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# REPORT

to the

## MINISTRY OF FOREIGN TRADE

by

EDWARD CORCORAN

UNIDO Marketing Adviser

(Essential Oils, Perfumery, Toiletries and Cosmetics)

Bombay,
3rd April, 1972

(This report has not been cleared with the Bureau of Technical Assistance Operations of the United Nations, which does not therefore necessarily share the views expressed)

BASIC CHEMICALS, PHARMACEUTICALS AND SOAPS
EXPORT PROMOTION COUNCIL (CHEMEXCIL)
"Jhansi Castle", 7 Cooperage Road, Bombay-1.

3rd April, 1972

Mr. H. Lal
Secretary, Government of India
Ministry of Foreign Trade
New Delhi.

Sir,

You kindly agreed to my addressing this Report to you personally. I have structured the report on the Chemexcil Chairman's call to members for 100 crores rupees exports by the year 1976/77, and have shown in some detail what level of exports within this time span can be achieved by the manufacturers of all Chemexcil Panel IV products (essential oils, perfumery, toiletries, cosmetics, processed talc, soaps, detergents and textile auxiliaries) and Panel V Agarbattis.

My main theme is that steps should be taken to revive and modernise the Indian perfume industry. There is much scope for greater exports of both Perfume Compounds and Spiritous Perfumery: in addition spiritous perfumery can become a most valuable tourist item. Moreover the revival of India's former reputation as a leading perfumery country would be good for the Indian image abroad. My proposals for diversification of production of essential oils also fit into the pattern of making more indigenous materials available for the Indian perfumer.

I have also shown how and where exports of the other products, upon which I have been commissioned to advise, can be increased. I am convinced that the targets which I have given are realistic ones and in fact are likely to be exceeded.

I have suggested at the end of my report that this method of marketing planning in depth could well be extended to other Chemexcil panels, and perhaps even to other Export Promotion Councils, in order to have a better structure for judging results against targets and expectations.

Although I am now leaving India, I will watch with interest from abroad the progress of Indian exports in the fields, on which during these last few months I have worked strenuously but at the same time with much sense of personal reward.

I am, Sir,

Your Obedient Servant,

E. A. Corcoran

(E.A. Corcoran)

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## Summary of Recommendation

(1) That exports of Chemexcil Panel IV items (Essential Oils, Perfumery, Toiletries/Cosmetics, Soaps/Detergents, Processed Talc and Textile Auxiliaries) should be planned to rise from 6.50 Crores of Rupees this year to 15 Crores in 5 years time, and Panel V items (Agarbattis) from 1.4 Crores of Rupees to 3.25 Crores in the same period.

(2) **Essential Oils**

(a) India should diversify its production of essential oils both for import substitution and export, on top of the current production of sandalwood, lemongrass and palmarosa oils. Exports should be raised from 3.3 Crores of Rupees this year to 5 Crores in 1976/77, and there should be import substitution of more than one crore of Rupees within the same period. For exports, additional quantities of palmarosa, vetivert, geranium, lavender, patchouli, ylang ylang and deodar cedar wood oils should be produced: for import substitution, in addition to the above, there should be greater production of the oils of Cinnamon leaf, Citronella, Clove, Lemon, Orange, Peppermint (mentha piperita and mentha arvensis), petitgrain and spearmint. Specialist oils for fine perfumery such as Davana, Costus Root and French Basil, should also be developed for exports.

(b) S.T.C. should build up its marketing skills in the essential oil field, and undertake the selling for export of all essential oils that India produces, though not as canalised items. S.T.C. should be the main channel for regular contact with the 20 or 30 International Perfume/ Flavour Houses, and for providing the Research & Development Organisations (ACIR and CSIR respectively) with specifications of the physical, chemical and olfactory characteristics which foreign buyers require.

(c) The main foreign markets from which to achieve greater exports are the developed countries, especially Japan, North American and West European Countries, and Eastern European Countries.

(d) It would be well if CSIR/ICAR task forces could be appointed to stimulate production of the individual essential oils as described above. Three U.N. Short-term experts (botanist, agronomist and plant processer) should be attached to ICAR and CSIR to harness international experience to their work, particularly to improve yields and thereby help to bring down Indian prices.

(e) The Government of India should take positive steps to licence utilisation of the unused land on the Tea Estates in Assam and neighbouring States for the diversified programme of growth of essential oil-bearing crops as plantation items, with the Regional Research Laboratory Jorhat providing the guidelines for the efficient growing and distillation of the oils. This region of India should be visualised as capable of becoming a world centre for the production of essential oils, with increasing concentration of expertise and know-how. Production of essential oils as plantation items should also increase in other parts of India under the guidance of other Regional Research Laboratories.

(f) Positive action on the part of all concerned could improve India's annual balance of payments by 3 crores of rupees within 5 years, by increased exports mainly to hard currency areas and by import substitution, as well as benefitting the whole Indian Perfumery Industry by providing a greater diversity of indigenous materials for their use.

3. **Perfumery**

(a) It should be recognised that India can build on her traditions and skills to regain her position as a leading Perfumery Country, but there must be modernisation of the industry with scientific and technological innovations.

(b) The Industry should be encouraged to believe that its efforts are worth while. It should not be regarded as an irrelevant luxury industry with very low claims on national resources. Rebuilding India's perfumery industry on modern lines would be good for India's image abroad. Moreover perfumery of a spiritous kind, well packaged and presented, has not only good export prospects but is a valuable tourist item, which can bring in useful foreign exchange.

(c) It should be recognised that Perfumery is one of the fastest growing items of world trade: and that to take advantage of this, scope should be given to larger firms to enter this field. Perfumery should not be confined as now to Small-Scale industry.

(d) There are big opportunities to enlarge exports of Perfume Compounds (as intermediate products for end-product manufacturers of soaps, toiletries etc.), provided reasonable export incentives are given and Government finds a way of offering these without requiring perfume manufacturers to reveal details of formulations, something no perfumer will do the world over for strong emotional reasons. If a way out of this difficulty can be found, Indian exports of perfume compounds can be raised reasonably quickly towards the level of one crore Rupees, mainly to Asian and African Countries.

(e) Spiritous Perfumes, Colognes & Toiletries represent an even better opportunity for exports, provided the frustrations in obtaining industrial alcohol(and of a better quality) can be removed and taxation discriminating against the use of industrial alcohol can be changed, so as to allow the Indian manufacturer to develop skills in producing spiritous perfumery. The Revenue would not suffer because present restrictions have virtually prevented the manufacture of any spiritous perfumery at all, so that only minimum revenue accrues.

Exports of spiritous perfumes, colognes and toilet waters can be raised reasonably quickly from virtually Nil to-day to a level of well over one crore Rupees, both to neighbouring Asian Countries and to developed countries like Japan, U.K., E.E.C., Scandinavian Countries, U.S.A. and also to East European Countries.

4. <u>Toiletries and Cosmetics</u>

(a) Where a Company builds up export sales of toiletries or cosmetic products abroad and these sales look like being jeopardised by increased import duties, ways and means of local manufacture in that country should be encouraged. This will also help to build up Indian products as international brands, particularly in Asian Countries, likely to come under increasing Indian cultural influence.

(b) India should aim to increase sales of traditional toiletries (perfumed hair oils, talcum powders etc) to contiguous markets (Middle East, Sudan, Ethiopia, East African Countries and South East Asia) but should develop more modern products for other markets, like light hairdressings, hair sprays, deodorants, bath oils, shaving foams and aerosols of all sorts.

(c) There should be special efforts to sell big quantities of toiletries, cosmetics and make-up products to the East European markets under the Government Trade Treaties. This opportunity will not last indefinitely and the larger firms should jump in to get as much business as they possibly can, with the aim of building a measure of consumer franchise for Indian brands, leading possibly to local manufacture later under Joint Venture arrangements.

(d) There should be more effort to develop "unique" products springing from the nature of the country, which do not run head-on against full international competition from other countries: and these products should be better packaged and presented for export. Examples are black hair dyes, herbal hair products and shampoos, skin lightening and whitening creams, and herbal skin-care products. Small-Scale Firms have pointed the way here. It should be possible to build up much greater export business with this type of product.

(e) The objective would be to build up towards the export level of 4 crores of rupees, about 40% of this to East European Countries and another 40% intensifying sales to Asian & African Countries.

5. <u>Processed Talc</u>

(a) India should capitalise on her fine quality steatite (talc) and secure a dominating position in world exports of processed talc, aiming to raise quickly from current export level of 8,000 tons per annum (9% of world market) to 30,000 tons (33-1/3% of world market).

(b) The aggressive competition of Mainland China must be surpassed. This means improving the packaging of Indian processed talc, installing facilities for producing top-quality products (micronised powders, etc) in Rajasthan and

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selling at comparable prices to China on world markets, which will almost certainly involve stopping the current 20% export levy on processed talc.

(c) There should be better cooperation with the railways to get the processed talc to the ports in good condition, and more realistic shipping freight rates for large-tonnage shipments. The big markets abroad are the hard currency areas, i.e. West Europe, North America & Japan: also there can be some stepping-up of processed talc exports to East Europe.

6. **Agarbattis**

(a) The Agarbatti Industry should recognise that agarbattis/incense sticks have a good future in world trade. Manufacturers, especially the larger ones, must plan for the future with self-confidence, especially improving effective sales coverage of the promising export markets.

(b) North America is the most important market. Certain of the larger Firms should form a Joint Sales Company to cover this more systematically and take sales from the dominant Japanese competition. They should do more market research about exactly what type of agarbatti is required for future development (possibly with the aid of the Government Marketing Development Fund) and employ permanent Indian sales representatives in the U.S.A. to spur on the Agarbatti agents and stimulate the promotion of this news-worthy product.

(c) In order to eradicate the sub-standard agarbattis exported from India, thereby injuring the quality reputation of Indian products versus those of Japan and other competitors, there should be compulsory pre-export inspection arranged by the Export Inspection Council.

(d) Indian manufacturers are to be congratulated on building Agarbatti exports to the level of nearly 1½ crores of Rupees per annum. Now they must build on this success to achieve systematically a much higher level, with the expectation of well over 3 crores Rupees within 5 years.

7. The method of marketing planning in depth, used in this Survey might also be considered for use by other Export Promotion Councils as providing a useful structure for judging results against targets and expectations.

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RAC/TPC
Bombay, 3rd April, 1972

## Mr. Corcoran's Full Report

### Terms of Reference

1. The terms of reference, as given to me by the Ministry of Foreign Trade, in pursuance of the U.N.I.D.O. Briefing, were to advise generally on ways and means to increase exports in the fields of Essential Oils, Perfumery, Toiletries, Cosmetics and ancillary products promoted by Basic Chemicals, Pharmaceuticals and Soaps Export Promotion Council. I followed two other U.N.I.D.O. marketing Advisers, Mr. R.W.J. Slee advising on Drugs and Pharmaceuticals and Mr. W. Baelz, advising on Dyestuffs, whose Reports were already in the hands of the Ministry of Foreign Trade, when I arrived. I was instructed by the Ministry of Foreign Trade to regard my field of work as quite separate from those of my predecessors, but to follow their method of work. I was further instructed that the Government were not intending to expend public money to increase exports in these fields: the increase must come from the efforts of the Firms themselves.

2. I arrived in India on 2nd September, 1971. I was assigned to the Basic Chemicals, Pharmaceuticals and Soaps Export Promotion Council (CHEMEXCIL) in Bombay. This is an effective combination of Private Industry with Government and comprises five Panels, whose fields of activity are shown in para 6 below. I was assigned as Adviser to Panel IV (Essential Oils, Perfumery, Toiletries, Cosmetics, Soaps & Detergents) and also to Panel V (Agarbattis or perfumed incense sticks) in view of their relationship to Perfumery. For day-to-day work I was to report to Mr. V. Sitaram, Secretary of Chemexcil, and to the Chairman of Panels IV and V in Bombay: for my Reports and Recommendations I was to report to the Ministry of Foreign Trade, New Delhi.

3. I was allotted no official counterpart(s), though I worked very closely with Mr. Sitaram and members of the Chemexcil team, and kept them and my Panel Chairmen constantly informed of my activities, so that there may be follow-up of my work after my departure from India. I obtained special help from a number of experienced persons in my various fields of work, but the recommendations which I make in this Report are my own.

Programme of Work

4. My programme of work during the period of assignment proceeded as follows:-

Sept - seeing people within the Ministry of Foreign Trade, U.N.D.P. and Chemexcil Committees, gathering opinions and facts and writing my Initial Report.

Oct/Dec 1971 - Visiting a large number of industrial Firms & Public Establishments in Bombay, Bangalore, Mysore, Madras, Cochin, Delhi, Bareilly, Lucknow (including participating in the annual Convention of the Essential Oils Association of India), also participating in the annual general meeting of the Perfume & Flavour Association of India in Bombay, attending other meetings of exporters and writing my mid-term Report.

Jan/March 1972 - Making repeat visits to significant Firms & public Establishments, also visits to Assam (the most promising area for diversifying growth of essential oil-bearing plants), Calcutta, Udaipur (the centre of the Talc industry), Dehra Dun Forest Institute and Delhi. Formulating detailed recommendations for increasing exports of Essential Oils, Aromatic Chemicals, Perfumery, Toiletries, Cosmetics & Agarbattis, obtaining the reactions of Government officials, U.N.D.P. and key people in private industry to the proposals, and writing my Final Report.

April - Discussion of the Recommendations of my Final Report, and the continuity of the work with all concerned, prior to my departure from India on 26th April for De-briefing with U.N.I.D.O. in Vienna.

**Essential Oils' Marketing Problems are different from those of Toiletries /Cosmetics**

5. In considering the fields of my project, it is clear that the marketing problems of essential oils are almost completely different from those of toiletries/cosmetics. Essential Oils together with aromatic chemicals and perfume compounds, are industrial products, which are sold to Soap, Cosmetics, Food, Pharmaceutical and other industries as intermediate materials, whereas toiletries, cosmetics and finished perfumery are consumer end-products sold direct to the public. So different are they in their problems, distributive channels etc that they must be treated in this Report quite separately.

6. Chemexcil Exports (by Panels)

The specific exports covered by Chemexcil are comprised in the five panels, as shown below:-

Panel I - Drugs, Pharmaceuticals & Fine Chemicals

Panel II - Dyes, Intermediates, Coal-tar Chemicals and Alcohol.

Panel III - Basic Inorganic and Organic Chemicals (including Agro-chemicals & Salt)

Panel IV - Essential Oils, Perfumery, Toiletries, Cosmetics, Soaps & Detergents.

Panel V - Agarbattis

The following table shows exports of each Panel for the last three years, the targets for next year and the objective called for by the Chemexcil Chairman in 5 years' time :-

| | Exports (Crores of Rupees) | | | | |
|---|---|---|---|---|---|
| | 1969/70 (actual) | 1970/71 (actual) | 1971/72 (latest Estimate) | 1972/73 (Target) | 1976/77 |
| Panel I | 10.8 | 14.7 | 16 | 18 | Chairman's objective each Panel to build up its contributions to meet Chairman's objective. |
| Panel II | 2.0 | 3.8 | 4 | 4.5 | |
| Panel III | 4.7 | 6.4 | 7 | 8.5 | |
| Panel IV | 6.6 | 6.2 | 6.5 | 7 | |
| Panel V | 1.0 | 1.3 | 1.5 | 2 | |
| | 25.1 | 32.4 | 35.0 | 40.0 | 100.0 |

This sets the framework for examining the Panel IV Exports in detail.

Chemexcil Panel IV Exports

7. For the purpose of making my proposals, I have broken down each Panel IV product field into its component parts, then examined to what extent and where they are exported now; finally I have shown how much and to which countries they could be exported by the year 1976/77 to contribute to the objective of the Chemexcil Chairman (Mr. Shivanand Shah) for total exports of 100 crores of Rupees by Chemexcil Firms in that year. I have forecast a total Panel IV contribution of 15 Crores of Rupees in 1976/77 and a Panel V contribution of 3½ crores of Rupees, and have indicated the steps which need to be taken to reach these objectives. I consider that these figures are in fact likely to be exceeded, but I have wanted to show sensible, realistic figures, not starry-eyed ones.

