (checkers – rough ground coated with paint)	Major products:	Furniture	Major products:	Bags, belts, shoes and cloth (jackets, coats, vests)	Major products:	Household goods and ornaments (unglazed pottery coated with paint)
	Major markets:	Mainly exported to the U.S. and the EU	Major markets:	Domestic and export	Major markets:	Domestic (mainly foreign tourists) and export	Major markets:	Domestic and export
	Production techniques:	Primitive level	Production techniques:	Not very high (same as traditional craft)	Production techniques:	Not very high (same as traditional craft)	Production techniques:	Not very high (same as traditional craft)

(3) Current state of design activities in the craft producing centers surveyed

1) Bali (wood, bamboo, leather, ceramic and ikat)

A large number of craft manufacturers are making wood, bamboo and textile crafts in various areas including Ubud and Gianyar, forming producing centers ("villages" as called locally). Many of them manufacture and sell "traditional craft products" and/or "souvenirs." They constitute tourist attractions in the island and open their production process to tourists (mainly Japanese) with shops being attached to factories. Note that manufacturers of leather and ceramic products do not form any significant concentration.

2) Yogyakarta (leather, wood, ceramic, batik and silver)

While Yogyakarta is well known as a major leather craft producing center, manufacturers are relatively scattered throughout a large city area and no concentration in a particular area is observed. Similarly, wood and ceramic craft shops do not concentrate in a particular area. On the other hand, textile (batik) and silver craft manufacturers are localized to form producing centers.

As for leather craft, most shops manufacture "traditional craft products" (e.g., puppets used for wayang), "souvenirs" (modified versions of wayang puppets and decorations), and "others" (bags and belts manufactured by subcontractors). Woodcraft manufacturers mostly make souvenirs, while ceramic craft shops produce household goods (tableware, etc.) that are classified as "modern craft".

In addition, Yogyakarta is renown for batik products that use traditional patterns. Hand dyed products (tulis) are expensive and primarily produced for foreign tourists.

3) Bandung (leather, wood, ceramic)

Woodcraft manufacturers are scattered throughout the city, not forming any local concentration. Leather craft shops are concentrated in the Cibaduyut district. Woodcraft products are mainly "traditional craft" (puppets for wayang), with some "modern craft" (modified versions of wayang puppets for general marketing, and wooden toys).

Leather craft production in Cibaduyut focuses on low-cost leather footwear and is widely recognized as a producing center for cheap products. Some companies have high levels of production technology, though.

Ceramic craft shops do not form a local producing center and make ceramics (tableware) that are classified as "modern craft".

4) Plered (ceramics)

Ceramic craft shops concentrate in an area to form a producing center. They produce pots and bottles that are colored by wall paint (spray) with bright colors such as orange and green. While these are earthenware products, they are not exactly ordinary ceramics by definition as they are painted instead of fired with a glaze. Nevertheless, molding skills are very high, including large pots that are shaped on a wheel.

5) Tasikmalaya (bamboo, mendong)

Tasikmalaya is known as one of the major producing areas of bamboo craft products, and there are a large number of workshops throughout the city area (geographically, some concentrations are observed and others are widely dispersed). Demand for bamboo craft dropped sharply due to availability of plastics and some production techniques have been lost due to the lack of successors. Recently, however, demand has grown again, reflecting consumer preference for natural materials, and because of availability of bamboo in the proximity, production activities have become brisk. In the area, bamboo products classified as "traditional craft" and "other" categories are mainly manufactured, while some "modern craft" products are also made. Major product items are baskets, sieves, lamp shades, toys and other household goods. Some products are exported to the U.S., Europe and Japan, mostly low-end products that are classified as "others."

Generally, there seem to be various points of improvement in product design, e.g., the production technique is limited to weaving, the outer layer is not used (although that of bamboo in Indonesia is generally unsuitable for commercial use), and no double layer structure is used.

In the area, craft production using mendong (a plant similar to the rush) is carried out as a relatively new undertaking, and manufacturers are concentrated in one district. Major product items are bags, mats, coasters and boxes. Mendong is grown in fields near the producing area.

For both bamboo and mendong, craft designers who graduated from ITB assist some manufacturers in making "modern craft" products and the number of manufacturers is growing. These products are made using relatively high levels of production techniques and the designs used can be expanded to create diverse products. Unfortunately, however, there are a limited number of designs that represent the Indonesian culture and other local features.

(4) Craft designers

Designers engaged in modern craft design can be classified into three types:

- In-house design departments
- Independent design studios
- Design factories

Table III-1.5-4 Organizational Types of Designer Participation

Type	Description
In-house design sections	● Same as in-house design sections in Japan. ● In-house production sections are responsible for manufacture on the basis of in-house design.
Independent design studios	● Designers are responsible for design of craft products and sample production (actually made by craftsmen). Based on the design, design studios accept order from buyers and manufacture products in a specific lot. Again, local craftsmen make products. ● This business style is peculiar to craft design in various countries including Japan. ● Designers also develop designs for customers upon request. ● Designers often work with local producing centers and/or craftsmen to carry out product development projects.
Design factories	● Design studio + own craft shop. ● Designers hire craftsmen and staff. ● Designers are responsible for design based on which products are made and sold. ● There are more than two establishments in the pottery field.

There is no accurate count of the professional craft designers, who have received professional education in the country. There is no association representing craft designers in Indonesia.

Many craft designers have received design education at institutions such as ITB and ISI. As craftwork is not widely recognized as an important profession by the general public, craft design has occupied a minor role in professional design education. Recently, however, the importance of craftwork and design has become more strongly recognized, and the educational system has begun to emphasize craft design education. For instance, ITB, a leading design school in the country, established its craft department in FY1998.

Examples of craft design education courses offered by Indonesian universities

- ISI (Department of Craft)
  - Metal craft, textile craft, ceramics craft, wooden craft, leather craft
- IBT (Faculty of Arts & Design)
  - Craft study program: textile and ceramics
  - Majors (under development): leather craft, wooden craft, metal & jewelry craft
- Udayana University (Department of Crafting Design)
  - Ceramics craft, wooden craft

(5) Opportunity for design utilization in the craft industry

1) Possible effects of design utilization

a) Traditional crafts

In traditional crafts, sophisticated production techniques have been handed down by craftsmen over many generations, sometimes including problems or shortcomings inherent in their techniques. For instance, although wood carving in Bali uses sophisticated techniques that have been inherited, its shaping techniques often present various problems, probably due to poor drawing skills of craftsmen.

Also, traditional production techniques are somewhat modified by craftsmen (deviation from standards) due to their physical characteristics and taste and have been inherited in a variant form.

