

# The Future of Palm-based Soap in Asia Pacific

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## INTRODUCTION

The development of the oleochemical industry in Malaysia in early 1980s also marked the fast take-off of the soap making industry in this country. This was inevitable because soap is the most immediate downstream product and the most widely used body cleanser today since its production dated back to 2500 BC. In spite of the challenges from other non-soap personal cleansers such as facial, shower, bath and other liquid preparations, the sales of soap in the world, as a whole, is still increasing. On price and performance basis, a soap bar costs less per unit weight, has more surfactant content and longer shelf-life compared to the liquid preparations. It is easily transported with minimal damage and it occupies very little shelf-space, an advantage in competing for display in valuable supermarket shelf-space. With increasing consumer demand, soaps are becoming more personalized than ever before. Manufacturers today have to create all kinds of soaps with different concepts, properties, functions and variations to satisfy this great demand.

## WORLD SOAP MARKET

Based on a 1997 survey, the global market for bath and shower products amounts to approximately over US\$ 20 billion today (*Table 1*). The developed mature markets like Western Europe and North America are experiencing a gradual decline in soap consumption. This is partly due to the change in lifestyle and to the excessive production of chemical surfactants which have to be processed into various liquid preparations and even synthetic bars whereas, the rest of the world including Asia Pacific are having an increase in the sales of soaps.

### Asia Pacific Market

If we look at the regional sales figures (*Table 2*), Asia Pacific has the biggest market for bath and shower products contributing to

34% of the global value, amounting to US\$ 6.8 billion, and soap is the traditionally preferred and the most widely used surfactant in this region. With the exception of Taiwan, Philippines and Japan, the rest of the Asia Pacific countries are experiencing an annual increase from 5% to 19%. China tops the list with a 19% annual increase followed by Indonesia and Vietnam. China and India with populations exceeding 1 billion have great market potential for soap.

For the soap industry, the countries in Asia Pacific can be classified into three groups:

- net producers: Malaysia, Philippines and, to lesser extent, Indonesia are excessive producers of soap due to the abundance of palm oil and coconut oil.
- mature markets: Japan, Hong Kong, Singapore, Australia, South Korea and Taiwan, which have high per capita expenditure (*Table 3*), are saturated and more selective in

their cleansing products.

- emerging markets: developing countries like China, India, Pakistan, Bangladesh, Vietnam, Cambodia, Laos PDR, Myanmar and Thailand are the most interesting and challenging markets for soap makers. It is in these countries that the soap consumption will grow rapidly.

### China

China, in spite of its low per capita expenditure of US\$ 0.35 on soap, consumed about US\$ 450 million worth in 1997 (*Table 3*). With an annual percentage increase of 19% in the sales of soap and an average consistent 8%-10% annual growth rate, the sales figure will jump from year to year by leaps and bounds. Based on these figures, every year, the market will increase by about US\$ 85 million. An additional increase will come from economic growth. For a conservative assumption that 10% out of the 1.3 billion population get an extra increase in salary of US\$ 1 per year per person and that US\$ 0.1 is spent in keeping his or her body clean, the market is further increased by US\$ 13 million. This illustrates the great potential and elasticity of the market in China today.

By economic elasticity, we mean a small decrease in price would give rise to an increase in sale or a small increase in the income of the people could also give rise to an increase in the sale of the product. China has become a member of WTO and it has to open up its market by reducing its tariff barriers. Previously, the importing

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**TABLE 1. GLOBAL SALES OF PERSONAL CARE AND COSMETIC PRODUCTS (US\$ billion) - 1997**

Country	Bath and shower		Hair care		Skin care		Colour cosmetics		Total	
	US\$ (bn)	%	US\$ (bn)	%	US\$ (bn)	%	US\$ (bn)	%	US\$ (bn)	%
Western Europe	4.8	25	9.9	28	8.7	30	5.5	22	29.7	27
Asia Pacific	6.5	34	9.3	26	9.6	34	6.1	23	32.4	29
North America	3.2	17	8.3	24	4.5	16	10.2	39	26.7	24
South America	2.2	12	4.0	11	2.3	8	1.3	5	10.1	9
Eastern Europe, Africa & Middle East	2.3	12	3.8	11	3.4	12	3.0	11	12.8	11
World	19.0	100	35.3	100	28.5	100	26.1	100	111.7	100

Note: bn - billion.

Source: Soap, Perfumery and Cosmetics.

