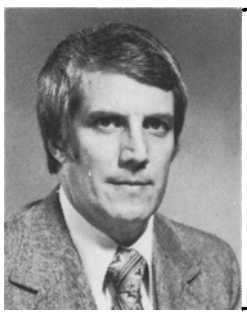
SESSION VII

Development and Trends in Related Industries



Development and Trends in Launderable Apparel

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ABSTRACT

Development of home laundry products is partially dependent on forecasts of textile and fiber trends. Growth of synthetic fiber usage in apparel, domestics, and home furnishings will continue worldwide. The changing makeup of laundry loads resulting from new fiber blends, textile and apparel technology creates both opportunities and problems for the laundry products industry.

In discussing the future of worldwide launderable apparel and textiles, we must first recognize two facts:

1. The refurbishment of apparel and textiles in many developing nations does not depend on sophisticated home laundering products, equipment, and methods. The market trend in developed countries toward high performance, durable press textile and apparel products has been at least in part a response to consumer's lifestyle demands and the affluence which permits consumers to benefit from improved apparel performance characteristics.
2. Of the four primary human needs – food, clothing, shelter, and fuel – it is clothing which is often in the vanguard of change. In addition to the practical necessity of protecting the human body, clothing permits a relatively inexpensive means of expressing personal preference, social mores, group identification, or national purpose.

Apparel is historically the reflection of the social ethic of its era. In developed nations apparel is casual, colorful, comfortable, and convenient. It reflects our social mobility, our experimentation with lifestyles, and our technological progress. The crinolines of an earlier time have given way to polyester pants suits. The celluloid and starched collars are replaced by both fused collars on permanent press dress shirts and by open collars on colorful sport shirts worn with leisure suits. The meticulous knife press of men's slacks has been replaced by the inelegance of prewashed denims.

We can make no attempt to forecast directions of change in worldwide fashion demand. But we all recognize that apparel fashion demand is increasingly international in scope. Young people in many nations discovered indigo denim jeans and T-shirts; and the apparel expression of cultural, ethnic, and national heritage is, in many areas, gradually giving way to a broader international identification.

While we cannot forecast apparel fashion changes worldwide, we *can* forecast fiber and textile changes. These forecasts would conclude that the laundry baskets of homemakers throughout the world will become increasingly heterogeneous.

I will not belabor the reader with a textile history. It is enough to say that until the past four decades we have relied on nature for our apparel. Whether skins or leather, wool, flax, silk or cotton, the history of apparel textiles is a natural history. However, the world's production of natural and man-made fibers has shown a dramatic shift during the past decade.

In a six year span from 1968 to 1974, natural fiber

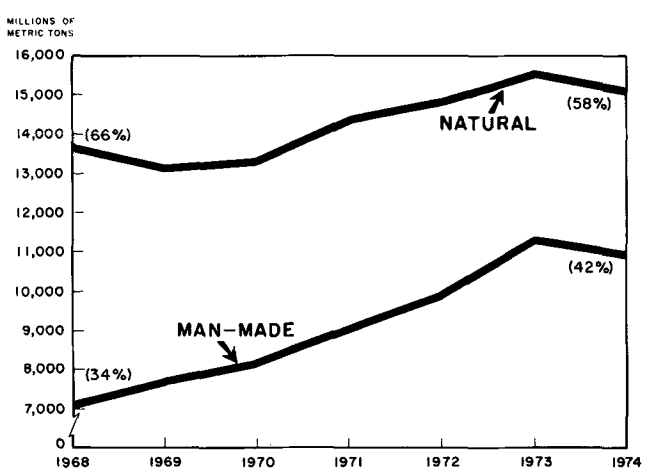

FIG. 1. World textile fiber trends.