This table then shows the Panel IV Exports broken down under their main headings:-

| | Exports (Crores of Rupees) | | | |
|---|---|---|---|---|
| | 1969/70 (actual) | 1970/71 (actual) | 1971/72 (latest Estimate) | 1976/77 (objective) |
| Essential Oils | 4.28 | 3.76 | 3.31 | 5.00 |
| Perfumery | .21 | .18 | .20 | 2.00 |
| Toiletry/Cosmetics | .80 | .79 | 1.46 | 3.60 |
| Processed Talc | .28 | .32 | .25 | 1.20 |
| Soaps/Detergents | .82 | .90 | 1.13 | 2.70 |
| Textile Auxiliaries | .21 | .23 | .15 | .50 |
| | 6.60 | 6.18 | 6.50 | 15.00 |

I will now deal with each of the main product groups in turn, explaining how the objective in 5 years' time may be reached in each case.

ESSENTIAL OILS

8. Presentation

The exports of essential oils from India, which were formerly at the level of 5 crores per annum have been receding. In fact India only exports three essential oils in any volume, namely sandalwood, lemon grass and palmarosa oils.

Lemongrass Oil

The recession in exports is largely caused by the decline of lemongrass oil. Ten years ago more than 1,000 tons of lemongrass oil were exported per annum with a value of between 2 and 3 crores of rupees: now exports are only 200 tons per annum, three quarters of which is to U.S.S.R. The balance of the world export trade has been captured by the Guatamala plantations, whose quality has been consistently better than India's and whose price has been rather lower. World trade in lemon grass oil has remained about the same over the past decade; it has not increased owing to the use abroad of synthetic citral (citral is of course the main constituent of lemon grass oil).

Sandalwood Oil

Sandalwood oil remains the most important product, comprising two thirds of India's exports of essential oils. Some 100 tons are exported annually, largely to North American & European Countries and Japan. Half of these exports are made by the Mysore Government Sandalwood Oil Factory, which has done good work in setting standards of quality and presentation, while also pioneering the use of airfreight to get their product more quickly and satisfactorily to their customers abroad. India does around 90% of world trade in sandalwood oil. Although small quantities are coming from Indonesia, there seems no likely large-scale competition in the forseeable future. Moreover there is no synthetic substitute, which is olfactorily satisfactory, anyway for fine perfumery. Therefore one can regard the Sandalwood Oil world market as a stable one. It is not likely to increase because Sandalwood Oil is a costly one, but India should be able to maintain her exports of around 100 tons per annum with a value of 2 crores or more.

Palmarosa Oil

Palmarosa Oil is the third main essential oil which India exports, some 20 tons per annum with a value in foreign exchange of around 25 lakhs. More could be exported, if the production was better organized. The best quality comes from wild growth in the forests of Maharashtra and Madhya Pradesh, but the State Forests take too much short-term profit out of it, thereby forcing the

Indian export price high above that of Brazil. Palmarosa is also grown as a field crop in Andhra Pradesh and elsewhere, but the quality (i.e. geraneol content) is not so good. The improvement of exports would come, if efforts were made to improve the quality of the field grown palmarosa, which should be quite feasible.

## India could grow any type of essential oil

9. With its diversity of soils, climates and altitudes, India could grow somewhere any essential oil, which had a good prospective world market. In order to improve exports, it is necessary to diversify the variety of products seriously offered. A greater diversification of essential oils readily available in India would also be to the benefit of the Aromatic Chemicals and Perfumery industries, as I will explain later in this Report.

## International Perfume/Flavour Manufacturing Houses

10. I have had the benefit of advise from certain of the International Perfum./Flavour manufacturing houses abroad, as to which essential oils should make good export products in the next decade (notwithstanding competition from synthetics). There are some 20 to 30 opinion-forming International Houses, whose perfumery and flavour formulations set the trend of use of natural and synthetic materials, even though the greater part of the buying and selling is done through Brokers. A list of the main International Houses is shown at Appendix A.

## Essential Oils Export Policy

11. As a result of this advice and other factors, I have submitted the following export targets to be achieved within the next five years:-

| Essential Oil | Total Current Production per annum (tons) | Current Annual Exports (tons) | Future Export target per annum (tons) | Target Export Prices as per kg. F.O.B.India |
|---|---|---|---|---|
| Sandalwood | 150 | 100 | 100 | 215/235 |
| Lemongrass | 800 | 200 | 225 | 20/30 |
| Palmarosa | 55 | 20 | 50 | 100/120 |
| Vetivert | 6 | 1 | 25 | 110/130 |
| Geranium | 2 | - | 20 | 250/270 |
| Lavender | negl | - | 20 | 60/80 |
| Patchouli | negl | - | 50 | 50/70 |
| Ylang Ylang | negl | - | 5 | 75/90 |
| Cedarwood (Deodar) | 15 * | - | 50 | 15/20 |

* the greater part of stumps and chippings from felled trees are burnt, and not distilled for oils.

There are other specialised oils of a costly nature which grow in India and which could be further developed for export and to add to India's treasure and diversity of essential oils, e.g. Davana, Costus Root, French Basil etc. These are costly oils: total exports would amount to kilos rather than tons, but money receipts would be good.

Import Substitution

12. At present India imports some 1½ crores of Essential Oils, which should largely be grown in India, particularly the following:-

| Essential Oil | Present Annual Imports (tons) | (lakhs of Rs) | Comments |
|---|---|---|---|
| Cinnamon Leaf | 8 | 1.5 | also a source of vanillin, which is imported to the tune of 13 lakhs p.a. |
| Citronella | 100 | 15 | |
| Clove | 30 | 8 | |
| Geranium | 10 | 14 | |
| Lavender | 15 | 8 | |
| Lemon | 16 | 4 | |
| Orange | 40 | 6 | |
| Peppermint/Mentha (Piperita & Arvensis) | 120 | 50 | Mentha Arvensis is a source of Menthol, also imported. |
| Patchouli | 20 | 10 | |
| Petitgrain | 5 | 2 | |
| Spearmint | 3 | 3 | |
| Ylang Ylang | 3 | 3 | |

Appendix B gives the full list of imports of Essential Oils over the past three years.

Indian policy should be to diversify its production of essential oils primarily for import substitution, but with a modest surplus for exports, where there are good markets abroad. All the above imported oils can be produced in India. To do so would give the benefits of making available a greater variety of indigenous materials for Indian perfumers.

13. Plantation - growing is vital

To produce essential oils efficiently, the plants (or trees) should be grown on plantation-scale with big enough distillation units to give the most efficient yield. More money is wasted in the production of essential oils by primitive distillation units in India than by any other factor. Land ceiling legislation also operates against the most efficient growing of essential oil crops and it would help if the above-mentioned crops could be exempted from this. It is necessary to reach maximum efficiency, in order to bring down Indian prices, which are normally double or even treble world prices.

14. Suitable Plantation land available on Tea Estates

Fortunately there is in Assam & neighbouring States adequate land available of the right type with the right climate and altitudes to produce on plantation scale many of the essential oils which India needs, with the main exceptions of sandalwood, palmarosa and vetivert. Moreover there is the great advantage here of the stimulation of the Regional Research Laboratory at Jorhat, which has developed much scientific and commercial expertise about the growing and distillation of essential oil-bearing crops. They have already encouraged with great success the growth of Citronella on the spare land of the Tea Estates and within some three years production here and in other parts of India should make the country self-supporting in this important oil.

There are large amounts of land licenced to the Tea-Estates for growing tea only. The tea market has never developed fast enough to utilise this land, and the tea planters are anxious to use their unused land for other crops, for which Government permission

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must be obtained. Those who have diversified into Citronella with the backing of the Jorhat Regional Research Laboratory, have done very well. This is partly due to the high internal price of Citronella, which is 70 Rs per kg as against 25 Rs per kg world price. Sooner or later Indian domestic prices for all essential oils must come down, but at present they are attractive to the efficient grower/distiller.

To cope with the greater part of Indin's needs for essential oils, as defined above, a maximum of 100,000 additional acres are needed. This land is available on the Tea Estates. At present the Government is cautious about granting licences to the Tea Estates for producing essential oils. My recommendations is that the Government should adopt an urgent, positive role to have all unused land on the Tea Estates utilised as quickly as possible for the production of essential oils. This would incidentally provide new sources of employment because growing essential oils is labour-intensive.

Of course this is not to say that production of present and new essential oils should not continue and be developed in other parts of the country, where indeed essential oils are now being grown with success, (e.g. mentha arvensis in Uttar Pradesh) supported by skilled and dedicated Regional Research Organizations. But it is not easy to get additional plantation land in these parts. Accordingly it is Assam and the North East that I visualise as becoming the main "arsenal" of production, with ever-increasing expertise in all aspects, so that this part of India becomes a world centre for know-how both for widely used essential oils and for the costly fine-perfumery oils with specialist markets.

15. Increasing Essential Oil Yields (U.N. Assistance)

Commercially, the big problem of the future will be to bring down Indian prices, which can only be done by improving yields, both growing and distilling. In other fields (e.g. Miracle Rice and Mexican Wheat) greatly increased yields have been obtained by giving attention to plant-stock.

This has only been done on a limited scale in India with essential oils. Many times during the course of my project, managers of experimental farms and others have asked me, "Can you get improved plant stock for us to try?" It seems to me that more international experience should be systematically made available not only to improve plant stock but also growing methods, plant protection and distillation. I am reviving therefore the proposal made to the Government of India in the 1967 Coggan Report, which originated my mission, namely that a group of three specialists should be provided by the U.N. to assist the Government of India Agencies now studying the cultivation and harvesting of the various plants in the aromatic oils' field used as source material for a variety of end products with high export potentiality. The team shall consist of a botanist with wide experience in the developing and harvesting of strains of plants with high extractible yields(i) : an agronomist, who can assist in assessing the best growing conditions to improve the growing yields and a processor (distillation expert), who can guide the programme for initial treatment of the plants to obtain high recovery of high-quality products. The job descriptions of these three specialists covering 24 man-months of work are given in the Coggan Report, so I will not repeat them here. Their tasks should be specific ones, i.e. to solve problems and increase yields only in respect of the Essential Oil programme set out above.

Footnote (i) A senior officer of the Ford Foundation, New Delhi, which has had considerable experience on agricultural projects in India, including medicinal plants, has contributed the following comments: "This will be another method to increase production and reduce the cost of production. In my opinion this should have the highest priority. I think what is needed to achieve the breakthrough in the increase of per unit area production is to have a collection of diverse germ plasm and then the Botanist or the Breeder could select the type which has the highest yield and widest adaptation. The introduction of high yielding strains is thus very essential and urgent. In this context I would suggest that instead of or as well as a Botanist perhaps U.N. would consider appointment of a Geneticist, so that selection and where necessary hybridication work could be started.

16. Governmental Action

How best to get action for quick programme! The idea has been mooted (but not resolved) that one of the Executive Bodies, on which the Indian Council for Agricultural Research (ICAR) & Council for Scientific and Industrial Research (CSIR) are jointly represented, should set up small task forces, which should include Industry representatives, to decide quickly what is necessary to be done to efficiently stimulate the production of the essential oils mentioned in the proposed programme. This seems to me to be an excellent idea, which I hope will be implemented. In terms of organization the proposed U.N. Botanist would be attached to A.C.I.R., which is responsible for Research and the Agronomist and Plant Processer to C.S.I.R., which is responsible for Development. If the Task Forces were operating, the U.N. experts could also work closely with them. I should add that I have had general discussions with I.C.A.R. and C.S.I.R. about these proposals.

It should be noted here that I have been often asked "Why export raw essential oils at all, wouldn't it be better to extract the most valuable components from them and export these at added value as aromatic chemicals?". There are of course valuable fractions and isolates in all the essential oils that I have mentioned, but in the forseeable future India is not likely to be competitive for export with aromatic chemicals produced from natural starting materials, particularly in view of competition from advanced Synthetics. In any case I am advocating in this Report a three pronged approach, namely to get as much increased exports as possible from raw materials, intermediate materials and end-products. I deal with the intermediate products more fully in the Chapter on Aromatic Chemicals below.

As regards essential oils, it is interesting that the strong study team on Medicinal and Aromatic Plants set up by the National Commission of Agriculture comes to very similar conclusions to mine. I was shown their draft report in fact after I had drafted my own proposals, but I was encouraged by the general similarity of their approach.

17. Marketing

The State Trading Corporation exports lemongrass oil, as a canalised item. The Mysore Sandalwood Oil Factory exports through its Agents abroad on a world-wide pattern. The rest of the essential oils are handled by numerous exporters in various parts of the country. Most are small, dealing in a limited range of products to a limited range of foreign countries. Some of them are efficient, others are not. India's essential oils have not the best reputation abroad, being considered inconsistent in quality and suffering from too much fluctuation in price. Strengthening the present Agmark scheme (pre-shipment inspection) is a "must" for export of all essential oils.

There is some need for a more organized system for maintaining regular contact with the 20 or 30 trend-setting International Houses, whom I have mentioned above and listed in Appendix A: to inform them continuously of what India has to offer and to get their guidance on acceptable physical, chemical & olfactory standards of Indian samples. For example the accepted international standard for geraranium oil is that of the Bourbon oil from Re-union Island and for patchouli oil that of Sumatra. There would be no object in embarking on large scale production, unless it is established exactly what specification of oil must be produced and what olfactory characteristics it must possess.

S.T.C. have expressed interest in marketing a wider range of essential oils, though not as fully canalised items, and building up overall know-how and skill in this area. I think there could be advantage in a national body, like S.T.C., dealing with all essential oils for export; and if they are prepared to do this, while leaving certain private channels with established connections to carry on undisturbed, then this would provide a satisfactory framework. I have of course had discussions about this with S.T.C. It is understood that the various Regional Research Laboratories and CIMPO's would participate in an organised dialogue with S.T.C. over provision of samples and specifications of essential oils under development, while the U.N. experts as & when they are made available to India would also establish contact with S.T.C. in formulating a product development and marketing strategy.

18. Quantified Targets for Exports

I have been modest in quantifying targets for export, namely expecting sandalwood oil exports to remain stable at some 100 tons per annum, lemongrass oil exports with better organization to stabilise at a slightly higher figure than at present (225 in place of 200 tons p.a.) and using the target figures for other oils, given in para 11 above. This would bring back Indian exports of essential oils to 5 crores per annum. This does not seem very much, but once the skills were established, this could grow markedly, as the world trade in essential oils is enormous (about 150 Crores of Rupees annually), so that I am only proposing an initial target for India of 3-1/3% of this.

The table below shows targets for the future exports of essential oils in money value:-

Exports of Essential Oils(Crores of rupees)

| | 1969/70 (actual) | 1970/71 (actual) | 1971/72 (latest estimate) | 1976/77 objective | |
|---|---|---|---|---|---|
| | | | | Crores Rs | tons |
| Oil | | | | | |
| Sandalwood | 2.75 | 2.45 | 2.10 | 2.00 | 100 |
| Lemongrass | 1.05 | .78 | .73 | .80 | 225 |
| Palmarosa | .26 | .25 | .21 | .55 | 50 |
| Vetivert | .03 | .02 | .01 | .30 | 25 |
| Geranium | - | - | - | .50 | 20 |
| Lavender | - | - | - | .14 | 20 |
| Patchouli | - | - | - | .30 | 50 |
| Ylang-Ylang | - | - | - | .04 | 5 |
| Cedarwood (deodar) | - | - | - | .03 | 50 |
| Others | .20 | .26 | .26 | .29 | 5 |
| | 4.28 | 3.76 | 3.31 | 5.00 | 550 |

Territorial Exports

Territorially the picture would be as below:-

Export of Essential Oils (Crores of Rs)

| Region | 1969/70 (actual) | 1970/71 (actual) | 1971/72 (latest Estimate) | 1976/77 Objective |
|---|---|---|---|---|
| East Asia & Australia/ New Zealand | .28 | .24 | Reliable | .50 |
| South Asia | - | .04 | territorial | .02 |
| African (other than North Africa) | .01 | - | figures not yet | .01 |
| West Asia & North Africa | .29 | .40 | to hand | .30 |
| East European Countries | 1.65 | 1.36 | | 1.50 |
| West European Countries | 1.63 | 1.24 | | 1.90 |
| U.S.A. & Canada | .42 | .47 | | .75 |
| South America (incl West Indies & Cuba) | - | .01 | | .02 |
| | 4.28 | 3.76 | 3.31 | 5.00 |

It will be seen that virtually all the expected increased sales of essential oils would be made to the developed countries i.e. Japan & Australia especially in East Asia, North America and West European Countries, all bringing in hard currency, and to the East European Countries under the Rupee Currency agreements.