Furthermore, it is usually difficult for craftsmen to produce identical (or mostly same) products in a certain quantity or make a product according to drawings. As pointed out at the time of observations at the Bali Export Trade Center, this seems to impede exports of Indonesian craft products.

These problems can be solved by introducing the design process to production of traditional craft. First of all, "reassessment of production techniques" including the improvement of drawing skills and correcting "deviation from standards" will enable craftsmen to apply more rational molding or shaping techniques, instead of the "accustomed ones" without knowing their quality, and to upgrade the traditional techniques to a more sophisticated level. Also, "introduction of modern production techniques" (production based on drawings and production of uniform products in a specific quantity) will allow stable production in terms of both quality and quantity.

The design-oriented approach to traditional craft will help improve products from those by individual craftsmen and artists to those as modern craft "industry" in the medium- and long term. As a result, traditional craft and its production technology can be used to develop products that meet the needs of consumers. This will resolve the problem that traditional craft products are unrelated to the daily life of people and

allow traditional crafts to evolve into modern crafts. In fact, a major attempt in such direction is seen in joint development of bamboo craft products in Tasikmalaya by the producing center and designers.

In Japan, craft products originated in household goods that were originally integrated with the daily life of people and then have experienced a similar deviation from ordinary life. The craft design movement in the 1960s brought them back to the hands of people and their daily life.

Take lacquerware, for instance. It was originally used for every aspect of life. After World War II, however, it was elevated to the status of artistic work and interior decoration as various famous craftsmen appeared and left their name in products. Meanwhile, tableware and other products which were previously made as lacquerware were increasingly replaced with plastic ones. Then, the craft design movement caused the design community and industry to change their perception. Their focus was shifted from artistic work to craft, and lacquerware regained the original place as household goods for everyday use, including bowls, nests of boxes and sake cups. The similar move occurred in ceramic and wood craft.

b) Modern craft

While modern craft production in Indonesia uses the design process (designers) in many ways, a more effective and sophisticated use of design is expected to develope as follows:

1. Shift from "product-out" to "market-in"

In fact, the product-out approach is not applicable even to craft products in many cases, and the market-in approach is desirable while incorporating traditional techniques, shapes, colors and patterns. In particular, the approach is critical in modern craft products, which must meet rapidly changing market needs, especially true in the international markets. In this sense, general market principles applied to ordinary industrial products (goods) are also applicable to modern craft.

At present, however, the market-in approach is not consistently adopted, and original design practice seems to be based on ideas made out without a plan by using available resources (e.g., materials). The practice is seen among leather bag manufacturers in Yogyakarta who develop and manufacture their original products. Introduction of the design process will prompt them to take into account market changes including selection of raw materials.

2. Natural expression of local characteristics

Modern craft products made in Indonesia, which are being accepted in the international markets, often fail to express local characteristics and ethnicity strongly. For instance, wood toys (blocks) made by a modern craft workshop in Bandung are based on planar design made in the U.S., based on which Indonesian designers created three-dimensional designs and prototypes. Although they are sold in the international markets, their designs remain U.S. in origin and they fail to express the Indonesian climate or locality. Generally, it takes long time to effectively reflect local characteristics in craft design (In Japan, it took two decades after the war) and continuous efforts are the key to success. It is recommended to continue further efforts until truly Indonesian modern craft design emerges.

c) Souvenirs

Souvenir craft shares similar problems with traditional craft (such as drawing skills), and at the same time, it is required to meet peculiar market needs (symbolic expression of locality). The design process is expected to help create more sophisticated products and will create an opportunity for evolution to modern craft in the longer term.

d) Other craft products

Introduction of the design process to production of other craft will help the industry to develop from the current job shop status, producing low-grade products, to an independent industry capable of developing high value added products by incorporating local and other characteristics, followed by evolution to modern craft and development of own brands. Development of original products by the leather craft industry in Yogyakarta is considered to be a clear sign of such transformation process.

Immediate goals, in addition to use of design elements incorporating Indonesian tradition, are: (1) craft products that can be used in everyday life; and (2) those marketable in the international markets (again, usable in ordinary life).

2) Opportunity for design-based regional development

Development of an entire region based on the design approach (design-based regional development) is considered to have high potential in Bali and Bandung.

a) Bandung

Bandung has the firm foundation of encouraging the understanding of the modern design concept and using it as a springboard for regional development. This foundation includes relatively high levels of understanding of design and its importance in the local craft industry; the presence of ITB, a premier design institute of higher education in the country, relatively high levels of design consciousness of citizens (who are known to be fashionable); and presence of many institutions of higher education. At the same time, there are some disadvantages such as a vast city area to be covered.

b) Bali

Bali also offers high potential for design-based regional development in various aspects: (1) relatively high levels of industrial concentration; (2) presence of craft producing centers, (3) tourist resources to attract visitors including foreign tourists; (4) some signs of the local environment to understand design and its value, such as presence of an artist village; and (5) general enthusiasm of the local government to promote regional development using design (expectation for a Bali Design Center). The study team feels that the development of an entire island including the Ubud and Gianyar districts will produce better results than focusing on specific materials.

c) Other regions

Cirebon may be a candidate for design-based regional development using its concentration of the rattan furniture industry.

In terms of availability of local producing centers, Plered (ceramics), Cibadyut (an area within Bandung city) (leather), and Yogyakarta (leather) are considered to be candidate sites. The former two areas, however, have problems related to the lack of design consciousness and levels of production techniques, while the third area is very large and will be difficult to manage (even in combination with silver and batik industries), while there are no producing centers that have significant industrial concentration in a particular area.

Case Study of Design-based Regional Development in Japan (1)

- Imari (Okawachi-yama) -

In the area located in Imari, one of traditional ceramic producing centers in Japan, a large number of potteries are operating. Efforts have been made to develop the area to a tourist attraction, maintaining traditional lifestyles and landscapes (streets, houses and other structures). At the same time, they continue to develop, manufacture, and sell Japanese-taste tablewares (ceramics) designed for use in modern life, while maintaining production of traditional "Iro-nabeshima" tablewares.

Case Study of Design-based Regional Development in Japan (2)
- Takaoka -

The old city located in Toyama Prefecture strives to protect and preserve Takaoka copperware and lacquerware designated by the government (MITI) as traditional handicrafts, while developing the craft industry that can meet the changing market needs and exploring new business opportunities through convergence with industrial design and other fields. Various initiatives are taken to promote design-based regional development as a core element of these efforts. By professing to become the city of design and craft, the city operates the craft design instruction center – such a facility being rarely maintained at the local government level – and conducts activities focusing on design development and related industrial expansion. Also, industrial circles and the chamber of commerce and industry in the city hold the Takaoka Craft Competition annually, under support of Toyama Prefecture and Takaoka City, which has continued for 13 consecutive years and has grown to one of the nationally recognized major craft design competitions. The competition is highly valued for its openness to invite and accept participants from all over the country, covering a wide range of craft designs and ideas not limited to Takaoka's two specialties. Similar initiatives are undertaken at the prefectural level. Toyama Prefecture, attempting to use design resources as its source of growth, holds the Product Design Competition through the prefectural Industrial Design Center (situated in Takaoka). It attempts to address design issues emphasizing "commercialization" and invites design solutions that lead to craft products that can play a useful role in modern life by going beyond the mere use of traditional shape and color.