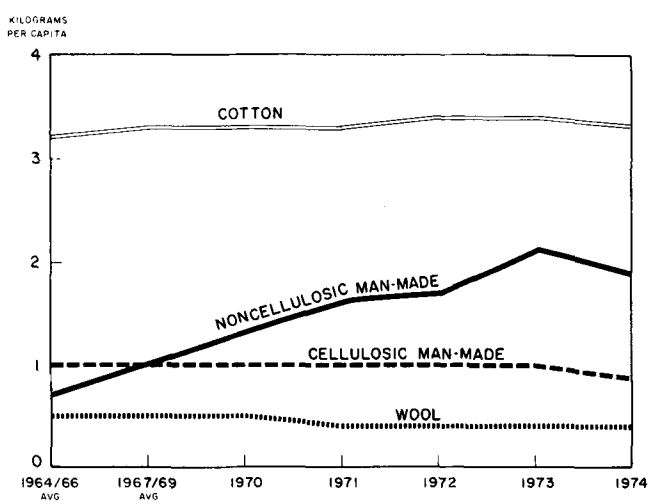

FIG. 2. World trends in per capita fiber consumption.

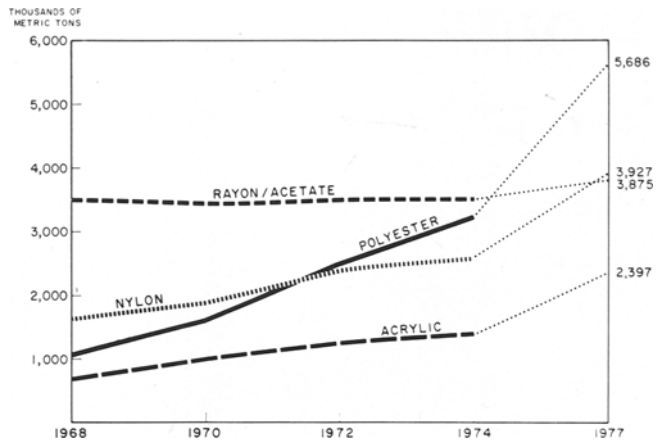

FIG. 3. World production of synthetic fibers.

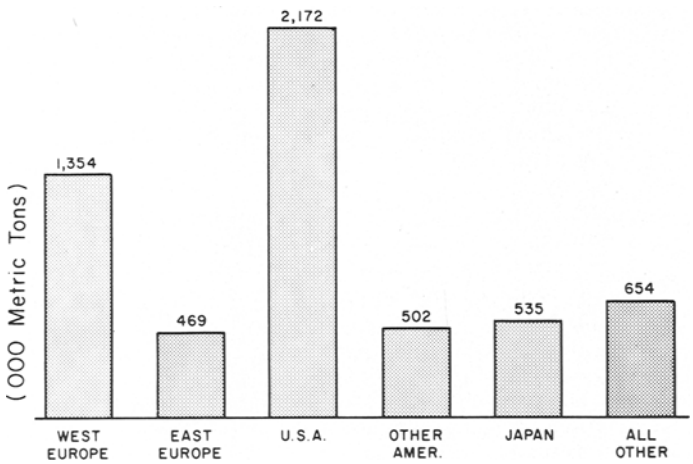

FIG. 4. 1977 Production capacity – polyester.

production increased about 26%, while man-made fiber increased about 58% (Fig. 1). In 1977, man-made fiber will represent almost 44% of the world's fiber.

The graph in Figure 2 illustrates world trends in per capita fiber consumption. From 1964 to 1974 per capita consumption of cotton remained relatively unchanged at 3.3 kg. While cotton production increased during this period, the increases were just able to meet increased demand brought about by a growing world population. The same was true for wool, which has 0.4 kg per capita. Cellulosic man-made fibers, primarily rayon, again had a per capita consumption rate that remained relatively constant at 0.9 kg. However, noncellulosic man-made fibers, primarily acrylics, nylon, and polyester grew from 0.7 kg per capita consumption in 1964-1966 to about 2 kg in 1974. The reasons for this shift are many but probably can be reduced to two major causes.

Natural fibers, particularly cotton, depend on the utilization of a severely limited resource, agricultural land. In a world that must cope with a burgeoning population and the political reality that we must feed that population, the long-range priority use of limited resources – agricultural land, pesticides, and fertilizers – will be first toward food and only secondarily toward fiber. This is particularly true where acceptable alternatives exist for fiber, and the only alternative to food is famine.