Sales are largely made to the Essential Oil Brokers in the Western Countries, and to a lesser extent to the industrial users direct. The brokers should be contacted direct (there are about 50 important ones in the world): in addition there should be active sales agents in each of the important countries, with facilities for regular coverage of all buying outlets who purchase direct from the producing Countries.

19. Recommended Plan

(a) India should diversify its production of essential oils both for import substitution and export, on top of the current production of sandalwood, lemon-grass and palmarosa oils. For exports, additional quantities of palmarosa, vetivert, geranium, lavender, patchouli, ylang ylang and deodar cedarwood oils should be produced; for import substitution, in addition to the above, there should be greater production of the oils of cinnamon leaf, citronella, clove, lemon, orange, peppermint (mentha piperita and mentha arvensis), petitgrain and spearmint, Specialist oils for fine perfumery, such as Davana, Costus Root and French Basil, should also be developed for exports.

(b) S.T.C. should build up its marketing skills in the essential oil field, and undertake the selling for export of all essential oils that India produces, though not as canalised items. S.T.C. should be the main channel for regular contact with the 20 or 30 International Perfume/Flavour Houses, and for providing the Research & Development Organizations with specifications of the physical, chemical and olfactory characteristics, which foreign buyers require.

(c) The main foreign markets to sell to are the developed countries, especially Japan, North American and West European countries, and Eastern European Countries.

(d) It would be well if C.S.I.R./I.C.A.R. task forces could be appointed to stimulate production of the individual essential oils, as described above. Three U.N. short-term experts (botanist, agronomist and plant processor) should be attached to I.C.A.R. and C.S.I.R. to harness international experience to their work, particularly to improve yields and thereby help to bring down Indian prices.

(e) The Government of India should take positive steps to licence utilisation of the unused land on the Tea Estates in Assam and neighbouring states for the diversified programme of growth of essential oil-bearing crops as plantation items, with the Regional Research Laboratory Jorhat providing the guidelines for the efficient growing and distillation of the oils. This region of India should be visualised as capable of becoming a world-centre for the production of essential oils, with increasing concentration of expertise and know-how. Production of essential oils as plantation items should also increase in other parts of India under the guidance of other Regional Research Laboratories.

(f) Positive action on the part of all concerned could improve India's annual balance of payments by 3 crores of rupees within 5 years, by increased exports mainly to hard currency areas and by import substitution, as well as benefitting the whole Indian Perfumery Industry by providing a greater diversity of indigenous materials for their use.

## 20 AROMATIC CHEMICALS

### High Scientific and Technological requirements

If India is to regain her former place as a leading perfumery country, it is necessary for her perfume manufacturers to have access to a wide range of aromatic chemicals, otherwise they will not be able to make competitive perfume compounds or end-perfumery. Aromatic Chemicals in the world at large are big business with high scientific and technological requirements. In Europe or America, a modern rounded perfume can contain as many as 200 ingredients, of which 90% are synthetic ones. These are produced from natural starting materials (essential oils) but much more from coal tar, petro-chemicals, alcohol or other chemical bases. The Chemical bases are becoming increasingly important,

...../but

but the world growth of the perfumery industry is proceeding so fast, that the usage of natural products maintains its volume.

21. Present Indian Production

The total Indian production of aromatic chemicals (excluding camphor, menthol, beta-ionone, but including synthetic musks) is some 450 tons per annum by large-scale perfume/flavour manufacturers on the D.G.T.D. list, as against their nominal capacities of over 2,000 tons per annum. There is not therefore full use of capacities. Small-Scale manufacturers produce further quantities of simple aromatic chemicals. Moreover there are six established Chemical manufacturers who have also entered this field. In developed countries abroad, the Chemicals industry is best equipped to manufacture aromatic chemicals. The Perfume/Flavour Houses prefer to concentrate their creative efforts and resources on perfume formulation, only making special aromatic chemicals for their own needs, where these are special reasons for not buying outside.

22. Imports

India imports a wide variety of Aromatic Chemicals to the extent of 1½ crores of Rupees per annum, though not all are exclusively used for perfumery (see Appendix C for details). It is desirable that in due course these and new aromatic chemicals should be produced in India, but the process should not be rushed, otherwise the capabilities of Indian Perfumers to produce competitive rounded perfumes will be reduced. In the case of most of the imported products, the quantities are small. As demand grows, it can be expected that the Indian Chemical Industry will involve itself more in this field, particularly when the Indian petro-chemicals industry gets more fully into its stride.

23. Exports

India's exports of true Aromatic Chemicals are very small. One Firm, Camphor & Allied Products of Bareilly is making an effort to export aromatic chemicals, some of them quite new, developed from carone, longifolene

..../and

and iso-longifolene, ex turpentine oil. The remaining manufacturers produce simple aromatic chemicals for the domestic market mainly from natural starting materials (e.g. lemongrass or citronella oils), and on account of high costs of materials and small production runs, they are uncompetitive in export markets. Attached at Appendix D is a factual example made at my request by an Indian manufacturer, showing build-up of costs of two locally produced aromatic chemicals compared with international prices of these same products. However it is desirable in the national interest to get some exports of aromatic chemicals going, but this can only be done by giving very generous export incentives at the outset. I have not attempted to project figures for export of these products.

24. **Discussions with Firms for introduction of more advanced technology**

It is important to get more science and technology into the Indian Aromatic Chemicals Industry, and also that the Plant capacities and capabilities of the Aromatic Chemical manufacturers already operating in India should be more fully utilised. It is suggested that the D.G.T.D. discuss with each one individually how this can be done, and under what conditions they can be encouraged to bring more advanced technological know-how into their operations. But Indian perfume manufacturers must not be denied reasonable freedom to import aromatic chemicals from abroad, in the interests of increasing exports of perfumery, which is dealt with in the next paragraphs.

25. **PERFUMERY**

**Traditional Non-Spiritous Perfumery**

So far as the End-products of Chemexcil Panel IV are concerned, Perfumery offers the biggest single opportunity for increased exports. India has been a perfume country for centuries, and throughout the land there is considerable traditional skill in perfume-blending, often passed down from father to son for several generations. India has lost her leading position and now ranks low down on the list of Perfumery Nations, because there has been little innovation and there is continued reliance on Attars (flowers or herbs

...../distilled

distilled into sandalwood oil) and non-spiritous perfumes of a traditional type . Moreover Government philosophy is to regard Perfumery as a luxury industry very low down on the list of priorities. (The article on Indian Perfumery at Appendix E describes traditional Indian perfumery more fully).

These non-spiritous perfumes are popular in the Middle East and in certain Moslem countries, but in the rest of the world the taste is for spiritous perfumery, which give better initial impact and where the gradual evaporation of the alcohol, mixed with the essence, gives the characteristic whiff of fragrance commonly associated with French perfumes.

26 At present, Perfumery manufacture is reserved for Small-Scale Sector

Perfumery manufacture is reserved in India for Small-Scale industry. This is all right, if exports are to be confined largely to traditional products to nearby countries. But if export volume is to be obtained from selling to countries with greater perfumery usage, it is necessary that more latitude is given to the larger Firms, recognizing that modern perfumery is big business of a highly technical nature, depending very much on good packaging and on the discriminating use of new synthetic materials in a very rapidly growing world market.

27 Export Targets for Non-Spiritous Perfumery

Now let us see what India exports now and what could be exported in 5 years time:-

(lakhs of Rupees)

| | 1968/69 actual | 1969/70 actual | 1970/71 actual | 1971/72 latest estimate | 1976/77 objective |
|---|---|---|---|---|---|
| Perfumes (Non-Spiritous) | 14.16 | 14.43 | 14.15 | 16.00 | |
| Synthetic Essential Oils | 6.43 | 2.83 | 4.55 | 3.00 | |
| | 20.59 | 17.26 | 18.70 | 19.00 | 100.00 |

Perfumes (non-spiritous) include both finished perfumery and perfume compounds, which are intermediate products for use in manufacture of toiletries, cosmetics, soaps, detergents etc. Synthetic essential oils, by the Customs terminology comprise certain types of attars, blended oils with aromatic chemicals (like the blended rosa oil so popular in the Sudan), and acqueous distillates of natural perfumes. In fact in the Middle East, where much of the exports of Indias perfume compounds are made, the perfume compounds are largely used as end-perfumery products, because the Arabs like to use very concentrated perfumes. So itb convenient to group all non-spiritous perfumery together.

28 Scope for greater export of Perfume Compounds

There is not much scope for the additional export of attars and other non-spiritous End-perfumery, but there is considerable scope for greater exports of perfume compounds, which are in effect the perfume essences, which manufacturers add to other materials to make their end-products. At present, there is an export incentive for the export of perfume compounds (10% cash and 10% import replenishment licence). In fact there is much more than 10% import content (actually about double) in competitive perfume compounds. Manufacturers will not reveal the required information to the Import/Export Authorities to obtain larger import replenishment licences (say 20%) nor to claim drawback of duties or taxes legitimately due on exported products, because to do so would mean revealing their formulations, something which I can testify no perfumer the world over will do, even to gain money, because their formulations are the living expression of their art. If it is desired to increase exports of perfume compounds, it is necessary to find a way of offering adequate export incentives without requiring revelation of formulations. Given this, factual discussions with leading Firms indicate that with greater efforts on their part (because they will no longer be involved in loss-making), exports of perfumery compounds could be built up towards one crore of Rupees within 5 years, mainly to contiguous markets but also to some developed countries.

29. Territorial Exports - Non-Spiritous Perfumery

The territorial picture would look as follows:-

Perfumes (Non-Spiritous) and Synthetic Essential Oils

(Lakhs of Rupees)

| | 1968/69 actual | 1969/70 actual | 1970/71 actual | 1971/72 Latest Estimate | 1976/77 Objective |
|---|---|---|---|---|---|
| East Asia, and Australia/ New Zealand | 2.41 | 2.40 | 3.26 | Reliable | 22.00 |
| South Asia | 1.28 | 2.72 | 0.27 | territ- | 7.00 |
| Africa other than North Africa | 2.27 | 1.19 | 2.22 | orial figures | 13.00 |
| West Asia & North Africa | 12.79 | 8.76 | 11.51 | not yet to hand | 30.00 |
| East European Countries | - | 0.29 | - | | 10.00 |
| West European Countries | .70 | 1.03 | 1.04 | | 7.00 |
| U.S.A. & Canada | 1.07 | .87 | .23 | | 10.00 |
| South America incl West Indies & Cuba | .07 | - | .17 | | 1.00 |
| Total | 20.59 | 17.26 | 18.70 | 19.00 | 100.00 |

As will be seen, the biggest opportunities are with the nearby Asiatic Countries, where India could without great difficulty more than quadruple her exports within a short space of time.

30. Spiritous Perfumery - present position

As stated above, there is hardly any spiritous perfumery made in India, although this is the type of perfumery, which most countries want. The reason for this is that industrial alcohol (the vital solvent for the essence) is made very difficult to obtain, no doubt the result of prohibition thinking in the past. It is most unusual in other countries for products containing industrial alcohol to be penalised, but it is so in India with a very heavy excise duty on the finished product, strict administrative regulations about obtaining the alcohol, processing it, moving the finished products from the

...../factory

factory warehouse and from State to State etc, and constant control and presence of Excise officers in the factory. Moreover the quality of industrial alcohol supplied ex-molasses by the Sugar Factories is not good, though this is a quite satisfactory base material.

31 Denatured industrial alcohol should be freely usable

In other countries, industrial alcohol is regarded as a necessary ingredient for perfumery and indeed for many other modern toiletries and cosmetics. Once it has been denatured (with a denaturant suitable for the manufacturer's formulation), then there is no further special control. In some countries there is a small excise duty on the industrial alcohol supplied to the manufacturer, but in no other country to the best of my knowledge is the end-product penalised as in India. Anyway the result of all the difficulties with the use of industrial alcohol in India is that few manufacturers, small or large, bother to use it. If India is to build up her perfumery industry, especially with a view to exports, it is essential that better quality industrial alcohol be supplied more easily to the Industry.

32 Chemexcil Committee

Chemexcil has formed a strong Committee to formulate proposals for the freer provision of industrial alcohol and this has been discussed also with Maharashtra State officials. This matter will be followed up by Chemexcil after my departure. If perfumery grade alcohol can be made properly available (and remember that finished perfumery contains 70 to 80% of spirit solvent and colognes around 80%), there are good prospects for the export of spiritous Indian perfumes, colognes and toilet waters, especially these with oriental notes. Useful advantage can be taken of India's favourable position under the General System of Preferences, under which there is no duty on spiritous perfumery going into E.E.C. Countries, Scandinavian Countries, U.K., Japan (as against high duties from developed countries). Moreover spiritous

...../erfumery

perfumery, sold as an expression of Indian tradition and culture, would be an excellent tourist item, having high unit value, being easy to carry and not costly on air-freight.

33 Government Advertising of Perfumery as a Tourist Item

In fact others have had this same idea. Attached at Appendix F is the text of an advertisement featuring Indian perfumery, which appeared in European papers. This makes a good Tourist advertisement, but to make it really work, it is necessary to have the right type of outlet (e.g. Government tourist shops and good market shops) selling the right product with the right sales appeal.

34 Packaging

Also perfumery needs much better presentation and packaging than it gets in India to-day. Some of the larger Firms should be permitted and indeed encouraged to develop more sophisticated and better-packaged perfumery, rather than that it should be confined as now largely to small firms with inadequate resources for change. Small Firms will of course have a continued role to play. During the course of my work in India, I have had a number of talks with glass bottle manufacturers, the Packaging Institute of India & others about improving the quality and supply of perfumery bottles and other items of packaging to Small-Scale manufacturers. Attached at Appendix G is a circular letter sent out by Perfume & Flavours Association of India on this subject. This problem of glass bottles in particular must be solved.

35. Spiritous Perfumery & Colognes - Export Targets

Anyway with the world import/export market in end-perfumery so large, there is plenty of room for profitable exports by India, starting from virtually nothing now to a minimum potential of one Crore of Rupees per annum within 5 years. The following table, which comprises spiritous perfumery, colognes and toilet waters, shows the territorial possibilities:-

(Lakhs of Rupees)

| | 1968/69 Actual | 1969/70 Actual | 1970/71 Actual | 1971/72 Latest Estimate | 1976/77 Objective |
|---|---|---|---|---|---|
| East Asia, and Australia, New Zealand | neg | - | .24 | Reliable territorial figures not yet to hand | 15.00 |
| South Asia | - | .39 | .22 | | 1.00 |
| Africa other than North Africa | .96 | .08 | .17 | | 2.00 |
| West Asia & North Africa | - | .06 | .04 | | 20.00 |
| East European Countries | - | - | - | | 25.00 |
| West European Countries | .08 | .04 | .08 | | 15.00 |
| U.S.A. & Canada | neg | .02 | .03 | | 20.00 |
| South America including West Indies & Cuba | - | - | .03 | | 2.00 |
| Total | 1.04 | .59 | .81 | .85 | 100.00 |

Of the above projected 1976/77 figures, approx one third would be perfumes and two thirds colognes & toilet waters. I regard the figures as extremely conservative, they could well reach much more. There could probably be considerably higher exports to East European Countries, especially U.S.S.R., whose peoples want spiritous perfumery. There are increasing prospects for colognes and toilet waters in the Middle East; and in the Western Countries there are good possibilities of expanding exports of spiritous perfumery with oriental notes, both for men and women.

36. Consolidated Export Targets (Non Spiritous & Spiritous Perfumery)

Attached at Appendix H is the text of part of the Talk, which I gave on 2nd March 1972 to the National Council of Applied Economic Research on the subject "Exporting Indian Perfumery", which explains the subject further. Putting the exports of Non-Spiritous and Spiritous Perfumery together, the objective within 5 years is 2 crores of Rupees; as mentioned above I consider this

...../to

to be a conservative figure which with all India's advantages could be considerably exceeded if a really concerted effort is made by private industry, both large and small scale, sustained by the active encouragement of Government and the firm resolve to remove obstacles standing in the way. The table below shows the consolidated plan:-

(Lakhs of Rupees)

| | 1968/69 Actual | 1969/70 Actual | 1970/71 Actual | 1971/72 Latest Estimate | 1976/77 Objective |
|---|---|---|---|---|---|
| Perfumes, non-spiritous, perfume compounds and Synthetic essential oils | 20.59 | 17.26 | 18.70 | 19.00 | 100.00 |
| Perfumes, Spiritous | 1.04 | .59 | .81 | .85 | 100.00 |
| | 21.63 | 17.85 | 19.51 | 19.85 | 200.00 |

37. Recommended Plan

(a) It should be recognized that India can build on her traditions and skills to regain her position as a leading Perfumery country, but there must be modernisation of the industry with scientific and technological innovations.