**TABLE 2. AVERAGE ANNUAL PERCENTAGE INCREASE IN SALES BETWEEN 1992 AND 1997 IN ASIAN MARKETS**

Country	Body care (%)	Colour cosmetics (%)	Soap (%)	Bath/shower (%)
China	5	0	19	-2
Hong Kong	13	10	16	11
Indonesia	15	0	17	30
Japan	11	5	2	2
Malaysia	16	10	12	23
Philippines	9	7	3	25
Singapore	17	14	7	25
South Korea	15	12	5	5
Taiwan	9	8	2	5
Thailand	14	18	5	37
Vietnam	-8	0	12	3

Source: Euromonitor.

duties for luxurious cosmetic soaps are 37% import duty, plus 20% sales tax plus 17% luxury tax (total 64%). Now, it may be viable to export high quality finished soap to China. Even better, if a reliable local partner is available, a joint-venture in a finishing line in China, by utilizing Malaysian soap base can be profitable. In big cities like Shanghai and Beijing, the consumers are more sophisticated and demanding. On average, a woman in these two cities spends up to US\$ 10 per month on cosmetics and toiletries. For a population of 15 million in

Shanghai and 10 million in Beijing, they collectively have more or less the same purchasing power as the whole of Malaysia and Singapore together. However, in the interior provinces of China, an ordinary toilet bar for bath is considered a luxury.

#### India

According to a 1997 survey, India spent US\$ 856 million on soap for a population of less than 1 billion, a figure that is double of that of China's and yet the per capita expenditure of both India

and China was and still is below US\$ 1 (Table 3). Basically, the suburban areas in China and India are the same. The people have poor personal hygiene made worse by the lack of public conveniences and bathing facilities. To them, a bath means washing the face, hands and feet. One way of increasing the sales of soap, according to Hindustan Lever in India, is to work with the local authorities in building more public toilets and bathing facilities.

#### Pakistan and Bangladesh

With an approximately 75 million population each, the majority can only afford the cheapest grade of soap, that derived from direct saponification of palm fatty acid distilled (PFAD) or high fatty acid palm oils. If one is thinking of upgrading the machinery to continuous saponification from the old boiling kettle saponification method, then the old machinery can be used to make this type of soap for these two countries. The value is low but the volume is big.

#### Thailand, Vietnam, Cambodia, Laos PDR and Myanmar (60 million, 75 million, 10 million, 5 million and 45 million, respectively)

They are fast emerging markets which need careful nurturing. In these countries, the type of consumers varies from area to area depending on their income. In general, they are less demanding than those in developed countries.

#### Japan, Hong Kong, Singapore, Australia, South Korea and Taiwan

If one is technically advanced enough to create new products, either in presentation, concept, property or function of the soap, one can penetrate these mature markets including the European Union and United States markets. To cater to these markets, manufacturers must constantly engage in research and

**TABLE 3. SOAP SALES BY COUNTRY IN ASIA PACIFIC, 1997**  
(US\$ million)

Country	US\$ million	Per capita expenditure	Regional expenditure (%)
China	422	0.35	15.6
Hong Kong	58	9.35	2.1
India	856	0.92	31.6
Indonesia	159	0.82	5.9
Japan	662	5.30	24.4
Malaysia	64	3.20	2.4
Philippines	129	1.87	4.8
Singapore	22	7.33	0.8
South Korea	85	1.89	3.1
Taiwan	80	3.64	2.9
Thailand	162	2.79	6.0
Vietnam	13	0.18	0.5
Total	2 712	-	-

Source: Soap, Perfumery and Cosmetics, Asia.

development. Marketing soap, a product long established by local suppliers or multinationals in these countries, is an uphill task. However, a successful venture means huge rewards. With the advancement in the oleochemicals industry and the abundant supply of palm oil in this country, the possibility for Malaysia to become the biggest supplier of soap to the world demand is very favourable.

#### TYPE OF SOAP

For the beginner, one has to decide on which type of product to produce. Basically, soap can be classified into six types with the value and profit margin varying accordingly (Figure 1):

- laundry soap - emerging markets;
- toilet soap - emerging and mature markets;
- translucent soap - emerging and mature markets;
- transparent soap - selective emerging markets and mature markets;
- novelty, specialty and toy soaps - selective emerging markets and mature markets; and
- combination bar - mature markets.

#### Laundry Soap

The laundry bar is a necessity outside the urban area where hand washing takes over machine. The laundry bar today is more of a combination bar containing synthetic ionic, non-ionic detergents and soap as typified by the formula below (Table 4). The presence of soap improves tremendously the properties of the bar. It helps to bind the other detergents, prevents hardening and cracking and improves the stain removing power. It may also contain a scrubbing agent like kaolin.