Although the energy crisis of the last several years has underscored our dependence on petroleum products, petrochemicals represent a small share of total petroleum output. While the politics of oil could dramatically affect the availability of noncellulosic synthetics, notably polyester and nylon, the petrochemical supply can be maintained, al-

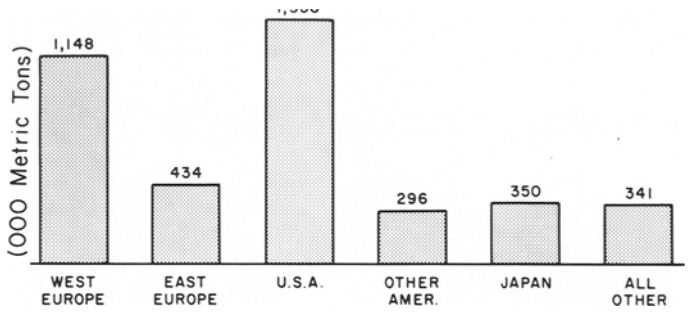

FIG. 5. 1977 Production capacity – nylon.

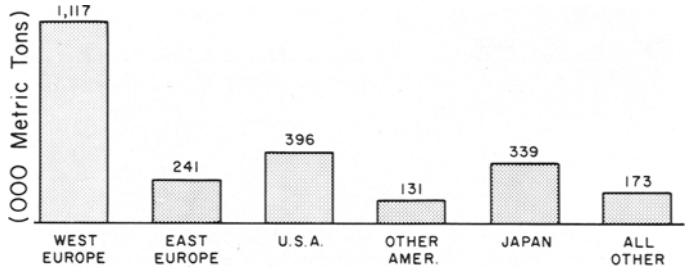

FIG. 6. 1977 Production capacity – acrylic.

though the energy supply will clearly have to be augmented from other sources. Thus, the question of launderable apparel and textiles will be inexorably tied to the great economic crisis of the balance of this century – food and energy. Both are dependent on population growth. Both threaten the orderly manufacture and distribution of fibers, textiles, and apparel. But in terms of land use, food, not fiber, will be the dominant consideration. Cotton will not compete in the fiber market – it will compete in the food market, and long-term it may compete at a disadvantage.

We do not mean to say that cotton will cease to be an important apparel fiber. The aesthetics and comfort of cotton coupled with its worldwide availability assure its place as a major apparel fiber for years to come. Improved agricultural methods may also permit higher yields per acre in many developing countries which view cotton production as a particularly attractive base for forward integration into textiles and apparel.

Wool production depends on patterns of land use. While wool demand has recently increased, that increasing demand cannot be matched by increasing supplies. Thus, wool prices have risen and will probably rise into 1978. While supply and demand forces have affected wool prices in the decade 1965 to 1975, world wool production remained virtually unchanged. Wool production will not be able to keep pace with increasing population and fiber demand. Wool, which is a relatively expensive fiber, will become relatively still more expensive.

The development of finishes that permit home laundering of woolen products, and the increased use of washable wool/polyester blended textiles, has expanded marketing opportunities for wool in launderable apparel. But wool is and will remain a scarce fiber.

While all noncellulosic man-made fibers have shown remarkable growth during the past ten years (Fig. 3) it is polyester that has become the commodity fiber. By the end of 1977 the world's productive capacity for all man-made fibers will exceed the production of cotton, and polyester will exceed wool. However, man-made fiber production is capital intensive and requires substantial financial investment. Thus, the production and consumption of man-made fibers has concentrated in developed nations.

As the chart in Figure 4 shows, productive capacity for polyester is centered in the U.S. and Western Europe. Like

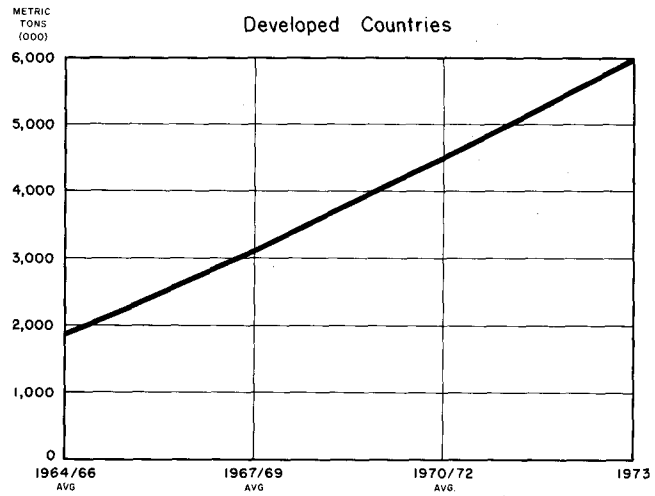

FIG. 7. Noncellulosic man-made fiber consumption (developed countries).