(b) The Industry must be encouraged to believe that its efforts are worth while. It should not be regarded as an irrelevant luxury industry with very low claims on national resources. Rebuilding India's perfumery industry on modern lines would be good for India's image abroad. Moreover perfumery of a spiritous kind, well packaged and presented, is a valuable tourist item and can bring in useful foreign exchange.

(c) It should be recognised that Perfumery is one of the fastest growing items of world trade: and that to take advantage of this, scope should be given to larger firms to enter this field. Perfumery should not be confined as now to Small-Scale industry.

(d) There are big opportunities to extend exports of Perfume Compounds, provided reasonable export incentives are given and Government finds a way of offering these without requiring perfume manufacturers to reveal details of formulations, a thing no perfumer the world over will ever do for strong emotional reasons. If a way out of this difficulty can be found, Indian exports of perfume compounds (plus non-spiritous perfumery) can be raised reasonably quickly towards the level of one Crore of Rupees, mainly to Asian and African Countries.

(e) Spiritous Perfumery, Colognes & Toilet Waters represent an even better opportunity for exports, provided the frustrations in the way of obtaining industrial alcohol (and of a better quality) can be removed and taxation discriminating against the use of industrial alcohol can be changed, so as to allow the Indian manufacturer to develop skills in producing spiritous perfumery. The Revenue would not suffer, because present restrictions have virtually prevented manufacture of any spiritous perfumery at all, so that only minimum revenue accrues.

Exports of spiritous perfumes, colognes and toilet waters with oriental notes can be raised reasonably quickly from virtually nil to-day to a level of well over one crore of Rupees both to neighbouring Asian Countries and to developed Countries like Japan, E.E.C., Scandinavian Countries, U.K. & U.S.A., and also to East European Countries.

## TOILETRIES AND COSMETICS

38. Local manufacture in export markets sometimes required

Toiletries and Cosmetics are easy to manufacture and therefore many developing Countries have erected high tariff barriers against these articles, to protect their own industries. Here are some examples of import duties against Indian products:-

Afghanistan - 35% (toiletries). 100% (Cosmetics)
Brazil -20% (All Toiletries & Cosmetics)
Ceylon -110% (Toiletries/Cosmetics).200% (Perfumes)
Mexico - 70% to 90% (Toiletries & Cosmetics)

In the case of Burma, Peru and Trinadad, import of toiletries and cosmetics is prohibited. These are just a few examples. Certain resourceful Indian manufacturers get under barriers of this kind by exporting semi-finished goods in bulk (which attract a different rate of duty) and have them finished and packed locally.

Of course in the case of most developed Countries there is no duty against Indian toiletries and Cosmetics, but here there is head-on competition with the large indigenous manufacturers.

Anyway it is by no means easy to export toiletries and cosmetics, and even when a good export market has been developed, experience shows that there is a strong chance of import duties being increased, which necessitates local manufacture in that country to keep the business profitable. In general more of these local manufacturing arrangements should be encouraged , foreign exchange returning to India by way of commissions. This could help to spread the reputation of Indian products as international brands. A few Companies are already doing this, but at present it is a rare practice.

Indian Toiletries are mainly of traditional types

39. In general the toiletries which India sells most in the domestic market (e.g. talcum powders, perfumed hair oils, tooth powders, shaving soaps) are receding markets internationally. Developing international markets are in products like de-odorants, hair-sprays in aerosol form, bath oils and bath preparations, specialist skin-care products, aerosol shaving creams(in fact aerosols of every sort), After-Shave Lotion, colognes and toilet-waters. Many of these products contain alcohol, and as indicated above in my comments on perfumery, the frustrations involved in obtaining industrial alcohol in India seems to almost to have precluded its use in Indian

..../toiletries

toiletries. Chemexcil is trying to get something done about this, in order to make it easier to develop modern toilet-preparations for the domestic market, as a base for export.

Export Targets by Products

40. Now let us see what India exports now by way of Toiletries & Cosmetics, & what she might export in 1976/77.

(Lakhs of Rupees)

| | 1969/70 actual | 1970/71 actual | 1971/72 Latest Estimate | 1976/77 Objective |
|---|---|---|---|---|
| Tooth Paste | 4.78 | 3.59 | 3.50 | 12.00 |
| Tooth Powder | 1.31 | 2.30 | 1.00 | |
| Hair Oils | 17.93 | 20.94 | 20.00 | 50.00 (including light hair-dressings) |
| Brilliantines | 1.22 | .73 | .70 | |
| Hair Creams | 1.35 | 1.24 | ..60 | |
| Hair Dyes | 5.05 | 6.51 | 7.50 | 100.00 |
| Hair Shampoos | .65 | .59 | .30 | |
| Toilet Preps (Spiritous) | 1.30 | .64 | .70 | 15.00(incl Aerosols) |
| Talcum Powder | 10.39 | 12.43 | 15.00 | 20.00 |
| Toilet Powder | .68 | .75 | .60 | |
| Face Powder | 24.05 | 11.38 | 2.30 | 50.00(incl Herbal, lightening & Depilatory creams) |
| Face Creams | 2.14 | 2.17 | 4.00 | |
| Shaving Creams(i) | 1.50 | 1.36 | .50 | 3.00(incl Shaving foams) |
| Other Toiletries & Cosmetics n.e.s. | 8.21 | 14.50 | 89.00 (ii) | 110.00 |
| | 80.56 | 79.13 | 145.70 | 360.00 |

(i) Shaving Soaps included under Soaps n.e.s. para 58 below.

(ii) The large increase for other toiletries and cosmetics, not elsewhere specified is on account of the big cosmetic orders going to East European Countries).

41. **Big increase in East European Orders**

It will be seen that exports of toiletries & Cosmetics have more than doubled themselves in 1971/72, as compared with the previous year. This is largely due to a big increase in sales of preparations "not elsewhere specified", which represents part of the big cosmetic orders to East European Countries (litsticks, compacts, eye make-up, nail polishes etc.). Cosmetics represent an increasing item in the trade treaties between India and the East European Countries.

42. **Dental Products**

Dental Products are difficult to export, because they are so well and cheaply manufactured in most countries, and in the developed countries, it is impossible to make much headway without the support of local clinical research and dentists' backing, costly and difficult to obtain. However there is already a modest export of some 5 lakhs of Rupees mainly to contiguous countries, and this can be extended a little, including also export of branded toothpaste tubes, raw materials and particularly aroma for incipient local manufacture in neighbouring countries. The other possibility is export of toothpastes to East European Countries, which certain of the larger firms are intending to promote. The estimated target of 12 Lakhs of Rupees in 1976/77 is a minimum one.

43. **Hair Products**

Perfumed Hair Oils represent one of India's traditional exports to Middle East, Sudan and Ethiopia and East African Countries, Singapore and Malaysia and to the neighbouring countries (Afghanistan, Nepal, Bhutan & Ceylon). This will continue and can be increased moderately with more systematic salesman-ship, but there are not big opportunities in other countries. I have suggested to certain Firms that they consider the possibilities of exploiting the Indian herbs already used in hair oils (e.g. amlak with scalp cooling effects, bhangra with darkening, strengthening effects, brahmi acting externally to relieve nervous tension, chakakai

...../for

for hair conditioning etc), but in lighter type of hairdressings, such as both men and women in other countries use, e.g. liquid hair tonics, hair sprays etc. Particularly in western countries, there is something of a reversion to natural products, especially herbal foods, medicines and other herbal products, as a reaction against the artificialities of life. India is so rich in herbs and ayurvedic lore, that modest advantage could be had from this to build up further export of hair products, mainly in traditional markets but even in western markets. The target of 50 lakhs of Rupees in 1976/77 would also include some sales to East European Countries.

44. Hair Dyes & Shampoos

There is already quite a fair-size export of black hair dyes, mainly by one Small-scale Firm to Middle East and African Countries. The Black Hair dyes, both in powder and liquid form, represent a big international market (after all nearly 90% of the world's population have dark hair and are averse to growing gray). For well-produced products, effective and safe with normal precautions of use, there is a big market not only in Middle East, East Asia & all African Countries, but also potentially in western countries. Both powder and liquid dyes are in demand. More Indian Firms, both large and small, should be developing good hair dyes, improving packaging standards and exporting them. This type of product-springs from indigenous usage and has the advantage of a firm domestic base. If the Agarbatti manufacturers have been able to build up an export of 1½ crores of rupees per annum within a few years, it will be well within the possibilities of the Hair Dye manufacturers to reach a level of one crore within five years time. I have included in this figure also the export of shampoos. It is difficult to export normal shampoos, because there are so many good international brands manufactured in practically all countries, but herbal shampoos and hair darkening shampoos offer some possibilities, being the type of unique products which Indian Toilet Preparation manufacturers should try to develop for export.

45. Toilet Preparations(Spiritous)

These include a miscellaney of modern toiletries, like shaving lotions, deodorants etc. Their development depends on getting better quality alcohol without the present penalties. If this problem is solved, there is scope for modest export achievements.

46. Talcum Powders/Toilet Powders

These are traditional products, mainly exported to contiguous countries under Indian cultural influence. There is not much scope for increasing exports, except by aggressive salesmanship and more systematic coverage of markets.

47. Face Creams, other specialist creams

There is some room for increasing exports. Certain small-firms are doing exports to contiguous countries with speciality products like skin-lightening creams, whitening creams, etc. also incidentally depilatery creams (both thioglycollic and cold wax). I have suggested to some Firms that they consider Indian herbs (arita, turmeric etc.) as the basis for speciality products. With more Firms entering this area, both large and small, it is feasible to build up exports to 50 lakhs of rupees per annum in the next five years, mainly to contiguous countries.

48. Other Toiletries & Cosmetics

This Customs category covers a multitude of products, but the most important ones, as mentioned above, are the big orders of make-up cosmetics to East European Countries. The development of this business must be pursued with vigour. But there are stringent quality requirements both for product and packaging, and sustained business will only be obtained, if there is adherence to rigid standards and delivery conditions. This is a marketing area which should be tackled energetically by the big Firms, as there is no other export area so promising for cosmetic products in the immediate future.

49. Export Territorial Targets

This brings us to the end of the review of the product fields. Let us now see how the picture looks territorially.

(Lakhs of Rupees)

| | 1968/69 actual | 1969/70 actual | 1970/71 actual | 1971/72 Latest Estimate | 1976/77 Objective |
|---|---|---|---|---|---|
| East Asia and Australia, New Zealand | 16.58 | 14.32 | 18.05 | Territorial reliable figures not yet to hand | 40.00 |
| South Asia | 8.84 | 4.37 | 6.96 | | 15.00 |
| Africa, other than North Africa | 11.99 | 8.36 | 13.45 | | 40.00 |
| West Asia & North Africa | 13.07 | 17.33 | 19.24 | | 54.00 |
| East European Countries | 4.00 | 30.74 | 17.29 | | 155.00 |
| West European Countries | 2.39 | 3.44 | 2.09 | | 35.00 |
| U.S.A. & Canada | .22 | 1.10 | 1.85 | | 20.00 |
| South America, incl. West Indies & Cuba | .30 | .90 | .20 | | 1.00 |
| | 57.39 | 80.56 | 79.13 | 145.70 | 360.00 |

50. East European Countries offer big opportunities

It will be seen from the above that in the next five years the Region which offers the best opportunity for big volume exports of Toiletries and Cosmetics is East Europe. In 1971 the target for these products was 100 lakhs (U.S.S.R.) and 30 lakhs (the other countries); this target was nowhere near achieved by Indian exporters. The opportunities are so great that Chemexcil is instituting with S.T.C. a stronger control system, so that when exports are falling behind more manufacturers can be "whipped up" to close the gap. The East European targets for Toiletries/Cosmetics are likely to be increased during the next period of years, but this business will not last for ever (Russian consumers for example with greater affluence will build up preferences for known consumer brands); so it behoves Indian manufacturers to take maximum advantage now of the

..../opportunities

opportunities created by the State treaties and build up consumer franchise for Indian brands, which at a later stage might be converted into joint ventures with local manufacture in the countries concerned.

After East Europe, the next Regions in terms of volume are Middle East, African & East Asia, which need systematic coverage by good sales agency networks, regularly stimulated by the visits of Indian salesmen. Then more business can be achieved from the Western Countries, especially utilising the advantages of the General System of Preferences, under which Indian Toiletries & Cosmetics enter without Import Duty.

51. Total Markets in Developed Countries

Attached at Appendix J is a useful document prepared from U.N. sources, although at present only available upto year 1969, showing (i) the total imports into each developed country (excluding East Europe), of Perfumery, Toiletries and Cosmetics, (ii) India's share and (iii) her main competitors. Total import into the developed countries of Perfumery, Toiletries & Cosmetics was 174,484,000 U.S. Dollars or over 122 Crores of Rupees, of which India had barely .3%. There is plenty of room to improve this share, quite apart from sales to the rest of the world.

52. Recommended Plan

(a) Where a Company builds up export sales of toiletries or cosmetic products abroad, and these sales look like being jeopardised by increased import duties, ways and means of local manufacture in that country should be encouraged. This will help to build up Indian products as international brands, particularly in Asian Countries likely to come under increasing Indian cultural influence.

(b) India should aim to increase sales of traditional toiletries (perfumed hair oils, talcum powders, etc.) to contiguous markets (Middle East, Sudan, Ethiopia and East African Countries, and South &

..../East

East Asia), but should develop more modern products for other markets, like light hairdressings, hair sprays, deodorants, bath oils, shaving preparations, and aerosols of all sorts.

(c) There should be special efforts to sell big quantities of cosmetics and make-up products to the East European markets under the Governmental trade treaties. This opportunity will not last indefinitely, and the larger firms should jump in to get as much business under it as they possibly can with the aim of building a measure of consumer franchise for Indian brands, leading possibly to local manufacture later under joint ventures arrangements.

(d) There should be more effort to develop "unique" products, springing from the nature of the Country, which do not run head-on against full international competition from other countries, and these products should be better packaged and presented for export. Examples are black hair dyes, herbal hair products and shampoos, skin lightening and whitening creams, and herbal skin-care products. Small-scale Firms have pointed the way here. It should be possible to build up much greater export business with this type of product.

(e) The objective would be to build up towards the level of 4 crores of rupees, about 40% of this turnover to East European Countries and another 40% intensifying sales to Asian & African Countries. This is a relatively modest target for such a broadly based industry.

**PROCESSED TALC**

53. **Indian Steatite, the best in the world and with ample reserves**

India has the best quality steatite (talc) in the world, with ample reserves in Rajasthan, yet in the big world market estimated to be 90,000 tons per annum of processed talc powder (mainly cosmetic/pharmaceutical grade), India only exports some 8,000 tons. In this

...../current

current year in fact exports will only be 5,500 tons, due mainly to shortage of railway waggons and production difficulties. It should be possible to raise exports to 30,000 tons or more than one Crore of Rupees per annum within a relatively short space of time.

54. Split-up of World Market

World trade (85% Cosmetic/Pharmaceutical grade and 15% Paper grade) is split between countries as follows:-

| | Tons | |
|---|---|---|
| India | - 8,000 | (Certain exporters say that the DGCI & S has not picked up all Indian exports, which they claim to be 10,000 tons per annum). |
| China | - 20,000 | |
| Korea | - 4,000 | |
| Italy, France, Norway | - 15,000 | |
| Australia | 4,000 | |
| U.S.A. | 4,000 | |
| Others | 5,000 | |
| | 90,000 | |

Mainland China is proving a very aggressive competitor in all markets with top quality processed talc, better packed than the Indian product at prices 20% cheaper. Production in Europe is likely to decrease, because of lack of reserves of good quality talc and rising cost of labour. U.S.A. has indigenous supplies of talc of rather low quality. India could secure a dominant position in the world market, if it is now prepared to compete actively with China.

55. Measures required to be taken

(a) Better packaging of Indian processed talc, i.e. in 50 & 25 woven polythene or lined jute sacks in place of the 100 kg gunny bags now used. Steps are being taken to do this.