The initiatives of the local governments will be expanded and converged at the Toyama Design Center that will be inaugurated in 1999 in Takaoka (not in Toyama city, the prefectural capital of Toyama) and will produce further results through synergetic effects.

(6) Current issues in design activities
1) Professional level of craft designers
Although it is difficult to assess professional levels of modern craft designers in the country, their general level does not seem to be very high, except for some designers who create excellent works. Although many of them have received professional education and may have practical knowledge (including design theory, etc.) and

professionalism, it is generally observed that they lack design experience and do not have senior designers around them, who can act as advisors. This unfavorable environment partly impedes the improvement of professional skills of craft designers.

Craft designers discussed here understand the basic concept of "design" that is the subject of this study.

2) Major issues related to craft design

Major issues facing modern craft design in Indonesia are summarized as: (1) lack of sophistication; (2) lack of originality; and (3) lack of traditional expression (ethnic taste).

First of all, the lack of traditional expression is considered to be an inherent problem. What makes modern craft products as true "modern craft" is design expression of Indonesian tradition (ethnicity) that must be incorporated into actual products. Most modern craft products available today fail to express this fully. This suggests that most designers in Indonesia are exposed to advanced designs from Europe (especially Germany and Scandinavia) and have received sufficient education and training, so that they now have the ability to develop their own designs that reflect some flavors of modern craft. Yet, they have still to create truly proprietary designs that fully embody their internal sense and taste germinated from their own cultural background[3].

3) Export promotion measures

The Bali Export Trade Center in Bali (Denpasar) is a private enterprise that exports all craft products made in Indonesia. It cites major issues related to craft exports as "unstable quality and production volume (unable to produce the same product in a specific lot within a delivery schedule)" and "non-compliance with design". The center's current mission is to conduct activities related to "design improvement", "quality improvement" and "stable production capacity and delivery schedule" of the craft industry in Indonesia.

a) Production volume and quality

According to the center, Indonesian craft products have good export potentiality, but have not been exported in large quantities due to the difficulty in maintaining required levels of production volume and quality. The center, while providing technical assistance and guidance on stabilization of production and quality, explains to buyers the difficulty involved in production of handcrafts (i.e., volume production of the same

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[3] The similar situation was observed in the Japanese craft design industry in the 1960s and 1970s.

product).

b) Design improvement

The center feels that the craft industry in Indonesia do not fully understand the latest market conditions or reflect them in product development. For future export promotion, design improvement efforts are called for. The center provides design training for local manufacturers and designers and conducts design development activities in cooperation with freelance designers throughout the country.

Design training is customized to different markets and their needs. Traditional design training attempts to match the existing market needs and focuses on improvement of design skills. Also, efforts are made to reflect buyers' information (e.g., difference in taste between different countries). On the other hand, modern design (design development) emphasizes joint development with professional designers with the purpose of exploring new markets.

The current situation of craft design in Indonesia has the following similarities with that of Japan in the 1950's.

a) Industrial development (export promotion) is called for as a matter of national priority.

In Indonesia, industrial development focusing on export promotion is given high priority and is widely expected by the general public.

b) Craft products (industry) are considered to be inferior

There is still public awareness that craft products and industry are inferior to others. For instance, people in other industries tend to hold the view that "the craft industry churns out obsolete products or cheap souvenirs", while the art community labels craft as "commercialized, mediocre products that imitate artwork".

c) Passive design and product development efforts (lack of initiative)

Few products have been developed by the industry's initiatives based on innovative efforts, and most manufacturers and craftsmen seem to be content only with offering their labor force.

d) Obscure role of design in product development

The role of design in export promotion, industrial development, or even product development, is not clearly defined to allow development and implementation of design plans.

4) Weakness in ceramic craft

The craft industry in Indonesia is characterized by its emphasis on products using plant materials (rattan, wood, etc.) and metal, while it fails to establish a strong base in the "food" area, such as kitchenware and tableware, which are not sufficiently supplied in terms of both quality and quantity. Considering the fact that craft products as the tools for cooking and arranging food generally receive much attention in other countries and account for approximately 60% of craft products, Indonesia deviates greatly from the world trend. The situation is recognized by the government. The reason for this is not clear. It is speculated that the history of the people has something to do with the less use of ceramic craft products for cooking and eating purposes, or availability of other materials (plant materials and metal) contributes greatly.

Ceramic craft designers, craftsmen and government personnel cite the following reasons: (1) there are a large number of technical difficulties involved in production of ceramic craft products; (2) there is the apparent lack of information to overcome the problem; and (3) expensive equipment and fuel are required. These factors more than compensate for availability of low-cost materials in abundance.

(7) Craft design promotion activities

So far, efforts at promotion of craft design have been very limited in scope. Promotional activities are primarily carried out by the following organizations.

Meanwhile, efforts are being made by the Ministry of Industry and Trade to foster the craft industry. For instance, exhibitions on wood and bamboo craft products have been held for the purpose of export promotion.

Pusal Pengembangan Desain Dan Promosl Industri, Taman Mini Indonesia Indah (Design Development and Training Center, TMII)

The center was established in 1996 under the Ministry of Industry and Trade for industrial development and export promotion. At present, the center is responsible for educational programs for craftsmen, and sales and marketing of craft products produced throughout the country. The educational programs are conducted by the Ministry of Industry and Trade, while the center only provides facilities. No activities are conducted in the field of design development due to the shortages of manpower and financial resources.

Ministry of Cooperatives, Small and Medium Enterprises

After the organizational reform in September 1998, craft products came under the jurisdiction of the Directorate General of Industry, Metallurgy, Handicraft and Power.

The focal point of public policy is placed on support for around 600 craft-related cooperatives located throughout the country. Major activities are data collection and current surveys of the cooperatives (compiled into statistics); and education and training (design, management, marketing, funding). The latter is conducted by state governments but has not produced significant results due to budget constraints and the lack of human resources.

An officer in charge of craft support policy of the ministry points out that poor product quality is a major weakness of craft cooperatives and technical support is important.