The sale of laundry bar requires a good distribution network. The bars have to be transported far and wide, a business suitable only to those who operate a food distribution network. Although the

profit margin is low, the quantity is big.

#### Toilet Soap

The vast toilet soap market allows plenty of space for new and old players to manoeuvre. Hence, competition is very keen. New innovation and variation are needed to satisfy the fashion conscious and demanding consumers. In countries where cosmetic and toiletry products are not regulated, fictitious names such as anticellulite, hair removing and whitening soaps are marketed. For long-term business, however, it is the quality of the product that matters. The cost of a toilet soap is governed by the quality of the ingredients, particularly the soap base. Soap chips or noodles produced in Malaysia have been used worldwide in making exceedingly good and well known soaps. The superb quality of our soap base is attributed to the freshly available palm oils and the advancement in oleochemical technology. When fresh RBD palm oil and kernel oil or fatty acids are skillfully saponified, the resultant soap base is whiter, chemically more stable and has no undesirable odour. The resultant soap bars will have better appearance, longer shelf-life and good performance in term of lather and after-feel. Our soap base is, in fact, superior to other sources be it vegetable or animal origin. It would be very difficult to remove coconut smell from its oil and soap made from coconut oil tends to have a slight

**TABLE 4. A TYPICAL COMBINATION LAUNDRY BAR**

Fatty acid (or PFAD)	45%
Soda ash	15%
Linear alkyl benzene sulphonate (LABS)	4%-10%
Sodium sulphate	10%
Sodium silicate (liquid)	20%
Citric acid	0.5%
Water	3.0%
Nonyl phenyl ethoxylate (NP 10)	2.0%
Fluorescent whitener	0.1%
Fragrance	0.3%-1.0%
Dye	q.s.

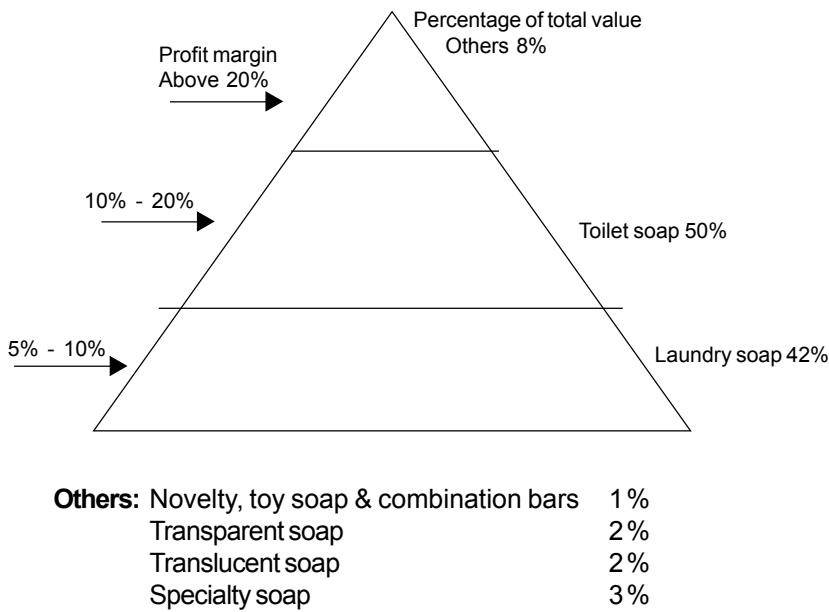


Figure 1. Market share and profit margin of soap categories.

nutty smell. Soap base derived from tallow has a religious barrier and may carry disease like bovine spongiform encephalopathy (BSE) or mad cow disease which is creating havoc in Europe at this moment. With the present low price of palm oils, Malaysian soap base is very competitive.

Good quality coupled with aggressive marketing strategy will ensure a good share in the market. Initially, it is difficult, but when your brand moves, it rolls like a snowball.

### Translucent Soap

The appearance of translucent soap in the market came naturally to bridge the gap between the common toilet soap and the luxurious transparent soap. In term of quality, translucent soap is slightly more moisturizing than the toilet soap because of its higher glycerin content 2%-4%. However, it takes advantage of its translucent appearance and it sells at almost the same price as transparent soap. In order to differentiate a transparent soap from a translucent soap, one has to place a 1 cm thick soap on a newspaper. If one can read the

print under it, it is a transparent soap. Otherwise, it is translucent. The Malaysian Palm Oil Board has recently produced a calibrated transmittance meter to measure the degree of transparency of a soap. Translucent soap can be processed from its base by a modification to the ordinary automatic toilet soap finishing line. The end plodder or extruder needs a twin-screw configuration with vacuum suction and temperature regulating jacket or barrel to extrude the high

glycerine soap. Soap with a high glycerine content tends to regurgitate and slow down the production rate.