(b) Better facilities in Rajasthan to produce best grade processed talc, e.g. use of Photo-Volt apparatus to measure brightness (many foreign buyers specify their requirements by Photo-Volt

...../measurements

measurements), equipment for micronisation of powder etc. U.S.A. buyers, for example, will not purchase processed talc, unless it is micronised and guaranteed sterilised. There are no facilities for doing this in Rajasthan. Incidentally certain Countries (e.g. Italy, Norway & Japan) import steatite blocks from India & elsewhere, micronise them into fine processed talc, and re-export them with added value at double the cost. Why should not India get the advantage of this added value?

(c) Better arrangements over freight (railway & shipping) and I am afraid, the abolition of the 20% export tax on exports of processed talc, so as to allow India to compete on more effective terms with China in World markets.

56. Export Targets

Below are India's exports of processed talc for the last few years with the targets for 1976/77, which could be conservative ones, as agreed at a recent meeting of Talc mine-owners and Exporters in Udaipur, organized by Chemexcil and attended by members of the Rajasthan Government:-

(Lakhs of Rupees)

| | 1968/69 actual | 1969/70 actual | 1970/71 actual | 1971/72 Latest Estimate | 1976/77 Objective |
|---|---|---|---|---|---|
| East Asia and Australia, New Zealand | 5.30 | 6.58 | 4.20 | Reliable territorial figures not yet to hand | 15.00 |
| South Asia | 3.40 | 2.71 | 1.28 | | 2.50 |
| Africa, other than North Africa | 3.10 | 2.07 | 5.34 | | 12.50 |
| West Asia & North Africa | 2.40 | 1.23 | 1.35 | | 5.00 |
| East European Countries | .70 | 2.49 | 2.00 | | 10.00 |
| West European Countries | 12.30 | 12.83 | 17.81 | | 62.00 |
| U.S.A. & Canada | - | - | - | | 12.00 |
| South America incl. West Indies & Cuba | .10 | .04 | .05 | | 1.00 |
| Total | 27.30 | 27.95 | 32.02 | 25.00 | 1,20.00 |
| Tons | 8,346 | 7,345 | 8,226 | 5,500 | 30,000 |

57. Recommended Plan

(1) India should capitalise on her fine quality steatite (talc) and secure a dominating position in world exports of processed talc, aiming to raise quickly current exports of 8,000 tons p.a. (9% of world market) to 30,000 tons (33-1/3% of world market)

(2) The aggressive competition of China must be surpassed. This will mean improving the packaging of processed talc, installing facilities for producing top quality products (micronised powders etc) in Rajasthan, and selling at comparable prices to China on world markets, which will almost certainly involve stopping the current 20% export levy on processed talc.

(3) There should be better cooperation with the railways to get the processed talc to the ports in good condition, and more realistic shipping freight rates for large-volume shipments. The big markets abroad are the hard currency areas, West Europe, North America and Japan: also there can be some stepping up of processed talc exports to East Europe.

SOAPS AND DETERGENTS

58. Export Performances and Targets

Soaps and Detergents come into my terms of reference, in so far as they are Chemexcil Panel IV products and I have been asked to make myself available for advice to the manufacturers. Soaps and Detergents, like Toiletries and Cosmetics, are difficult to export, because of import barriers put up against them by the developing countries, while in the developed countries the price levels of the big indigenous manufacturers are too low for India to match. Let us see how exports have done with a projection into the future (see table below):-

(Lakhs of Rupees)

| | 1969/70 actual | 1970/71 actual | 1971/72 Latest Estimate | 1976/77 Objective |
|---|---|---|---|---|
| Washing Soaps | 36.58 | 32.44 | 20.00(i) | 40.00 |
| Medicated Soaps | 2.60 | 2.92 | 2.80 | 5.00 |
| Toilet Soaps | 25.12 | 17.70 | 15.00 | 40.00 |
| Synthetic Detergents | 10.29 | 30.91 | 69.50 | 180.00(ii) |
| Soaps n.e.s. (incl ShavingSoaps) | 7.82 | 5.56 | 6.00 | 5.00 |
| | 82.34 | 89.53 | 113.30 | 270.00 |

For notes (i) & (ii) see over

Notes (i) There has been some dislocation of the deliveries of washing & other soaps due to the War, so that 1971/72 exports are artificially low.

(ii) This figure includes detergent powders, bars and liquids.

59. TERRITORIAL PATTERNS

In looking at the territorial picture, it is well to split Soaps from Detergents, as they each have a different pattern (see tables below):-

SOAPS

| | 1968/69 actual | 1969/70 actual | 1970/71 actual | 1971/72 Latest Estimate | 1976/77 Objective |
|---|---|---|---|---|---|
| East Asia, and Australia/New Zealand | 5.78 | 8.69 | 6.35 | Reliable | 10.00 |
| South Asia | 55.42 | 58.39 | 45.50 | territ- | 50.00 |
| Africa, other than N.A. | 6.87 | 1.52 | 3.08 | orial | 5.00 |
| West Asia & N. Africa | .96 | .65 | .39 | figures | 5.00 |
| East European Countries | - | .58 | .41 | not yet | 15.00 |
| West European Countries | .55 | .31 | .74 | to hand | 2.00 |
| U.S.A. & Canada | 2.10 | 1.84 | 2.05 | | 3.00 |
| South America, incl. West Indies & Cuba | .03 | .08 | .10 | | negl. |
| Total | 71.71 | 72.04 | 58.62 | 43.20 | 90.00 |

DETERGENTS

| | | | | | |
|---|---|---|---|---|---|
| East Asia and Australia/New Zealand | .03 | 9.20 | .38 | Reliable | 10.00 |
| South Asia | - | .18 | .16 | territ- | 10.00 |
| Africa, other than North Africa | .08 | .34 | .51 | orial figures | 5.00 |
| West Asia & North Africa | 2.49 | .57 | 3.85 | not yet | 10.00 |
| East European Countries | - | - | 26.01 | to hand | 145.00 |
| West European Countries | - | - | - | | - |
| U.S.A. & Canada | - | negl. | - | | - |
| South America incl. West Indies & Cuba | - | - | - | | - |
| Total | 2.60 | 10.29 | 30.91 | 69.50 | 180.00 |

60. Export of Soaps

It will be seen that the greater part of the Soap exports go to South Asia (Afghanistan, Nepal, Bhutan and Ceylon) and to contiguous countries. This should continue in about present volume. There is no reason why some business in specialist products of a labour-intensive nature should not be developed with North American & Western European Countries, e.g. hand-packed Indian Sandalwood Soaps, hand stamped and polished toilet Soaps with other Indian perfumes like Indian cedarwood, etc., and especially with Eastern European markets under the Rupee agreements. A modest progressive increase can be envisaged for Soap products, but this may be slowed by the need for larger Indian manufacturers to set up local manufacture in contiguous countries to avoid tariff barriers.

61. Export of Detergents

But a far bigger increase can come from exports of synthetic detergents of all kinds, particularly to the East European markets. The standards of quality demanded are high, but this is a golden opportunity especially for the larger Firms, which private industry should exert itself to grasp with eagerness. Apart from the Firms already exporting, there are other Firms with worthy products which should enter this area of export, in order to maximise results. Some hold back, because of pressure of domestic demand for their products and the fact that exporting even to U.S.S.R. with its big orders is relatively profitless. With this sort of business, which involves fairly large capital investment, it would help if orders could be given on a 2 or 3 year expanding basis. Moreover Detergent targets do not appear to be written into the State Treaties as those for Toiletries and Cosmetics are. Anyway fuller use should be made of this business opportunity, especially when it is remembered that both Iran and U.A.R. are already exporting more N.S.D.'s to U.S.S.R. than India is.

## TEXTILE/COSMETIC AUXILIARIES

62. . Export Performance & Targets

These also come under the Chemexcil Panel IV. There are several Firms, manufacturing shampoo bases, foam boosters, emulsifiers, anionic and non-ionic detergents, ethoxylated lanolin and other intermediates used in the manufacture of toiletries, also fatty acids, hydrogenated castor oil and big ranges of textile auxiliaries. Glycerine also used to be exported in some quantity, but owing to the domestic scarcity, the export of glycerine is now banned. Prospects for markedly increasing exports of these intermediate "auxiliaries" are not great, because of rather high selling prices even with export incentives (due to high cost of indigenous materials and low production runs). Below are the relevant export figures of all these products grouped together with projections for 1976/77:-

(Lakhs of Rupees)

| | 1969/70 actual | 1970/71 actual | 1971/72 Latest Estimate. | 1976/77 Projection |
|---|---|---|---|---|
| Textile/Cosmetic Auxiliaries | 12.97 | 19.98 | 8.50 | 30.00 |
| Glycerine | 1.11 | .73 | .60 | - |
| Fatty Acids | 5.10 | 2.07 | 1.00 | 10.00 |
| Hydrogenated Castor Oil | 1.91 | .57 | 5.00 | 10.00 |
| Total | 21.09 | 23.35 | 15.10 | 50.00 |

The greater part of these exports are made to Middle East, African and Asian Countries. There is some scope for modest increases in these areas. I have put certain of the Firms in touch with U.N.I.D.O. under the Sub-Contracting scheme, i.e. for introduction of manufacturers of intermediate products to manufacturers of end-products in developed countries. I hope that some extra exports will come of this, even though they be of a modest Character.

## AGARBATTIS

63. World Trade

Total World trade (imports/exports) of Agarbattis/incense sticks is estimated in 1971 to have been as follows:-

World Trade in Agarbattis/Incense Sticks 1970
(Crores of Rupees)

| | |
|---|---|
| Japan | 4.00 |
| India | 1.40 |
| Taiwan | .60 |
| Hong Kong | .50 |
| Pakistan | .40 |
| Others | .10 |
| | 7.00 |

Japan's strength is mainly in U.S.A., where its incense sticks outsell Indian Agarbattis three to one. India's world share is only 20%. Because this is primarily a product, which is an expression of Indian tradition and culture, India should not be satisfied with a share under 50%.

Agarbatti/Incense Stick business is becoming big business. The Indian industry could do much better, if there was a serious attempt to plan for bigger sales and to fight Japanese dominance, achieved largely by an efficient Export House, which sells the Japanese products (better presented and packaged) more systematically than the Indian products.

64. Planning Future marketing

Indian manufacturers should get down to serious marketing, with self-confidence for the future. So many agarbatti manufacturers think that present export sales are a flash-in-the-pan, like Bleeding Madras! This is destructive thinking. Sales are beginning to spread over all territorial regions, except East Europe (and this is perhaps because no firm has offered them sufficiently imaginatively there). The Japanese Export House, market-oriented and relying on realistic market research, would not have taken on incense sticks, if there was any feeling that they lacked a future.

65. Export Targets

Here then is a statement of Agarbatti export sales over the last three years with forecast of what is possible for 1976/77:

Exports of Agarbattis (in Lakhs of Rupees)

| | 1968/69 actual | 1969/70 actual | 1970/71 actual | 1971/72 Latest Estimate | 1976/77 Objective |
|---|---|---|---|---|---|
| East Asia & Australia/ New Zealand | 15.2 | 18.3 | 21.2 | Reliable | 40 |
| South Asia | 2.5 | 3.6 | 2.2 | territor- | 5 |
| Africa other than North Africa | 31.3 | 31.2 | 34.2 | ial figures | 70 |
| West Asia & North Africa | 9.7 | 8.7 | 10.2 | not yet to hand | 25 |
| East European Countries | negl | negl | negl | | 10 |
| West European Countries | 4.8 | 7.1 | 11.3 | | 40 |
| U.S.A. & Canada | 32.5 | 28.7 | 46.9 | | 130 |
| South America incl. West Indies & Cuba | 1.4 | 2.2 | 1.5 | | 5 |
| Total | 97.40 | 99.80 | 127.50 | 140.00 | 325.00 |

66. Better Professional Coverage of the North American Market

North America is the biggest market. There must be more consistent and professional selling there by Indian manufacturers; at present this is mostly hap-hazard, depending on which Importers have taken the initiative to contact the Agarbatti manufacturers. These are often not the best firms to cover American outlets systematically. I have suggested to the larger Firms that they might form a joint sales company to cover this one crucial market properly. It seems wrong that there is not one permanent Indian Agarbatti sales representative in the U.S.A. It behoves the larger firms to give greater sales attention to this market, particularly if, as has been mooted, the Government of India makes a contribution from the Marketing Development Fund to provide the major U.S. Departmental

...../stores

APPENDIX D

Costs of manufacture of two locally-produced Aromatic

Stores with monthly supplies of Indian Agarbattis for publicity purposes. There should also be more systematic market research to discover the age-groups, sex and social classes of the Americans, who buy Agarbattis, why they do so and for what purposes, and whether they prefer the Indian agarbattis to the less fragrant extruded sticks produced by Japan and Hong Kong.

67. Opportunities in other Markets

Other big regional markets are Africa, East and West Asia, and West European Countries: their potential has not been fully developed as yet, because of inconsistent coverage by Indian salesmen and agents. Agarbattis should be forcefully offered to East European Countries, too, where there is a hunger for new consumer goods, and where fragrance is appreciated.

68. Small Agarbatti Firms not contributing much to exports

According to Chemexcil records, out of the 168 members of the Agarbatti Panel V, the first 3 manufacturers make 36% of the exports, the next 5 a further 20% and the next 11 a further 16%, so that 11% of the Agarbatti manufacturers make three quarters of the exports. The hundreds of small manufacturers make very little contribution to exports. Should not the Small-Scale Industry Development Organizations take over the full responsibility to raise their products and packaging standards for export?

69. Pre-Export Inspection

Measures must be taken to eradicate the export of sub-standard Agarbattis from India. The Industry has been talking about this for years, but no decisions are reached.

Of the various alternatives, I believe that Pre-Export Inspection is the most practicable. The Export Inspection Council has already worked out tentative standards, covering length of stick, eveness of coating, burning times and retention of

..../fragrance

fragrance. To these could well be added the inspection of trade marks and designs, i.e. if one of these could be confused by a neutral observer with that of an existing agarbatti brand with well established export sales, then this ought to be failed in the inspection. To make the inspection system as easy as possible for the smaller manufacturers, the Export Inspection Council would set up Inspection Agencies in all centres of Agarbatti production, where these are not already in existence.

70. Recommended Plan

(a) The Agarbatti Industry must recognize that agarbattis/incense sticks have a good future in world trade. Manufacturers, especially the larger ones, must plan for the future with self-confidence, especially improving effective sales coverage of the promising export markets.

(b) North America is the most important market. Certain of the larger Firms should form a Joint-Sales Company to cover this more systematically and take sales away from the dominant Japanese competition. They should do more market research to find out exactly what type of agarbatti is required for future development (possibly with the aid of the Government Marketing Development Fund) and employ permanent Indian sales representatives in the U.S.A. to spur on the Agarbatti agents and stimulate the promotion of this newsworthy product.

(c) In order to eradicate the sub-standard agarbattis exported from India, thereby injuring the quality reputation of Indian products versus those of Japan and other competitors, there should be compulsory pre-export inspection arranged by the Export Inspection Council.

(d) Indian manufacturers are to be congratulated on raising already the Agarbatti exports to the level of nearly 1½ crore Rupees per annum (much to the surprise of many outside the Industry). Now they must build on their success to achieve much higher levels, with the target of well over three crores of rupees within five years.

71. EXPORT HOUSES

There is a scarcity of Export Merchant Trading Houses in India, compared to many countries. The only two Private Houses with good overseas distributive networks in the Chemexcil Panel IV range of products are Tata Exports Ltd. and Indexport Ltd. While these Houses do export products produced by third parties, neither exports Toiletries/Cosmetics other than those of their own groups. There are a large number of merchant Exporters registered with Chemexcil, but in the Panel IV area none do any worthwhile business. The Public Export Houses (S.T.C., M.S.S.I.D.C. etc.) do not export Toiletries and Cosmetics, because other fields take up their attention.