Ministry of Industry and Trade

Support programs related to the craft industry include: (1) technical training (conducted by the Design Development and Training Center, described above); (2) support for National Craft Council; and (3) technical support through UPT. Until three years ago, the ministry sponsored a national craft design competition under the management of the National Design Council, which has been discontinued. Also, UPT's technical support is losing much of its effectiveness as its equipment is becoming obsolete and local enterprises have improved production techniques as well as equipment.

Ministry of Education and Culture

Vocational training schools (STM), under the Ministry of Education and Culture, provide craft education that meets the purpose of producing technicians. Although efforts have been made to improve the quality of education, including the development of a curriculum emphasizing practical skills, only a handful of schools offer craft education (53 out of 4,000 STMs, both public and private) and there is the apparent lack of teaching skills on the part of instructors.

Dewan Kerajinan Nasional (DEKRANAS) (National Craft Council)

This is a non-profit organization founded in March 1980, under the jurisdiction of both the Ministry of Industry and Trade and the Ministry of Education and Culture. It is a member of World Craft Council and is headed by the wife of Vice President. The executive committee consists of wives of state governors and mayors.

DEKRANAS has four major objectives: (1) to preserve the cultural value of craft; (2) to protect and develop craft as cultural heritage; (3) to improve economic value of craft

(through quality improvement); and (4) to raise living standards of craftsmen (increase their income). Major activities during the past five years were: (1) human resource development (skills and creativity); (2) development of entrepreneurship (3) finding of financial resources (development of a loan guarantee scheme); (4) development of joint projects; and (5) protection and preservation of culture, and its presentation to the public.

Also, it sponsors a biannual Craft Week (most recently in March 1999, in Yogyakarta), where exhibitions (including business meetings), seminars, a general conference, competitions, and sales are held for seven to nine days.

In fact, the Craft Week is almost only one major activity of DKRANAS, and not other activities related to support for the craft industry has not been conducted.

Yayasan Pengembangan Desain Indonesia (Yayasan Hartarto)
(Indonesian Design Development Foundation)

This is the foundation led by the wife of Vice President Hartarto, founded in 1989. Its original purpose was to promote craft products and has been extended even to the fashion field.

Its major activities focus on business (contract manufacture of craft products), as described below, rather than fostering of craft and craft design activities. It also operates various training schools.

The craft business sells wood craft products including toys, decorations and furniture made by 30 craftsmen in two producing areas (villages) near Jakarta to Australia. Although it is claimed that the business helps improve product quality by providing work experience serving the foreign market, products actually made are classified into the "others" category and fail to represent any aspect of the Indonesian culture and tradition. Their workmanship is no more than that of other wood craft products made in the country.

The foundation aslo conducts training courses on wood finishing, kilt and patchwork (taught by a Japanese instructor).

Induk Koperasi Industri dan Kerajinan Rakyat (INKOPINKRA)
(Federation of Industry and Craft Cooperative in Indonesia: FICCI)

INKOPINKRA was established in October 1997 (formal activites were started in June 1998). It is a national organization of industrial and craft cooperatives and has 30 members (in Java, Bali, and Sumatra) out of approximately 600 cooperatives located throughout the country.

Products made by the member cooperatives are classified into seven categories, wood and metal (iron and aluminum), textile and apparel, silver, leather, handcraft (plant and ceramic materials), and foods and confections.

It sets forth three categories as major areas of activities: (1) collective purchase of raw materials; (2) exploration of distribution channels (department stores and exports); and (3) training (design, management and skills). In reality, however, past activities have been limited to the first two areas. Although the need for design training is recognized, particularly in use of wood (including plant materials), leather and apparel that have high export potential, no activity has been undertaken.

INKOPINKRA is a very young organization having a small membership and has much to do before undertaking design-related activities. Nevertheless, its staff seems to be highly motivated and the organization has the potential to expand its activities in breadth and depth, including the field of design.

2 Assessment of Current Design Promotion Efforts and Consideration of Possible Improvement and Enhancement Measures

2.1 Enlightenment Campaign on Design

(1) Current state and major issues

The enlightenment campaign on design is viewed as the series of activities to demonstrate "What is the excellent design?" and "How the design is used and contributes to industries and society?" by showing examples and making propositions on the effective use of design[1]. The campaign primarily targets government and industries as present and future design implementers or users, as well as consumers as present and future design beneficiaries. In addition, government organizations responsible for design promotion programs can also become a strategic target for the enlightenment campaign, especially in the initial stage of the design promotion process.

The enlightenment campaign targeting potential design implementers and design users typically consists of activities including the following[2]:

- The establishment of a Design Year or Date to advertise the importance and the need for design, its promotional activities and commendation of persons who have contributed to promotion or development of design and the design industry
- Selection, display and dissemination of good designs
- Dissemination of advanced designs and examples of their applications through human networks
- Research and study on successful cases of design use and publication of the results

On the other hand, activities to enlighten potential design beneficiaries (consumers) include:

- Dissemination of information on good designs through award ceremonies, with view to developing the ability to determine design quality
- General design education at schools

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[1] Generally referred to as activities to raise "design awareness".

[2] Many of them, by nature, share common elements with activities to promote design implementation in industry, as explained later.

In Indonesia, various events aiming at design promotion have been held, including design competitions and seminars. They, however, have been largely participated by designers and related parties in the design industry, not intended as the enlightenment campaign for other industries and the general public. Similarly, exhibitions showing products of original design, such as handicraft and furniture, have been limited to business functions matchmaking manufacturers and buyers, with few element to advertise design and its value. One of a few events held for enlightenment purposes are design competitions sponsored by PDN, but they are not widely recognized by industry.

The result of the questionnaire survey conducted during the present study reveals that only 10.5% of respondents participated in design-related events and programs[3], indicating that the current enlightenment efforts do not produce significant results.

On the other hand, efforts to introduce the design process into industrial activities are still in their nascent stage. Only a handful of enterprises have begun to use design as an effective tool for product development. Many enterprises realize that design is useful in creating competitive products. Yet, they are reluctant to implement their own design processes because they rarely take the initiative in product development activities by themselves. Some manufacture products planned by buyers, and others make products that are produced and marketed by their parent companies. Also, those developing their own products are content with imitating designs available on market, for they feel that original products of unique designs will be more expensive and risky. Thus, they think it would be appealing to the domestic market that is highly price-sensitive.

Design beneficiaries, primarily general consumers tend to make purchase decisions based on price due to financial limitation, while they have general interest in well-designed products, living space, environment and systems.