Specially made soap chips or noodles are required to produce this kind of soap. The main supplier is ICI in Netherlands while other small manufacturers are located in Germany. The soap base from ICI Netherlands is known as Privason (Table 5). The production started in 1980, but only recently, could ICI successfully rectify its tendency to darken in colour. The price of the noodles is almost double that of ordinary toilet soap noodles.

### Transparent Soap

Transparent soap is a premium soap. In order to acquire its attractive and clear appearance, it is made through a more vigorous process which usually takes more than one week to complete. The manufacturing process is carried out batchwise and cannot be automated. Hence, extensive manual work is required. Adding to this, the selection of the starting materials requires stringent control. Every ingredient has to be pure, colourless and compatible in the system so that the resultant product is as clear as untinted glass. All the ingredients form a homogenous



Translucent soap.

and transparent medium, unlike the other soaps, utilizing the soap noodles to blend with additives like extract, perfume and colour.

As a result of all these strict requirements, transparent soap provides better quality and the following advantages:

- transparent appearance;
- good moisturizing and rinsability - by nature of the high glycerine content (5%-10%);
- no excess alkali - by batch quality control;
- good homogeneity - all ingredients are compatible; and
- vast variation - allows many additives.

In order to save money, effort and time in R&D and to enable small manufacturers to make transparent soap, we have worked out a simple procedure (Table 6) for making transparent soap from our

soap base with simple equipment. With a simple melting pot, casts, wire-cutter, trimmer and stamper, anyone can now make transparent soap of any shape, size, colour and fragrance, utilizing our soap base. Our soap base is now exported as far as Korea, Australia and Turkey.

Our soap base has the following specifications:

Total fatty matter (sodium soaps of palm and kernel oil)	50%-55%
Glycerine	6%-8%
Polyols	25%-30%
Sodium citrate	0.3%-0.5%
Free fatty acid	0.5%-2.0%
SD alcohol and water	qs to 100% (~10%)
pH	10-11

### Novelty Soaps

As far as novelty soaps are concerned, art plays a major role. The soaps can be stamped into all kinds of fancy shapes. Soap can also be hand-crafted into figures like animals, toys and flowers. These are ornamental items for decoration and exhibition but have little daily usefulness.

### Combination and Synthetic Soaps

As its names suggest, combination bars (combo) are made from the combination of soaps and synthetic detergents. These bars exhibit all the properties of normal soap with improved cleaning power from the added synthetic detergents like sarcosinate and isethionate. Bars made solely from synthetic detergents have very good cleansing efficiency, giving a squeaky clean after-feel but they are very soluble and tend to waste off. The synthetic bar allows a variation in pH. Manufacturers take advantage in adjusting them to pH 5.5, the pH of the skin and claim a bactericidal effect. Studies by the ICI group have shown that soap with this pH has very little functional significance, as the pH of the skin can be restored to 5.5 within 20 min regardless of the pH of the cleansing medium. In fact, it is the pH of the water, which washes off the soap that matters most.

### CONCLUSION

As presented, Asia Pacific in particular, offers huge markets for all kinds of soap. Having made the choice of the type of soap to produce, one needs a long-term commitment to improving one's product quality, packaging and, above all, in marketing one's products in the right markets.

**TABLE 5. SPECIFICATIONS OF PRIVASON**

Fatty acid composition	80/20 palm oil/kernel oil (%)
Total fatty matter	68
Water content	15
Free fatty acids	2.5
Polyacohols	12
Sequestrants	0.1

**TABLE 6. PROCEDURE FOR PROCESSING TRANSPARENT SOAP FROM SOAPBASE**

1. Cut soap base into smaller pieces to facilitate melting.
2. Heat 8% w/w industrial alcohol (95%) over a hot water bath until 65°C-70°C (alcohol may be added up to 10%-12% w/w).
3. Gradually add the soap chips with stirring to melt completely while heating up to 76°C (not exceeding 78°C-BP of alcohol).
4. After all the soap chips have melted, allow it to cool down to 68°C-70°C when the colour and fragrance can be added.
5. Pour it through a sieve to remove dirt or unmolten soap into a container (preferably plastic) and allow to harden.
6. Remove the soap from the container and cut into the appropriate shape and size for stamping, if necessary.
7. Allow it to dry (preferably in dehumidified room) before packing.
8. Transparency improves as soap hardens with evaporation of alcohol.