72. Lack of marketing assistance for Small Exporting Firms

What lacks particularly is help to the Smaller Firms, which may have potentially good exportable products but do not know which markets to aim for systematically and are not competent to adapt their products to suit foreign markets, particularly with regard to packaging and presentation. This is a job which the Japanese Export Houses (and those of certain other countries) do so well. I have asked certain of the larger Firms in my field, with knowledge of foreign markets, whether they would be willing to export also the products of smaller firms; they have said that in principle they are ready to so, but the work of developing other people's products is quite complex and hardly worth the commission on the few lakhs of exports that might ensue. Moreover there is no security about the continuity of such business. So the smaller firm continues to be opportunist in making exports, giving their business to the first foreign agent who contacts them with an enquiry or order, without checking whether he has facilities to distribute properly throughout the foreign country concerned. Moreover it must be confessed that there are some lively small-scale Firms, who do not want to increase their exports to the extent that they have to install Plant above the value of 7½ lakhs Rs

...../and

and thus promote themselves away from the operational benefits attached to the small-scale sector.

73. Need for Stronger Export Houses

The Government is already actively examining proposals for creating conditions favourable for the growth of stronger Export Trading Houses, both private and public, and I will not go into this subject here. But bearing in mind the difficulties inherent in exporting Chemexcil Panel IV & V products, it would be of great benefit to have stronger Export Houses or Merchant Exporters, specialising in certain of the product fields or in particular areas of the world, where opportunities exist, but are not yet exploited, such as the Western European Countries or North America.

74. Achieving East European Targets

One regional area, which as mentioned frequently above is of special importance to the Panel IV area is that of East Europe. Here great opportunities exist now, which are not being fully exploited. Below are the 1971 Treaty targets for Toiletries/Cosmetics compared with actual sales:-

| | Cosmetic/Toiletries Target 1971 Rs. in Lakhs | Cosmetic/Toiletries Actual Exports 1971 Rs. in Lakhs | Detergents/Soaps Actual Exports 1971 Rs. in Lakhs | |
|---|---|---|---|---|
| U.S.S.R. | 100.00 | 61.99 | 44.12 | No Targets set for Detergents or Soaps |
| Bulgaria | - | - | - | |
| Czechoslovakia | 5.00 | 2.88 | - | |
| German Democratic Republic | 5.00 | - | - | |
| Hungary | 10.00 | 5.34 | .44 | |
| Poland | 5.00 | - | - | |
| Rumania | - | - | - | |
| Yugoslavia (miscellaneous Consumer Goods) | 30.00 | .52 | - | |
| | 155.00 | 70.73 | 44.56 | |

Obviously as yet insufficient momentum has been developed to meet the current targets, yet it is important that this be done quickly and it is in the interests of the Industry that it should be geared to meet increasing targets which may be set in future Trade Treaties. A strict control of what is being achieved against the targets is necessary, so that speedy corrective action may be taken when necessary. Chemexcil is now engaged in tackling this problem.

75. Government "Carrot and Stick" Policy

Exporting is not easy and relatively profitless compared with trading in the home market. Many Firms are putting their backs into it, because it is essential for the national interest. Most Firms, exposed to the Government "Carrot & Stick" policy (i.e. providing incentives if certain levels of exports are achieved and disincentives in terms of reduced licences for domestic manufacture, if they are not) are motivated by it. This has been a powerful weapon in the Government's armoury, but it would achieve more, if applied universally to all Firms above a certain size, otherwise there is temptation to refrain from embarking on the difficult job of exporting.

76. Building up more professional Export Departments

Facing the cold winds of competition in export markets is one way of building reserves of marketing talent. With the relatively small amount of marketing competition in the domestic market, it is not so easy to build marketing management skills. One thing, which has struck me going round Firms is the inadequate size and capabilities of many Export Sales Departments, even in Firms doing sizable export turnovers. This cannot be right. Could not the same tax incentives be applied to encourage the build up of adequate export departments at home, as there are for expenditure on travelling, promotions, advertising and setting up sales offices abroad? In some way or other,

...../export

export departments should be made generally more efficient and given more status. As the Chemexcil Chairman said in a recent speech "Exports should be first planned for, then striven for". They cannot be properly planned for unless there is sufficient management capacity in the export department, nor striven for unless there are export sales managers of competitive ability available.

77. Continuity of work

In coming towards the end of my Report, may I say that the marketing plans which I have outlined above for increasing Chemexcil Panel IV & V exports by nearly 20% per annum for the next five years are perfectly feasible, given the cooperation of all concerned. I have suggested to my Chemexcil colleagues, small in number though they are and burdened with massive day-to-day work, that they consider doing a similar 5-year planning exercise for the other Panels that I have done for PanelsIV & V, in order to give "teeth" to the Chairman's call for 100 crores of Rupees exports in five years' time. This might be useful work for a succession of young managers with export marketing potential, seconded to Chemexcil from private industry for a few months at a time, both useful for Chemexcil and providing a valuable broadening experience for the managers concerned. This method of marketing planning in depth might even appeal to other Export Promotion Councils to provide a better structure for judging results against targets and expectations.

78. Conclusion

I would like to thank the Chemexcil Chairman, the Panel Chairman, Mr. Sitaram and all the Chemexcil team for their unfailing help and kindness, also those who have directed me in the Ministry of Foreign Trade and other Government Departments, and the many in private industry, both large & small-scale firms, who have given me their valuable advice. I believe the project to be a necessary and valuable one in the national interest. I have

...../kept

kept my Chemexcil colleagues and others concerned fully in touch with what I have done, to provide continuity, and I trust that my work will help to accelerate the increase of Chemical exports in the coming years.

E.A. Corcoran
(U.N.I.D.O. Adviser - Essential Oils,
Toiletries & Cosmetics)

EAC/TPC
Bombay
3rd April 1972

APPENDIX-A

## List of Trend-setting International Perfume/Flavour Houses

| Country | | |
|---|---|---|
| U.S.A. | Fritzsche - D & O (Fritzsche Dodge & Olcott Inc.) 76, Ninth Avenue, New York, NY 10011 | Branches or offices in Canada, Germany, U.K., Japan, Mexico, Argentina, Australia, Austria, Bermuda, Bolivia, Costa Rica, Eire, France, Guatemala, Israel, Jamaica, New Zealand, Panama, Philippines, Puerto Rico, Sweden, Venezuela. |
| " | International Flavours & Fragrances Inc, 521 West 57th Street, New York 10019 | Amalgamated with the former Polak & Schwarz of the Netherlands. Branches or offices in many countries round the world. |
| " | Norda Inc 475 Tenth Avenue New York, N.Y. 10018 | |
| " | Felton International Inc 599 Johnson Avenue Brooklyn, New York, 11237 | |
| FRANCE | U.O.F. Fragrances 42-50 Rue de la Reine Henriette 92 - Colombes, Paris also at 23 Avenue Pierre Semard 06-Grasse, Alpes Maritimes | Union of two French Firms with an Italian and an American firm. Branches or Offices in U.S.A., Italy, Spain, Germany, U.K., Belgium, Morocco, Mexico, Argentina, Brazil. |
| " | Rhone-Poulenc, Societé des Usines Chimiques, 22 Av, Montaigne, Paris 8e | Offices in all European Countries |
| " | P. Robertet & Cie Grasse, Alpes Maritimes | Offices in Paris, New York, Tokyo, London, Frankfurt, Sao Paolo, Mexico, Bogota, Buenos Aires. |
| " | Roure Bertrand Fils & Justin Dupont, Grasse, Alpes Maritimes. | |

| | | |
|---|---|---|
| FRANCE | Lautier Fils,<br>Grasse, Alpes Maritimes | |
| " | Charabot & Cie<br>Grasse, Alpes Maritimes | Offices in Paris, London, New York |
| " | Bertrand Frères,<br>Avenue Font, Laugière,<br>Grasse, Alpes. Maritimes | Branches in London and New York.<br>Associated with Proprietary Perfumes Ltd. U.K. |
| " | Synarome et Cie<br>40, Rue Raispail<br>92, Bois Colombes,<br>Paris | also in Germany, Italy, U.K., Japan, Spain & U.S.A. |
| NETHERLANDS | International Flavour & Fragrances,<br>~~IFF~~(Nederland) NV<br>Postbus 309,<br>Hilversum-~~Liebterweg~~ 72-79 | Twin Head Office ~~with their~~ New York Associates - Branches in very many countries |
| " | Naarden's<br>(Naarden Chemical Works NV)<br>P.O. Box 2, Naarden,<br>nr Amsterdam, Holland | Branches or offices in Argentina, Australia, Austria, Belgium, Denmark, France, Germany, Hongkong, Italy, Indian, Japan, Malaysia, Mexico, Norway, South Africa, Spain, Sweden, U.K., U.S.A., Venezuela |
| " | A. Haschmeijer Jr. NV<br>Amsterdam, Holland | Many branches abroad, including that in Madras |
| " | Polak Frutal Works,<br>Rotterdam, Holland | |
| GERMANY (Federal Republic) | "Drogoco",<br>Gerberding & Co. GmbH,<br>3450, Holzminden | A well-established Company with offices in Austria, France, Italy, Spain, Mexico, Japan, U.K. and U.S.A. |
| " | Haarman & Reimer<br>Holzminden | Likewise well-established with many foreign offices. |
| ITALY | S.A. Esperis,<br>via Binda 29,<br>20143 Milano | Specialises in the processing of essential oils with four Distilleries in different parts of Italy. |

| | | |
|---|---|---|
| SWITZERLAND | Firmenich & Cie<br>1211 Genève 8 | Branches or offices in Paris, London, New York, Tokyo, Köln, Toronto, Sydney, Buenos Aires, Sao Paulo, Santiage de Chile, Quito, Mexico, Lima, Caracas, Bogota |
| " | Givaudan S.A.,<br>1214 Vernier,<br>Genève (Fragrances),<br>Dubendorf, Zurich,<br>(Flavours), | A very International House with branches in many Countries, including a big establishment at 44, Boulevard du Park, 92, Neully-sur-Seine, PARIS |
| SPAIN | Destilaciones Garcia de la Fuente S.A.,<br>San Jose Baja, 39,<br>P.O. Box 69, Granada | A well-known House established in 1912 |
| U.K. | Bush, Boake, Allen Ltd.,<br>Blackhorse Lane,<br>Walthamstow,<br>London E.17 | The association of Boake Roberts with W.J. Bush & Co. Ltd. A member of the Albright and Wilson Group. |
| " | Proprietary Perfumes Ltd.<br>International Perfumery Centre, Ashford,<br>KENT. | Won the Queen's Award to Industry for their big exports of Perfumery Compounds. Associated with Bertrand Frères of France. |
| JAPAN | Takasago Perfumery Co.Ltd.,<br>Head Office 4, 1-Chome,<br>Hatchoberi, Chuo-Ku, Tokyo,<br>Main Office, 36 5-Chome,<br>Kamata, Ota-ku, Tokyo. | Offices in U.S.A., U.K., Netherlands, Taiwan and Brazil. Branches in Fukuoka, Hiroshima, Sapporo, Osaka, Nagoya, Sendai, Hiratsuka, Shizuoka, Iwata. |
| | Toyatoma Perfumery Company,<br>No.5 1-Chome Nihon-bashi,<br>Hon-cho, Chuo-Ku,<br>Tokyo. | A well-established business, founded in 1925. |

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rapid growth rate. In Europe or America, a modern

APPENDIX B

## IMPORTS OF NATURAL ESSENTIAL OILS

(Qty.in kgs.)
(Value in Rs)

| Name of Oil | 1968-69 | | 1969-70 | | 1970-71 | |
|---|---|---|---|---|---|---|
| | (Qty.) | (Value) | (Qty.) | (Value) | (Qty.) | (Value) |
| Anise | 6846 | 144726 | 7879 | 129973 | 4258 | 90778 |
| Bergamot | 6825 | 795337 | 6477 | 552624 | 6577 | 764329 |
| Gajuput | 989 | 13561 | 2408 | 32040 | 1011 | 15260 |
| Cananga | 2580 | 115204 | 148 | 52148 | 76 | 6410 |
| Caraway | 119 | 8745 | 402 | 19060 | 365 | 14518 |
| Cedarwood | - | - | 111 | 2243 | 2000 | 56300 |
| Cinnamon Leaf. | 2018 | 49968 | 4630 | 101883 | 8373 | 163368 |
| Citronella | 70513 | 890365 | 122999 | 1704392 | 56398 | 1297559 |
| Clove | 27431 | 639414 | 24652 | 544428 | 37544 | 935300 |
| Dill | - | - | - | - | 400 | 20120 |
| Geranium | 7566 | 975891 | 10311 | 1413526 | 9055 | 1243313 |
| Lavender Oil | 12824 | 777291 | 9105 | 541480 | 16623 | 785426 |
| Lemon | 13290 | 334974 | 15873 | 364107 | 16860 | 393946 |
| Nutmeg | 2018 | 103313 | 2542 | 56711 | 5144 | 108145 |
| Orange | 31000 | 479704 | 22152 | 351271 | 56646 | 594504 |
| Patchouli | 24184 | 1133518 | 18985 | 841754 | 22764 | 972634 |
| Peppermint | 160740 | 6823282 | 138125 | 5498007 | 121838 | 4561683 |
| Petitgrain | 5705 | 243255 | 4985 | 176440 | 3223 | 113384 |
| Spearmint | 5386 | 566449 | 4351 | 434925 | 1453 | 164763 |
| Ylang Ylang | 3677 | 289792 | 3765 | 320279 | 2353 | 239372 |
| N.E.S. (not elsewhere specified) | 80543 | 2368375 | 94574 | 3602940 | 90492 | 2321051 |
| Resinoids | 15943 | 664154 | 19174 | 705008 | 11854 | 468178 |
| | 479436 | 17422813 | 514913 | 17467118 | 478058 | 15490132 |

Source: D.G.T.D., New Delhi
Copied Jan,1972

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APPENDIX C

## IMPORTS (AROMATIC CHEMICALS)

(Qty. in Tonne)
(Value in Rs.)

| Item | 1968-69 | | 1969-70 | | 1970-71 | |
|---|---|---|---|---|---|---|
| | Qty. | Value | Qty. | Value | Qty. | Value |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Amyl Acetate | 55.483 | 169155 | 19.355 | 66397 | 2.177 | 8030 |
| Benzoid Acid | 75.073 | 39402 | 122.98 | 415190 | 173.934 | 705905 |
| Benzyl Acetate (P.P.C) | 184.029 | 905642 | 154.757 | 956529 | 48.470 | 254532 |
| Benzyl Acetate (Tech. Grade) | 106.124 | 584142 | 127.693 | 660679 | 39.670 | 190416 |
| Benzyl Benzoate | 1.017 | 17637 | 1.045 | 9357 | 0.080 | 1239 |
| Butyl Acetate | 65.083 | 239992 | 136.673 | 771617 | 12.913 | 40075 |
| Ethyl Benzoate | 0.064 | 1043 | 0.034 | 810 | 0.439 | 8935 |
| Linalyl Acetate | 16.318 | 770567 | 13.106 | 468516 | 12.661 | 427283 |
| Methyl Benzoate | 0.594 | 12014 | 0.751 | 7668 | 0.622 | 6375 |
| Methyl Cinnamate | 0.385 | 10909 | 0.040 | 964 | 0.097 | 3720 |
| Phenyl Acetic Acid | 15.891 | 185376 | 227.857 | 2696890 | 246.052 | 2626327 |
| Phenyl Propyl Acetate | 1.058 | 42487 | 134 | 3202 | 35.063 | 405621 |
| Terpinyl Acetate | 12.369 | 120222 | 12.168 | 132687 | 13.835 | 139153 |
| Dimethyl Sulphate | - | - | 190.166 | 585829 | - | - |
| Methyl Anthranilate | 10.373 | 306973 | 15.697 | 706123 | 7.929 | 193007 |
| Dipentene | - | - | 50 | 866 | - | - |
| Diphenyl Methane | 1.182 | 15011 | 3.136 | 33741 | 9.565 | 115306 |
| Benzyl Chloride | 25.647 | 91097 | 63.360 | 296050 | 18.907 | 88019 |
| Benzyl Chloride | 103.316 | 458377 | 207.705 | 841622 | 206.581 | 897345 |
| Musk Ambrette | 0.037 | 1506 | 9.91 | 79555 | - | - |
| Musk Xylol | 24.282 | 370889 | 16.433 | 116655 | 2.622 | 45031 |
| Amyl Alcohol | 43.298 | 153489 | 170.695 | 547415 | - | - |
| Citronellol | - | - | 0.941 | 27843 | 0.013 | 840 |
| Dimethyl Octanol | 0.222 | 6130 | 2.469 | 90244 | - | - |
| Geraniol | 0.421 | 7026 | 14.872 | 45560 | 1.670 | 31847 |
| Linalol | 2.066 | 106519 | 13.182 | 392453 | 4.383 | 121279 |
| Rhodinol | 1.141 | 35221 | 12.790 | 38964 | 8.770 | 222464 |
| Benzyl Alcohol | 42.642 | 283674 | 41.355 | 265846 | 59.259 | 380440 |
| Borneal | 9.273 | 159915 | 1.165 | 25077 | 1.463 | 32383 |
| Cinnamic Alcohol | 3.960 | 88059 | 36.512 | 259089 | 10.666 | 121632 |
| Menthol | 56.774 | 3362363 | 2.81 | 153198 | 0.147 | 11059 |
| Phenyl Ethyl Alcohol | 93.070 | 932291 | 67.473 | 933014 | 107.814 | 1564646 |
| Terpineol | 176.072 | 935733 | 196.879 | 1072534 | 223.257 | 1335533 |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|
| Thymol | 6.653 | 166779 | 18.624 | 474042 | 29.606 | 825000 |
| Diphenyl Oxide | 55.293 | 300276 | 136.555 | 832399 | 544.493 | 1148677 |
| Isoeugenol | 2.445 | 150268 | 0.389 | 25726 | 0.967 | 77223 |
| Cinnamic Aldehyde | 2.125 | 30236 | 3.514 | 49925 | 7.819 | 133434 |
| Ethyl Vanillin | 3.046 | 187837 | 4.496 | 310395 | 5.361 | 400680 |
| Heliotropin | 2.908 | 100243 | 5.278 | 193903 | 3.663 | 130940 |
| Phenyl Acetaldehyde | 1.384 | 45698 | 1.358 | 62165 | 3.550 | 129876 |
| Vanillin | 17.981 | 884582 | 26.642 | 1267338 | 28.001 | 1345890 |
| Benzophenone | 1.579 | 28274 | 0.846 | 18501 | 0.000 | 212 |
| Camphor Natural | 3.7 | 54939 | 443 | 9373 | 1.044 | 11076 |
| Musk Ketone | 5.490 | 321524 | 3.198 | 181187 | 0.147 | 3500 |
| Coumarin | 22.118 | 538409 | 27.506 | 748815 | 26.458 | 780579 |
| Acetophenone | 7.912 | 39098 | - | - | 13.957 | 61635 |
| Total | 1261.726 | 13541864 | 1991.482 | 16626833 | 1914.647 | 15098564 |