(2) Need for the enlightenment campaign and basic strategy

As design implementation by industries and enterprises is still at an initial stage and design and the design process are far from being used productively, the enlightenment campaign seems to be an effective means to provide an additional impetus for potential design implementers who are not fully motivated. At the same time, the enlightenment campaigns should target consumers who are expected to appreciate and select products of good design. These campaigns provide incentives to industries to create new designs on

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[3] The survey was conducted using a specially designed questionnaire. Judged from the results of various surveys including the interview survey, affirmative responses to the question presumably referred to "seminars and workshops in general" and "participation in exhibitions (other than design)," making the actual rate of participation in design-related events much lower than the figure.

a continuous basis, and well-designed products can establish its viable position in the market. Finally, the government sector is expected to have a high level of design consciousness if it is to implement effective design policies targeting industry and consumers. In particular, government offices and public organizations that spearhead design promotion activities are expected to have profound understanding of design and design policy in terms of its concept and effect, so that they can establish policy goals and measures autonomously and effectively. As a result, the enlightenment campaign should target all the three players in the design implementation process, industry, consumers and government.

Needless to say, priority in the enlightenment campaign and its activities should be reviewed and adjusted according to the actual progress of design promotion efforts. Typically, the enlightenment campaign at the initial stage of design promotion should focus on industry by motivating them to start the design implementation process. On the other hand, the campaign targeting consumers should be given of low priority for the time being, because the campaign alone is not enough to convert the ability of consumers to appreciate design into purchase behavior to select well-designed products.

The campaign targeting individual enterprises needs to be adjusted in scope and content according to the level of design awareness. In the initial phase when most enterprises are discouraged from introducing the design process due to various constraints related to product development as well as the lack of consumer support, the focus should be placed on general encouragement of industry to raise interest in design and its benefits. At this stage, it does not give much incentive to them by merely showing good designs. Instead, it is important to send a clear message to individual enterprises that the development of their own products by using the design process will bring more profits than the continued reliance on parent companies or buyers. For this purpose, design implementation at selected enterprises in the form of pilot project will be effective in demonstrating tangible benefits to others. Also, outcome of research projects on product development by technical guidance organizations may be publicized to encourage its commercial application.

Then, as an increasing number of enterprises has strong interest in design implementation, the focal point of the enlightenment campaign should be shifted to presentation of proposals for commercial use of design as well as examples of good design. The proposals should consist of actual commercialization plans for selected enterprises and their products by providing relevant research results or consultation service. Presentation of good design will stimulate enterprises to proceed with their own design activities by showing visual models to follow.

At the second stage of enlightenment, it is important to maximize the effect of the campaign by developing a well-structured action plan and mobilizing resources to implement and support programs to accomplish the plan's goals. The design council is expected to play a central role in the process by designing policy and setting a direction of the campaigns. In particular, it will establish priority targets and goals for campaign activities from time to time and will communicate with relevant organizations, so that goals of their own activities can be consistent with those of council. In this connection, the design council may provide financial assistance, pending availability of financial sources, for selected activities that further its policy goals by declaring its formal sponsorship.

Finally, the enlightenment campaign should be extended to general design education. It is important to develop an aesthetic sense among consumers, which should be sharpened to positively affect their purchase decision. For this purpose, it is desirable to start general design education at elementary schools, preferably the latter half of primary school years. The design council is expected to take leadership in agreeing on and providing a proposal for such education to the Ministry of Education and other relevant government authorities, and developing a standard curriculum in cooperation with universities.

2.2 Support for Design Implementation

(1) Current state and major issues

This section examines possible projects and programs to address major issues facing enterprises and government organizations in attempting to use design and introduce the design process and promote the design implementation process by providing necessary support.

Essentially, projects and programs to support design implementation consist of four elements: 1) to facilitate dissemination of information on designers and other design resources and the development of standard design practice including the contract with designers; 2) to provide incentive for design implementation; 3) to provide technical and/or financial support; and 4) to protect design and its right.

Each program element is described as follows, except for design protection that is discussed separately.

In Indonesia, there is no program to specifically support individual enterprises who attempt to implement the design process.

1) Information on designers (design resources)

At present, enterprises do not have direct access to designer information. They have to rely on either their own personal networks, advertisement by design houses (limited to a handful of leading-edge firms) or advertisement agencies.

Designers' associations have been slow in developing their databases of members. While they now keep vital data (e.g., the name of design firm, address, the name of principal), they do not have sufficient information required by potential clients, such as design resources (e.g., the number of designers), fields of specialization, and design work record. Similarly, information on design-related events and conferences is not systematically collected or published.

2) Incentive to promote design implementation

Generally, incentives for design implementation can be divided into the following two types: a) those involving direct benefits to design implementers (typically, tax incentive); and b) those providing indirect benefits, i.e., positive effects on business activities. The latter type of incentive includes increased sales of a product due to a new design and the improvement of an image of a company or product.

Indonesia does not an official program to support design implementation efforts, nor incentives for enterprises that introduce the design process. On the other hand, some

local producing centers have received technical assistance related to design as part of economic assistance projects led by international organizations or NGOs. These projects have successfully produced favorable results including the establishment of local (product) identity[1]. This indicates that conscious efforts to promote design implementation bring tangible benefits. In the private sector, some industries promote design by participating in the international award program[2], but individual enterprises do not relate the receiving of a design award to revenue growth.

3) Technical and financial support

None of existing public support programs directly targets design implementation, technically or financially. Nevertheless, some of support programs for SMEs seem to be applicable to promotion of design implementation through a certain degree of enhancement.

First of all, MOIT has 23 industrial research institutes, some of which provide technical assistance for individual enterprises. For instance, Institute for Research and Development of Ceramic Industries (BBK) has a few designers who can provide assistance service. However, it has still to carry out full-fledged activities due to the lack of experience and expertise in method for technical assistance.

Similarly, the MOIT UPT system to support SMEs has technical staff but is limited by the shortage of budget and manpower, except for a few successful cases.

MOC&SME manages a program to provide SMEs and cooperatives with technical and management support by using registered business consultants, called PER. To make the consulting service more effective, efforts should be made to improve skills of the registered consultants. MOC&SME has 17 institutional finance programs for SMEs and cooperatives.

(2) Need for programs to support design implementation and basic strategy

Basically, projects and programs to support design promotion should emphasize reduction of difficulty that enterprises are facing, particularly SMEs, in their attempt to introduce the design process, e.g., actual steps to be taken after recognition of importance of design implementation.

In the first stage, the focus should be placed on efforts to encourage or convince the majority of enterprises that are reluctant to design implementation due to the lack of

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[1] A project to introduce the ceramic design process to ceramic shops in Lombok, under the assistance of the Australian government. The project brought significant benefits in term of improved recognition by establishing local identity and export promotion.