Source: Directorate General of Technical Development, copied Jan, 1972

Costs of manufacture of two locally-produced Aromatic Chemicals compared with international prices. Bombay, 24 Feb 1972

A. STYRALLYL ACETATE (green floral perfume material gardenia type)

| | | Rs. / Kg. |
|---|---|---|
| Material Cost | 22 | |
| Processing Cost | 1 | |
| Variable Cost | | 23 |
| Factory Directs | | 6 |
| Research & Development | | 9 |
| Overheads (Factory & General) | | 3 |
| Total Cost (excluding Marketing expenses & Profit) | | 41 |
| Styrallyl Acetate price f.o.b. U.K. | | 14 |
| c.i.f. India | | 15.50 |

NOTES

1. The high material cost is due to the very high cost in India of the main chemicals used in the production of Styrallyl Acetate, as illustrated below:

| | Indian Price Rs. / kg. | International Price Rs. / kg. |
|---|---|---|
| Styrene | 4.24 | 1.56 |
| Acetic Anhydride | 6.00 | 2.06 |
| Acetic Acid | 3.04 | 1.05 |
| Sodium Acetate | 5.30 | 2.65 |

2. The high per unit cost of Factory Directs, Research & Development and Overheads is due to the low volume of production.

3. The above figures are based on actual plant production experience.

B. LINALOOL - Synthetic ex Beta-Pinene (floral perfume material)

| | | Rs. / Kg. |
|---|---|---|
| Material Cost | 48 | |
| Processing Cost | 2 | |
| Variable Cost | | 50 |
| Factory Directs | | 8 |
| Research & Development | | 12 |
| Overheads (Factory & General) | | 4 |
| Total Cost (excluding Marketing expenses & Profit) | | 74 |
| Linalool price - f.o.b. U.K. | | 23 |
| c.i.f. India | | 25 |

NOTES

1. The high material cost is due to the very high price of chemicals in India even though the yields obtained are comparable to those obtained abroad. If all chemicals are available at international prices, the material cost would be only Rs.13.00/kg. If only Beta Pinene, which accounts for 70% of the cost, is made available at the international price of Rs.3.42/kg as against the current landed price of Rs.13.61/kg., the material cost would be reduced by Rs.28.00/kg.

2. The high per unit cost of Factory Directs, Research & Development and Overheads is due to the low volume of production.

3. The above data is based on a pilot plant production only.

APPENDIX E

"TRADITIONAL INDIAN PERFUMERY GOES MODERN"
(a draft article written for the Reader's Digest)

There are a large number of deep-rooted traditions which over the centuries have become an integral part of the lift of Indian people. One of these is traditional perfumery. It dates back thousands of years. Vedic legends mention this tradition, the origin of which is lost in the mists of time.

India was always a favourite birthplace for perfumery plants. One should not forget that rose and jasmine are of Indian origin and that they were imported into Europe by the Crusaders via the Damascus route. Famous travellers who visited India in the bygone days have described this country as the land of aromatic flowers, fruit, wood, roots and grasses. The perfumes of India and the East were so popular that in the Bible numerous references are found. In the Song of Solomon, Indian perfumes, i.e. oil of cinnamon, spikenard and myrrh, are prominently mentioned.

Among the typical Indian perfumery creations, attars should be mentioned first. An attar is a flower distillate, an oil obtained by redistillation over sandalwood. These are attars of rose, jasmine, keora, champac (the last two named are very highly odorant Indian flowers that are to be found nowhere else in the world). The present preparation of Attars is very similar to the age-long processes, whose secrets are passed from father to son.

Sandalwood enters also into the manufacture of agarbattis, another traditional example of Indian perfumery dating back to ancient times. Agarbatti is the Indian name for the incense sticks produced in the millions, and may be billions, mostly in the South of the country.

Agarbattis are quite a familiar feature in the life of the people of India. They are burned like candles in temples, in private homes and shops, in front of images of deities. They are burned at all festive occasions, at weddings, at Divali (the Hindu New Year), at all religious and semi-religious functions, at the inauguration of industrial plants or opening of new offices, or quietly wherever convenient to

enjoy their fragrance and relax from cares. Their fumes penetrate the day-to-day Indian life just as they did in bygone days.

India, at all times; has exhibited profound sensitivity to odour as one of the constituents of everyday life. Indian civilisation for example has left admirable perfume braziers to posterity. Wrought by the exceptionally skilful Indian craftsman, these are to be found made from solid silver or from copper inlaid with valuable enamels in the shape of flowers, animals such as elephants and tigers and birds, especially peacocks. These true works of art, used for ornamental purposes in temples and palaces just as in more humble homes, were part of the daily environment and fulfilled a number of functions, both utilitarian and aesthetic such as driving away insects by means of the aromatic smoke, scenting and purifying the atmosphere, creating an environment favourable to meditation and obviously, in the sancrosanct of temples, glorifying the deities.

The use made of patchouli leaves is also remarkable. Kashmir has always been known for its wonderfully fine and soft woollen shawls, which when rolled up may be pulled through a ring. Possibly as early as the 16th century the weavers of Kashmir made use of patchouli leaves that were admixed with the wool so that the mites would be driven off. Therefore Kashmir shawls were scented with patchouli which proved so pleasant to shawl users that the leaves were subsequently used not only for their insecticidal properties but to perfume the shawls and thereby add to their sales appeal. Thus, it appears that patchouli of Kashmir was the first perfume applied to a product for increasing the sales appeal, just as perfume is used nowadays in toilet soaps and cosmetic creams.

There can be cited many other illustrations of the presence of perfume in everyday Indian life. Dried vetivert roots, for example, can be found hanging from door and window frames, so that the air is entering the homes becomes impregnated with the sweet, subtle odour of vetivert (khus).

To this day visitors to whom particular respect is to be shown are garlanded with fragrant jasmine and tuber-rose necklaces, and every Indian woman, even the humblest, will wear in her hair a crown made from one of the various indigenous varieties of jasmine flowers - Juhi, Bela, Chameli - which grow wild in the country.

The Processors of traditional Indian perfumery send their mobile Distillation Units around to the fields at the time of the flower harvests. This is a sight worth seeing, deserving to be perpetuated in colour photography or film. The mobile teams set up their distillation stills by a river or lake, purchasing the flowers from farmers or dealers. The team stays in the area throughout the time of the harvest. The year's cycle for a typical mobile distillation unit might be as follows:-

| Months | Harvest | Location |
|---|---|---|
| March/April | Roses | Uttar Pradesh |
| May/Sept. | Kewra | Orissa |
| June/Aug. | Jasmin | Uttar Pradesh |
| October | Palmarosa | Hyderabad |
| Nov/Jan | Vetivert | Uttar Pradesh |

The distilled oils are sent back from time to time to the manufacturer for blending with other ingredients into finished perfumery or perfumery compounds, all of a non-spiritous type. Here are some of the traditional Indian perfumes:-

| Indian name | English Equivalent | Comments |
|---|---|---|
| Chameli | Jasmine | Creeper type |
| Champac | Golden, White & green flowers | Grown in Western Gujarat on Small Scale |
| Chandon | Sandalwood | Used in all religious ceremonies |
| Jarbar | Amber Musk | Natural amber (whale)<br>" Musk (Deer) |
| Gulab | Rose | Faisli Gulab<br>fresh harvest rose |
| Gulheina | Rose & Hina | |
| Hina | Herbal mixture (11 heart herbs with saffron & musk) | for keeping warm in winter. |

P.T.O.

| | | |
|---|---|---|
| Kasturi | Musk | |
| Keshar | Saffron(from Kashmir) | The Hindi word |
| Kewda | Kecra flower | Yellow petalled from tall trees, liked by snakes |
| Khus | Vetivert Root | For cooling in Summer |
| Mandi or Mahendi | White flower with green leaves, sweeter than Jasmine | Used at weddings & religious ceremonies |
| Motia or Mogra | Jasmine, bigger flower than Chameli | Bush or Shrup type |
| Panri | Patchouli | from Uttar Pradesh |
| Mustana | Lilac | Grown only on Small Scale |
| Zapran | Saffron | The Urdu word |

Indian perfumery is highly concentrated, with heavy, spicy, sweetflowery notes. It is almost invariably non-spiritous, because alcohol has never played much part in traditional Indian life. It is exported only to neighbouring countries, particularly to the Moslem Middle East Countries, whose tastes are very much for the long-lasting Indian attars and concentrated, exotic Indian perfumery.

In other parts of the world, however, the taste is for spiritous perfumery, which gives better initial impact and where the gradual evaporation of the alcohol, mixed with the essence, gives the characteristic whiff of fragrance commonly associated with French perfumes. Now, Indian perfumers are engaged in adapting traditional Indian perfumery into spiritous form, for export to North America, Europe, Japan and elsewhere. Leading this action are certain of the larger Agarbatti manufacturers, who have made something of a breakthrough, by exporting agarbattis in large quantities to North America and other advanced countries, popularised as they have been by the Sitar maestro, Ravi Shankar and the meditations of Mahesh Jogi. Indeed, this traditional Indian product seems to meet certain modern consumer needs, i.e. to escape for a time from the artificialities and stresses of life. Its enterprising manufacturers are now adding attraction to the Agarbatti range by offering Indian spiritous perfumery in companion fragrances, such as fruity/ woody notes with spicy overtones and musky notes with overtones of Indian flowers and herbs.

P.T.O.

The question must be asked : Can Indian perfumery influence Western thought in one way or another? Undoubtedly in the West there is a trend towards some sort of philosophy of life with roots buried in ancient Eastern lores. The East has always attracted and excited western curiosity, the exotic mysterious East, where fragrant perfumes create a sort of curtain, behind which one can still have dreams. Certainly both in Europe and America there is a trend towards strong, heavy, exotic fragrances, not unlike the traditional perfumery of India. Are not spices, in which India is so rich - pepper, cardamom, coriander, to name only a few - penetrating western perfumery in its quest for strength, richness and sensual touch? Cannot Indian fragrances, expressed in spiritous perfumery, bath oils, agarbattis, provide a means of relaxation and recuperation from tension which many countries outside India both consciously and unconsciously seek?

RAC/TPG
14 Feb 1972

APPENDIX F

Colour Advertisement appearing in U.K. Press (inserted by Government of India, Department of Tourism)

**Illustration:** Attractive Colour Photograph of an all-white clad perfume seller, sitting cross-legged in his open-fronted shop in the midst of his perfume bottles.

**Headline** : "He can say that at which a woman can only hint".

**Text** :

In front of his little shop in a Delhi alley called Chandni Chowk, the great perfume houses of Paris, Rome and London pale.

He deals in Saffron and Motia and Rose and Gulheina. Petals taken from flowers plucked by his family in the fields of Haryana.

Crushed in water and distilled in sandalwood oil. And bottled as a perfume that will linger in your memory for years.

If you want a fragrance for a special occasion, he'll sell you one that's been sweetening and mellowing for months.

If you want one to keep you warm in winter, he'll offer you Hina. It's made from Musk and Saffron and has an aroma that would take a rare beauty to shame.

If you need one to cool you in summer, he has Khas. A herbal root is its base and its presence is one that has changed men's minds for centuries.

He sells incense too. Dhoop and joss sticks of sandalwood and balsa, mixed with oils and powders and drugs.

For sprinkling on relations and friends during holy times he has rose water. Rose water, almost as fragrant as his scents, that can be used in the preparation of syrups and sweet dishes.

But it is the perfume that will take you back there. An inexplicable presence, heavy yet at the same time delicate.

For an amount that Paris would ask five pounds, he'll ask thirty pence.

But the price isn't the reason you will remember his shop.

**Baseline** : INDIA - you'll never be the same again

(The Government of India Tourist Office, 21 New Bond Street, London W1)

Devkaran Mansion No. 3, 2nd Floor, 43, Shamaldas Gandhi Marg,
(Princess Street). BOMBAY-2.

Circular No.71-72/63 dated the 24th February, 1972

Mr. Edward A. Corcoran, United Nations Industrial Development Organization Adviser on Toiletries, Cosmetics and Essential Oils has been assigned to the Basic Chemicals, Pharmaceuticals and Soaps Export Promotion Council to advise on the possibilities of exporting toiletries, cosmetics, essential oils, etc. In the course of his assignment, Mr. Corcoran has found that in the matter of export of perfume compounds, the difficulties confronting their export were identified as non-availability of good bottles comparable to European standards and the proper grade of alcohol.

Our President, Mr. C.V. Varadan and Mr. Corcoran visited Messrs. Ajit Glass Works, Pvt.Ltd., Vazir Glass Works, Ltd., and Vitrum Glass Division of M/s. Vitrum Pvt.Ltd., and had discussions with the managements of these factories regarding the supply of suitable perfume bottles, particularly for export. Vazir Glass Works do not have perfume bottles in their manufacturing programme at present. Vitrum Glass Division and Ajit Glass Works offered a range of bottles and they do not insist on orders for large quantities.

If any of our members desire to make any suggestions in this regard, he may contact Mr. Edward Corcoran and apprise him of his ideas. Members may also refer to him problems connected with the supply of alcohol and also the incentives on exports.

The address of Mr. Corcoran is:

Mr. Edward A. Corcoran,
U.N.I.D.O. Adviser,
C/o. Basic Chemicals, Pharmaceuticals
& Soaps Export Promotion Council,
Jhansi Castle,
7, Cooperage Road,
Bombay-1.

Telephone Number: 214221

For PERFUMES & FLAVOURS ASSOCIATION OF INDIA,

Sd/-
(K.N. SHAH)
Honorary Secretary

APPENDIX H

## "EXPORTING INDIAN PERFUMERY"

Text of part of Mr. Corcoran's Talk on 2nd March to National Council of Economic Research at Delhi

I am in India representing the United Nations Industrial Development Organization, which has been commissioned by the Ministry of Foreign Trade to advise on practical ways and means of increasing exports in essential oils, aromatic chemicals, & the end products using them, particularly perfumery, toiletries and cosmetics, soaps and detergents. These are the products grouped together under Panel IV of the Basic Chemicals, Pharmaceuticals & Soaps Export Promotion Council (CHEMEXCIL) located in Bombay, in whose office I am working for six months. To-day I am going to talk especially about Perfumery.