[2] For instance, the Indonesian Package Federation participates in the Asian Star Award.

assurance for success by showing successful examples. For this purpose, enterprises that have high potential for success will be selected and comprehensive support will be provided as pilot projects. Also, support can be extended to prospective projects that are difficult to be realized in the design implementation process. Support should include basic study and research as well as technical assistance covering the provision of raw materials and the manufacture of a prototype.

In the second stage, the support system needs to be reinforced to meet demand from an increasing number of enterprises that intend to implement the design process, including the financial base for institutional lending.

The support system can be enhanced in either of the following two ways: the hiring of additional technical support staff and design consultants within the framework of the existing program, or the launching of a new program focusing on support for design implementation. The former approach requires careful consideration to the proper training of support personnel and the development of a guideline for technical support, otherwise it is difficult to produce satisfactory results within the financial limitation of the existing program including operating funds. On the other hand, the latter approach can produce a significant effect in the long run as the new program will allow the strategic focus on the development of the infrastructure including support methodology, equipment and staffing. There are various vehicles for this approach, including a design guidance organization and a design adviser program.

In Japan, there are a number of cases that have successfully used the design guidance organization, such as the legacy "Industrial Craft Instruction Center" and design centers operated by local governments throughout the country. The approach is applicable to Indonesia but the establishment of extension-type centers throughout the country is not recommendable in consideration to operating efficiency. Rather, certain geographic areas should be selected on the basis of specific criteria (e.g., an area that has potential to use the design process for regional development, and an area where industries eligible for design promotion initiatives are concentrated), followed by gradual expansion to other areas.

Consultation service for individual enterprises in Japan is again provided by local government offices under the name of the advisor program. This approach is effective in making industry realize the role of the designer, in addition to support for design implementation. It can also provide an opportunity for employment of the designer by industry and the use of a design office. To apply the advisor program in the country, standards defining the responsibility of the advisor should be established in a form acceptable to service users, in addition to the securing of advisors in a sufficient number

and with sufficient quality.

In Indonesia, it is proposed that the design guidance organizations will be headquartered in one of MOIT's industrial technology research institutes (say B4T)[3] and will be operated under the design center. Branch offices will be located within other research facilities that have good access to potential clients. On the other hand, the design advisor program can be operated under PER, but it should not be totally absorbed into PER and should be allowed to give guidance autonomously.

Design advisors may be recruited in cooperation of design houses and educational institutions. The arrangement will benefit the both sides by giving a marketing opportunity for design firms and helping find the job of their students for design schools.

The new programs need to be driven by support staff, who can be effectively trained through research and study activities. In the second stage, therefore, it is recommended to expand such activities, while assigning designers to research organizations in a planned manner.

In addition, care should be taken to ensure transfer of good design techniques and practices in the research and study process and education of support staff, such as the hiring of a foreign topnotch designer as a temporary instructor.

Then, as an increasing number of enterprises implement the design process, the following activities should be carried out in the second and third stages to facilitate the implementation process: 1) provision of designer information for enterprises intending design implementation; 2) special incentives for design implementers in the form of display, publication and commendation; and 3) financial support and tax incentive. At the same time, design protection measures will become critical in encouraging mainstream enterprises to decide on design implementation (discussed later).

First of all, provision of designer information (including actual design work) should focus on the development of a single information source. It is important to inform enterprises as to where they can gain access to designer information, which must be collected and managed in a systematic and structured manner. Obviously, designers' associations should be responsible for collection and assortment of information on designers who belong to each organization, while management and provision of designer information to enterprises should be carried out by design centers or technical guidance organizations.

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[3] As the research and study organization, it is desirable to allow research and study in coordination with those in industrial technology, rather than design alone. Also, good access to university facilities is important in selecting the site.

Secondly, the government can offer various types of incentives for design implementing enterprises. For instance, products that have won awards in a commendation program offered as part of activities to promote design implementation may receive support for participation in overseas trade shows and exhibitions under the international economic cooperation initiatives. Or they may be introduced in government publications.

Once a certain level of industry's support becomes available, the design center may own or rent its exhibition space for the above purpose. It can serve as a sales outlet for products of good design, together with consultation and advertisement functions. In industrialized countries, the private sector takes leadership in renting a corner of a department store to display and sell good design products or helping operate a specialty store carrying products of award-winning design, effectively providing incentive for design implementation.

Furthermore, a design competition sponsored by an industry or an enterprise can be a power tool if good design is to be commercialized. By doing so, the enterprise can tap on design talents widely and establish contact with a large number of designers. In this connection, it is important to initiate design protection measures, such as the establishment of clear rules for design ownership and right to use, standardization of license and its terms, and legislation on protection of design and its rights.

Financial incentives may include concessional loans to finance new design development and subsidy on the hiring of a designer. Tax incentive is also effective in providing an overall impetus for design implementation. Note that such incentives should cover consortiums and cooperatives in addition to individual enterprises.

While financial and other incentives have a certain degree of effect on trade associations, designers' associations and community organizations, their feasibility must be verified on a case-by-case basis. In addition, some indirect incentives should be considered to supplement the direct ones, such as financial assistance to allow a designers' association to guarantee contract performance of a design house that wins a design job from an enterprise.

2.3 Design Encouragement Initiatives

(1) Current state and major issues

Design encouragement initiatives refer to various activities intended to improve design skills of designers and the levels of design work.   There are other activities to meet these goals, including collection and dissemination of design information, provision of advanced design examples and case studies through the exchange and networking of design information and personnel, design education and training, and research and study, which are discussed in other sections.   This section focuses on encouragement activities to give incentive for improvement of design skills in the form of design competition, evaluation, rewarding, and exhibition.

In Indonesia, design competitions, exhibitions and similar events have been held under the leadership of the design center, for the purpose of encouraging creation of good design work.   However, their results were very disappointing in terms of the number of design proposals submitted, the commercial use of good design work, and public recognition, failing to spotlight design as a major tool to invigorate industrial activities and develop local industries to competitive ones in the international marketplace.

In particular, design competitions are held under sponsorship of local, large or mid-sized enterprises who intend to incorporate good designs into their products.   While such intent is desirable from the standpoint of design promotion, the current design encouragement activities do not meet the true objective expected.

The activities intended to encourage designers to improve their design levels through the rewarding of good designs, e.g., design competition, good design award and exhibition, are expected to play a varying role according to the level of design pervasiveness in the country.

In a country where the majority of designs in the market are copied from foreign products and few original designs have emerged, an emphasis should be placed on presentation of good designs as examples to show the virtues of originality and creativity. Then, as more and more products of original and excellent designs are developed, the emphasis of encouragement activities should be shifted to promote these products to consumers.

Indonesia is clearly in the initial stage of design pervasiveness, at least in the field of product design, and encouragement activities should focus on presentation of good examples to promote creative design activities.   However, the present activities have been attempting to find good designs from a fairly limited number of design works and to

convert them into actual products. Clearly, they do no serve the purpose of teaching the importance of original design and stimulating designers to improve their design skills.

Furthermore, no objective (effective) design evaluation standards have been established to ensure that winners are selected at design competitions in a fair manner.

(2) Need for design encouragement programs and basic strategy

The current design situation in Indonesia is dominated by imported or copied designs, with the paucity of original design products. This is quite opposite to the policy objective to use design as an important instrument in upgrading industry under the open economy. However, the encouragement of good design through design competitions and awards contradicts the fact that they must deal with a very small number of original designs to choose from. For this reason, design promotion activities are not suitable for the first stage of design encouragement programs.

Instead, they have to wait until the second stage during which an increasing number of original designs are produced within the country. Still, design competitions and other events should not be limited within the country for several reasons. First of all, it will be still difficult to find a number of excellent designs that would truly encourage the rise in design level. Secondly, as local designers do not enough experience in creating designs that be commercialized for industrial production, they can only propose unrealistic designs that may not be implemented from the viewpoint of production techniques. Thus, design encouragement activities should attempt to imbue new ideas and approaches to the local design industry, especially talents from foreign countries. For example, a renowned foreign designer may be invited to head the jury of the design competition and to hold workshops, or a foreign producer may be hired to plan a design encouragement event.

At the same time, the second stage should focus on the establishment of a public forum to discuss and define the Indonesian design by gathering designers, representatives of industries and business circles, those of educational institutions, and general consumers. The results of the discussion will form the basis of developing national design evaluation criteria. It will be the appropriate time to search for the true meaning, value and role of design in the country, while learning from successful cases abroad[1].

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[1] This is also discussed in basic strategy for design promotion activities in II-1.1.

Most recently, in the world of interaction design evaluation, staged evaluation criteria are being developed in conjunction with ergonomics. This means, quantifiable criteria are established at first, followed by a gradual buildup of qualitative criteria, e.g., starting from negative check criteria (to verify the absence of design elements that have negative impacts on consumers), then to measurement of efficiency, evaluation of aesthetic and amenity aspects, and assessment of the design process as a whole. In particular, the evaluation of the entire design process includes evaluation in terms of suitability for a particular design that is embodied, which is becoming an important concept in the move toward international standardization[2]. New evaluation criteria therefore should focus on such new viewpoint.

When design evaluation is institutionalized, the formal system itself should become profitable and should have business viability (e.g., financial feasibility, etc.). At the same time, if the system is to contribute to industrial development, it must provide sufficient incentive for industries to receive design evaluation and have certification. For instance, management responsibility of the G Mark award system in Japan was shifted from a government organization to a public corporation since FY 1998[3] and it is expected to become self-financing as pervasiveness of design creates sufficient demand to support the system as a viable business. As incentives for industries to obtain the G Mark award, the design evaluation process has adopted transparent review procedures including notification of review results to applicant companies, while allowing each awarded company to announce it in its advertisement. As a result, the G Mark system serves as a design clinic to provide feedback information useful for design refinement and as a promotional tool to increase the product value. Clearly, this system is designed not only to promote design, but also to develop design consciousness of industries, and it is also expected to be profitable.

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[2] For instance, ISO13047 under consideration is considered to be in line with such concept.

[3] From the Ministry of International Trade and Industry to Japanese Industrial Design Promotion Corporation.

One of the most successful and reputed programs related to design promotion in Japan is "Good Design Mark (G Mark)." Through its history of over four decades, the program has significantly expanded its scope and extent, in terms of participation level and public recognition and bridges industry and consumers through design. In FY1998, G Mark covers 14 sections with 7 special prizes.

14 sections: (1) sports and leisure; (2) home media; (3) apparel and household goods; (4) housework and kitchen; (5) interior; (6) house; (7) office and store; (8) education; (9) medicine and welfare; (10) information; (11) industry; (12) transportation; (13) public space; and (14) facilities.

7 special prizes: (1) Good Design Grand Prize; (2) Good Design Gold Prize; (3) Universal Design Prize; (4) Interaction Design Prize; (5) Ecology Design Prize; (6) Good Design Special Prize for Small Business; and (7) Long Life Design Prize.

Since the first award 42 years ago, the G mark program has been receiving 2,000 – 6,000 applications each year (200 – 800 companies), with an accumulated total of over 23,000 items up to FY1998.

The program is widely recognized by the public. A periodical survey conducted in 1997 (questionnaire survey of 2,000 consumers of 18 years or older, male and female) indicate that 68.2% of respondents recognize "G Mark" and more than 40% understand its meaning (the mark attached to a product that has been officially selected for its good design).

As a company which has received any of the prizes is allowed to affix the G Mark to its product and use it for sales production, consumers recognize and understand its meaning through advertisements on media, product catalogs, corporate brochures, and other medium, and they readily associate the mark with the positive aspect of the product as good design.

2.4 Use of Design Information and International Exchange

(1) Current state and major issues

Collection of international design information and the international exchange with design organizations are highly effective in raising the levels of design by stimulating creativity and imagination.

Design information means information that directly contributes to the improvement of design skills and the levels of design work, including industry trends, new designs and case studies, and design research and analysis. The international exchange refers to the exchange of human resources and information led by design associations and design promotion organizations.

1) Foreign case studies on collection and dissemination of design information, and exchange of design resources

Major issues related to design information are threefold: 1) to develop a system to collect design information systematically and efficiently; 2) to develop a system to disseminate information to users timely and efficiently; and 3) to develop a system to facilitate the effective use of information.

In industrialized countries, major sources of design information are periodic and non-periodic publications including books, magazines and house organs. Design organizations generally collect information from these media according to their area of design fields. Other sources include local and foreign design awards, competitions and exhibitions (booklets and records of design works including photographs and sketches), product brochures and catalogs, and product samples collected in foreign markets. Furthermore, design promotion organizations (including technical assistance organizations and testing laboratories) often collect periodic publications of design organizations in a variety of design fields, in addition to the above information. Some governments have liaison offices to collect foreign information regularly. For instance, a local government in Japan has sent design experts to JETRO offices in New York, Hamburg and other cities. The Osaka Prefectural Government has used local correspondents in New York, Paris, London and Milan[1].

Information so collected is generally kept in a library and is accessible to the general public. Design organizations issue periodic publications for their members, which contain such information and its analysis. Some organizations disseminate

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[1] Japanese designers working in these cities were hired, on contract basis, as special correspondents having the press certificate and gathered information from various sources.

information at their regular meetings[2]. In addition, there are a variety of media to provide design information, including permanent exhibitions, periodic exhibitions, seminars and workshops, special meetings to exchange design information (including academic societies), and field consultation service. Recently, the Internet is increasingly used as an emerging medium with expansion of information and communication networks and will increase its importance as an interactive medium of information gathering and dissemination.