Many centuries ago India was the leading Perfumery Country in the world: now it ranks low down. Elsewhere Perfumery has become very big business indeed, with the development particularly of synthetic perfumery materials, either isolates from aromatic plants or aromatic materials made from chemical sources (coal tar, petro-chemicals or others). Sooner or later India to improve her place in this fast-growing field must build up a more science-based industry for perfume and flavour manufacture.

But in the meantime, there is considerable skill within India in perfume-blending and manufacture, using indigenous flowers and materials. Many of these Firms have been in existence for many years, with secrets passed down from father to son over many generations. They make traditional perfumery and attars (flower essences distilled into sandalwood oil), all non-spiritous. Apart from the extensive use inside India, there is some export of this traditional perfumery, as Chart I shows. The exports are largely to the Middle East countries, which have for long been under the influence of India, and where the local populations, especially the Moslems, have a strong liking for the heavy, oriental non-alcoholic perfumery, which India produces.

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Many of these perfumery notes are unique to India. I have listed certain of them in Chart II, may be some of you can tell me others from your own experience. What I am trying to establish is that Indian perfumery has a long history behind it, this reputation is known in the world at large, and there is plenty of perfumery skill all around the country vested in Small Firms. The Government of India has even been advertising the attractions of Indian perfumery for tourists in European papers! It is certainly a good idea to advertise Indian perfumery, good for image of India abroad, but equally it is necessary to ensure that the perfumery conforms with modern needs and is sold in an effective way through the right outlets.

Why does not then India export more perfumery abroad? There are three main reasons:-

(1) The consumer taste outside India, Middle East & certain African countries is for spiritous perfumes; consumers prefer these because they not only give better initial impact but also because the slow evaporation of the spirit with the essence gives the characteristic "whiff" associated with French perfume. Indian manufacturers, with a few exceptions, have not tried to make traditional Indian perfumes spiritous, because to do so in the domestic market carries a very high rate of excise duty; & moreover the perfumery-grade industrial alcohol available in India is of a poor quality, and administrately (partly because of the effects of prohibition laws) is very frustrating to obtain, as well as involving complicated and costly Excise control.

(2) India has not kept up with scientific and technological developments. Apart from a very few firms, Indian perfumes remain simple blenders of indigenous natural materials with imported aromatic chemicals. Perfume compounding is reserved for Small-Scale industry and the Government philosophy is that this is luxury field very low in the list of priorities. In the world at large, perfumery is a product of daily use, as important as that say of soaps and with a much more

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rapid growth rate. In Europe or America, a modern rounded perfume contains one hundred or more ingredients of which 90% are synthetic ones, produced either from natural starting materials (essential oils), but much more from petrochemicals, alcohol or other chemical bases. The synthetic materials are becoming increasingly important, but the world growth of the perfumery industry is so rapid, that the usage of natural materials maintains its volume.

(3) Manufacturers do not seek to export Indian perfumery or perfume compounds with much zest, because it is not a very profitable business. Many will not claim the export incentives that there are, because to do so would be to reveal their formulations, which are the expression of their art and which no Perfumers the world over will ever reveal on principle and for strong emotional reasons, however much monetry reward accrues.

Of course the main world consumption of Perfumery is in the richer countries, where large amounts of money are spent on this luxury, which is now an item of daily use. Chart III shows how large the annual consumption of spiritous perfumery is in a selected list of Western markets, surely a worth while export target for India to aim for! What makes it even more attractive as a target is that in E.E.C., Scandinavian Countries, U.S.A. and Japan, the import duty on spiritous perfumery from India is NIL compared with 20% to 30% from developed countries. This should enable India to offer her traditional perfume in spiritous form at very reasonable price abroad.

Who is to do this? For a start, I have suggested to the leading Agarbatti manufacturers, who have already build up good exports in this unique Indian speciality in North American and European Markets, that they should offer along with their successful agarbatti brands well packaged spiritous perfumery

in companion fragrances (also perfumed both oils, a fast-growing field internationally, where India could get her share, but this is another story, which I have not time to go into here). So far as the Agarbatti manufacturers are concerned, there would be a broadening of their selling base (better to sell two or three companion products instead of one). The promotional appeal for the range of products would the same, that of traditional Indian culture expressed in modern product form.

I am also hopeful that some of the leading large-scale Toiletry manufacturers with good Export distributive networks may consider entering this field for export and contributing their expertise in production, presentation and marketing. With an attack on foreign markets on a broad front, big volume exports can be built up.

The Government and State Small-Scale Industry & Cottage Industry Shops could also contribute their skills. Indian Perfumery would make a good Tourist item, characteristic of the country and light to pack and travel with. The Small-Scale Industry Organizations, which export like the MSSIDC, might well push Indian Perfumery. So could national companies, like Air India, who might give to their passengers Indian perfumery & freshener towels perfumed with Indian fragrances to complement the unique interior decorating of their new aircraft.

Are there any obstacles? Yes, of course!

(1) There is Packaging. At present Indian non-spiritous perfumery is badly presented. Perfumery is a costly item and it must express glamour. Indian glass bottles ordered in small quantities are not always of the best colour and design, but with seeking (as I have found visiting Glass Factories) they can be obtained. Equally

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important is the designing of attractive caps, incorporating an effective sealing device which obviates the need for unglamourous rubber or plastic plugs. I have directed this problem to the Indian Institute of Packaging: it can be solved, particularly if some of the larger firms take an interest in it.

(2) Then there is the question of Export incentives. I believe that the Indian authorities could well accept the custom of the rest of the world and not require exact details of perfumery formulations. If this condition is met, discussions with some of the Firms concerned lead me to believe that an export of some crores of rupees could be built up within five years in Perfumery Compounds and Spirituous Indian Perfumery.

In the long term, to build up the Indian Perfumery Industry for export, there should be something of a change of attitude towards it. It should not be regarded as a non-essential field undeserving of support, but rather as a fast-growing industry, which can bring in good foreign exchange and at the same time add to India's image abroad.

(E.A. Corcoran)

2nd March, 1972

Chart I

Exports of Indian Perfumery(1970/71)

Lakhs of Rs.

| Area | Non-Spiritous Perfumery | Spiritous Perfumery | Total Perfumery |
|---|---|---|---|
| East Asia | 2.06 | .24 | 2.30 |
| South Asia | .32 | .22 | .54 |
| Africa (other than North Africa) | 1.88 | .17 | 2.05 |
| West Asia & North Africa | 8.74 | .04 | 8.78 |
| East European Countries | - | - | - |
| West European Countries | .40 | .08 | .48 |
| U.S.A. & Canada | .58 | .03 | .61 |
| South America incl. West Indies & Cuba | .17 | .03 | .20 |
| | 14.15 | .81 | 14.96 |

Chart II

Traditional Indian Perfumery

| Indian Perfume | English Equivalent |
|---|---|
| Chameli | Jasmine (Creeper type) |
| Chandon | Sandalwood |
| Iarbar | Amber Musk |
| Gulab | Rose |
| Gulheina | Rose and Hina |
| Hina | Herbal Mixture |
| Kasturi | Musk |
| Kashar (Zapran) | Saffron |
| Kewda | Keora Flower |
| Khus | Vetivert Root |
| Mandi | Flower Sweeter than Jasmine |
| Motia (Mogra) | Jasmine (Push type) |
| Mustana | Lilac |
| Panri | Patchouli |

Chart III

Sales of Perfumery and Colognes (wholesale prices) in various countries (1971 estimates) per annum

| | | | |
|---|---|---|---|
| U.K. | 25 | crores | of rupees |
| France | 70 | " | " |
| West Germany | 65 | " | " |
| Italy | 28 | " | " |
| Sweden | 5 | " | " |
| Spain | 18 | " | " |
| U.S.A. | 170 | " | " |
| Canada | 13 | " | " |
| Argentina | 9½ | " | " |
| Brasil | 8 | " | " |
| Australia | 6 | " | " |
| Japan | 51 | " | " |
| India | 9 | " | " |
| World Total | 600 | " | " |

APPENDIX J

Imports (Developed Countries) of Perfumery Toiletries and Cosmetics (SITC 553) - Year 1969

| Country | Total Imports '000 US Dollars | Imports from India '000 US Dollars | India's % Share | Chief Competitors |
|---|---|---|---|---|
| U.S.A. | 16,718 | 367 | 2.2 | France, Germany Fed, Japan, U.K. |
| Canada | 9,189 | negl | - | France |
| Belgium - Luxembourg | 5,427 | " | - | Netherlands |
| France | 12,560 | " | - | U.K., Germany Fed. |
| Germany Fed. | 21,190 | " | - | France, Netherlands |
| Italy | 18,327 | " | - | France, Germany Fed. |
| Netherlands | 22,426 | " | - | Germany Fed., Belgium, France |
| U.K. | 10,935 | 93 | 0.8 | France, Ireland |
| Denmark | 5,225 | negl | - | U.K., France |
| Norway | 6,569 | " | - | Denmark, U.K. |
| Sweden | 10,166 | " | - | U.K., Denmark |
| Austria | 5,442 | " | - | Switzerland, Germany Fed. |
| Portugal | 333 | " | - | France |
| Switzerland | 8,511 | " | - | France, U.K. |
| Iceland | 539 | " | - | U.K., Denmark |
| Ireland | 1,904 | " | - | U.K. |
| Greece | 705 | " | - | France, U.K. |
| Spain | 1,269 | " | - | U.K., France |
| Finland | 4,608 | " | - | U.K. Sweden |
| Yugoslavia | 2,108 | " | - | Italy, Germany Fed. |
| Australia | 4,707 | " | - | U.K., U.S.A. |
| New Zealand | 227 | " | - | France |
| Japan | 5,399 | " | - | U.S.A., France |
| Total (Developed Countries) | 174.484 | 460 | 0.3 | |

Note: A similar table is shown for interest on the next page, showing imports by developed countries of essential oils, perfume compounds etc., i.e. the intermediate products used for perfuming end-products. The total import market here is even bigger, India's share is 1.6% and there is thus a big market to aim for, in order to increase this share (see over)

Source: U.N. World Trade Statistics, copied March 1972

Imports (Developed Countries) of Essential Oils, Resinoids, Synthetic Perfume Products, Mixed Perfume substances (SITC 551) - Year 1969

| Country | Total Imports '000 US Dollars | Imports from India '000 U.S. Dollars | India's % Share | Chief Competitors |
|---|---|---|---|---|
| U.S.A. | 46,635 | 1,708 | 3.6 | France, Switzerland, Italy, Madagascar. |
| Canada | 9,685 | negl | - | U.S.A. |
| Belgium - Luxembourg | 5,246 | " | - | Netherlands, France |
| France | 44,636 | 736 | 1.6 | Italy, U.S.A., China (Mainland), Reunion, Switzerland |
| Germany Fed. | 34,298 | 198 | 0.6 | France, Switzerland, Netherlands, U.S.A. |
| Italy | 14,673 | negl | - | France, Netherlands, Switzerland, U.K. |
| Netherlands | 10,763 | 159 | 1.4 | U.S.A., France, Germany Fed., U.K. |
| U.K. | 29,549 | 641 | 2.2 | U.S.A., France, Italy, Switzerland, China Mainland. |
| Denmark | 2,743 | negl | - | U.K., U.S.A. |
| Norway | 1,544 | " | - | U.K., Netherlands |
| Sweden | 4,222 | " | - | Switzerland, Netherlands |
| Austria | 3,088 | " | - | Germany Fed., Switzerland |
| Portugal | 1,827 | " | - | Netherlands, France |
| Switzerland | 13,565 | 899 | 2.2 | France, Italy |
| Iceland | 67 | negl | - | U.S.A., Germany Fed. |
| Ireland | 1,604 | " | - | U.K. |
| Greece | 1,413 | " | - | U.K., Germany Fed. |
| Turkey | 195 | " | - | France |
| Spain | 10,260 | " | - | France, U.S.A. |
| Finland | 2,094 | " | - | Netherlands, Germany Fed. |
| Yugoslavia | 3,728 | 275 | 7.4 | Netherlands, Germany Fed. |
| Australia | 6,778 | 80 | 1.2 | U.S.A., U.K. |
| New Zealand | 1,825 | negl | - | U.K., U.S.A. |
| Japan | 31,750 | 266 | 0.8 | |
| Total (Developed Countries) | 282,128 | 4,362 | 1.6 | |

Source: U.N. World Trade Statistics
Copied March 1972

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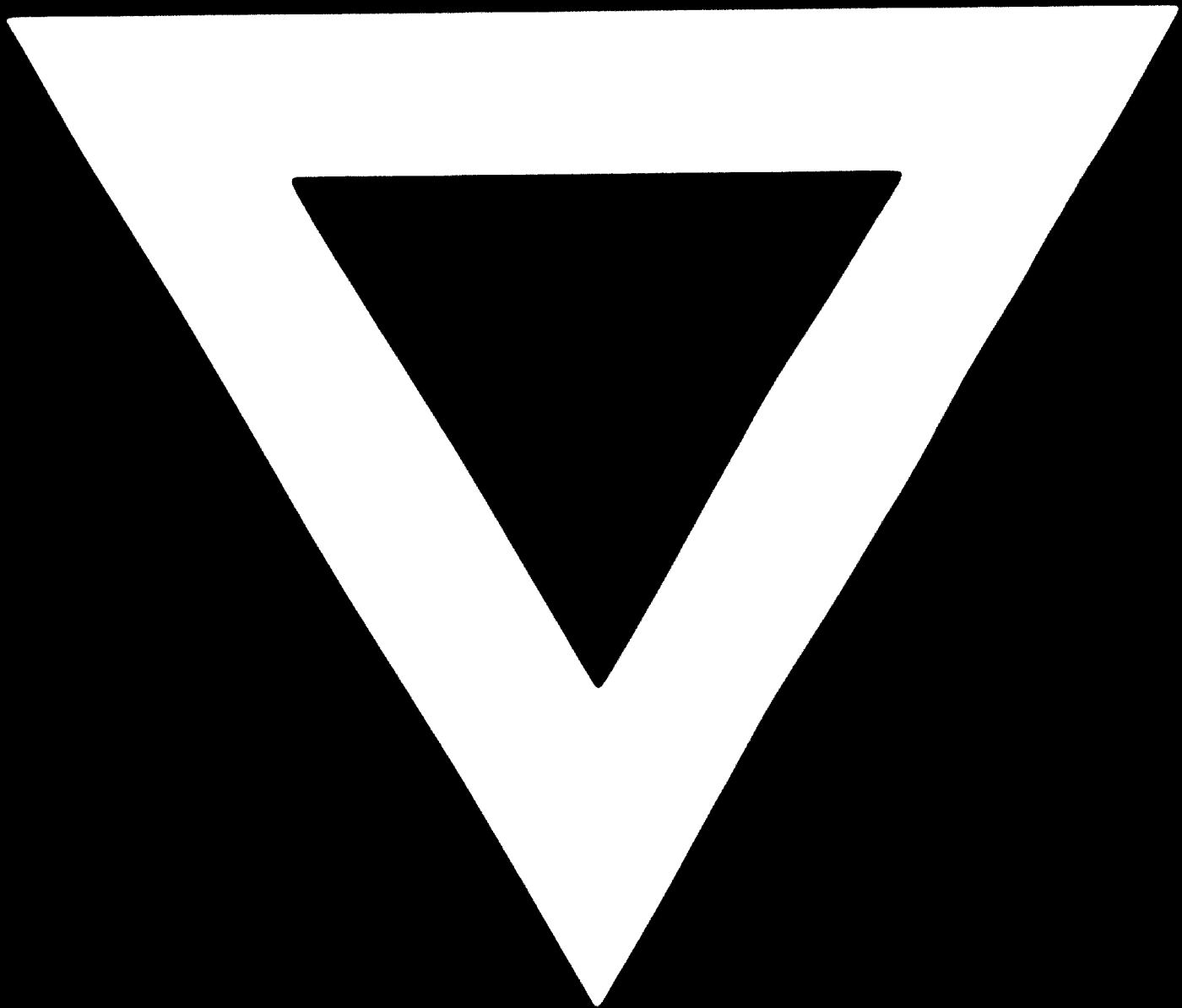

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