The international exchange should address the following objectives: 1) to provide an opportunity for exchange to meet the needs in a timely and continuous manner; 2) to secure sufficient participation; and 3) to plan innovative events for the effective exchange.

Exchange activities in industrialized countries are mostly conducted as part of or through activities of international design organizations. ICSID, IFI, ICOGRADA, and other international organizations hold international conferences on a periodical basis and concurrently with seminars and exhibitions which serve as the place of announcement and exchange of advanced design work, industry trends and latest research and study. Also, international design awards sponsored by APF[3] and exhibitions held by various trade organizations provide important opportunities for international exchange. Exchange activities at the government level (including design promotion organizations founded by government), include the information exchange between design organizations (including the exchange of internal organs), seminars and workshops, design conferences, and the sending and reception of design conferences. Prefectural governments also hold design-related conferences using sister city relationships and promote the exchange of information and human resources through regional (municipal) design promotion organizations (including design centers[4]).

In a case of the international exchange event held by a design organization, mostly members of the organization and related designers are targets. However, in a case of the exhibition and the international award, participants are wildly invited from related industries and general. On the other hand, when a purpose of the event is regional development, participants are not limited to designers but local companies and local people. The related organizations and government may take important role at these kinds of events by issuing organization's periodicals or bulletins and Government's public information or conducting campaign.

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[2] For instance, ICSID and IFI.

[3] The award program covering package designs in Asia. From Indonesia, IPF participates in the event.

[4] For instance, the exchange between the Stuttgart Design Center and the Ishikawa Prefecture Design Center.

2) Collection and provision of design information, and international exchange in Indonesia

In Indonesia, there is no integrated system to collect and provide design information. While design organizations, government offices, and educational institutions collect information related to their own interest, which has still to be stored or compiled in a structured manner. Moreover, information held by each organization may be biased and no organization maintains an integrated system to manage, update and disseminate information on a continuous basis. This is evidenced by the lack of periodic publications and house organs in design fields. Also, although design conferences and seminars are held, it is not clear as to how and where information obtained at these events is stored.

Design exchange activities carried out to date include the participation in international design organizations[5], the participation and sponsoring of design conferences, seminars and other events, implementation of design projects[6], contract with foreign experts as resident or visiting consultant, and the exchange between local and foreign designers. However, most activities have been temporary in nature and have been initiated by foreign aid organizations, not local initiatives. Thus, they have not been planned under the clear definition of their role in continuous design promotion efforts, and the relationships among the various activities have not been well coordinated. As a result, these activities fail to work as concerted efforts to fulfill the ultimate objective of design promotion. Finally, there has been the lack of public relations to draw participants from the broad base or to disseminate the results.

(2) Need for programs and basic strategy

As pointed out earlier, it is important to learn from good designs and case studies in order to raise design skills and the levels of design. Unfortunately, however, learning opportunity in Indonesia is limited at handful of designers (except for those doing work for or with foreign partners). Also, access to design information is generally limited. Nevertheless, there are various ways to obtain design information relatively easily, including the collection of publications by foreign design organizations, magazines publishing information on design competitions and the results, and information published on the Internet. The first stage of programs should therefore focus on the development of the infrastructure, including the establishment of an integrated system to collect and

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[5]   HDII is a member of IFI.

[6]   Including the workshop project carried out as part of the present study, and the ceramic product development project in Lombok under the assistance of the New Zealand government.

store at the design center in a form available to the public access.

On the other hand, exchange activities need to be strongly supported by industry if they are to be planned and initiated by local design organizations. Also, they have to gain experience in design promotion efforts, based on which they will be able to exchange information with foreign counterparts. Until then, the international exchange should be limited to participation in events and other opportunities provided by international organizations.

In developing the infrastructure of the design information system, priority should be given to the understanding of which organization holds what information. Also, it is important to identify as to what type of information management and dissemination system each organization maintains and operates. Based on the understanding of these vital information, a plan should be made to enhance or supplement the existing systems as required, while defining the role and methodology of information management by each organization, e.g., what information it will collect, store and disseminate. This task should be proceeded stepwise, starting from wherever feasible.

Activities will be led by organizations in each field, which will incorporate the above initiatives in their action plans. It is important to coordinate their plans and activities through a central organization so appointed. In this case, the Design Council is expected to take the leadership role.

It should be noted that all the design information is not necessarily collected and managed by a single organization. Instead, common rules and standards for information management and access should be established, including clear identification of information sources and type and format of information stored, and a specific organization should be responsible for management of the decentralized information system. For instance, the PDN can serve as an one-stop information desk to tell as to what information is kept in where.

Exchange activities should start from participation of design organizations in respective international organizations to gain experience in international exchange. Through continuous activities within international organizations, they will be able to develop human networks and attain know-how. Meanwhile, actual exchange activities may be started in a selected area (industry) until full support by industry can be obtained and the scope of activity is expanded to wider areas.

Desirable functions of the PDN in Information management
and design exchange activities

For proper management of design information and promotion of design exchange, the ability to support centralized management of information (at least an one-stop shopping service) and the coordination function are critical. The PDN is a primary candidate as an organization capable of adding these functions. The center's public nature warrants management of non-biased information and can perform the coordinating function for diverse design fields.

Initially, the design center should devote itself to three areas that require immediate attention. First of all, it needs to identify information held by design organizations and establishes the index of design information. Information related to the international exchange (including schedules for international conferences, workshops and other events) should be included and managed separately from design information.

Secondly, the design center establishes the index of information on international organizations in cooperation with related organizations. At the same time, as information found missing in each organization (e.g., particular issues of foreign magazines and house organs) will be obtained so far as the budget permits. Efforts should be made to solicit donation of back numbers from individuals and organizations. The scope of activities should gradually be expanded from design organizations to educational institutions, government organizations, then to designers and researchers.

Thirdly, the PDN should make itself public as the information center. The index of information can be best utilized when the design community, industries and the general public recognize that the design center is the first place to ask about design information. The increased public recognition will enable the center to obtain necessary information without a special inquiry. Public affairs activities should be carried out by using periodical publications (e.g., newsletters) and the Internet. In particular, information publishing on the Internet can be economically done by setting up the web site on a commercial server, rather than managing its own server. So far as the center edits necessary information on a regular basis, web publishing is expected to cost less than the traditional paper-based publication.

This is believed to be a good starting point for the PDN before it considers the possibility of planning its own initiatives in international exchange or builds an information library. The activities in the above areas will enable the PDN to gain experience and knowledge in preparing itself for major endeavors.