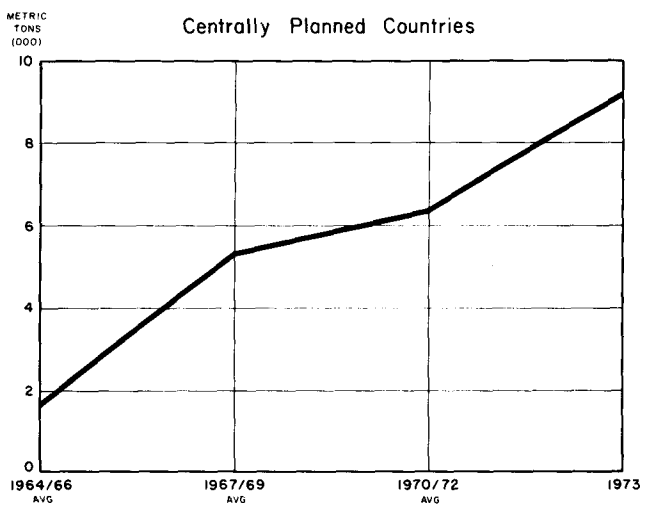

FIG. 8. Noncellulosic man-made fiber consumption (centrally planned countries).

polyester, nylon production (Fig. 5) is also heavily concentrated in the U.S. and Western Europe. On the other hand acrylic production, as shown in Figure 6, is centered in Western Europe with Japan and the U.S. trailing far behind.

Both the production and consumption of noncellulosic fibers has been focused in the developed countries (Fig. 7). From 1964 to 1973 consumption in developed countries increased from about 1,000,000 metric tons to 6,000,000 metric tons. Consumption of noncellulosics in centrally planned countries during the same period increased from 200,000 metric tons to 900,000 metric tons (Fig. 8). Developing countries showed trends remarkably similar to centrally planned countries – with consumption from about 100,000 tons to about 900,000 tons.

In Western Europe, the U.S., and Japan, more than 60% of all apparel fiber consumption is in acrylics, polyesters, and nylon (Fig. 9). While similar data do not exist for apparel consumption worldwide, the percentage of total man-made fibers consumed worldwide suggest that no more than 40% of the total world's apparel consumption is in man-made fibers, and in many populous nations such as India and China the man-made fiber consumption in apparel is less than 10%.

Natural fiber production, primarily cotton, will not dramatically decline, but neither can it keep up with the worldwide fiber trend of 2 to 2½% per capita increase per year in consumption, coupled with worldwide increases in

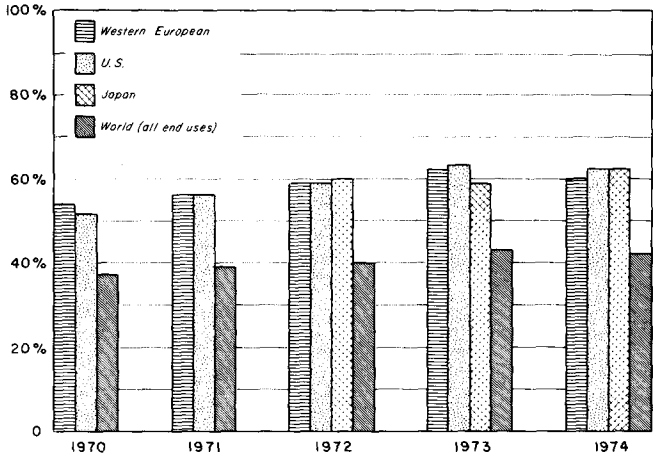

FIG. 9. % Man-made fiber content in apparel.

population. Thus, when we say that the laundry baskets of the world will become increasingly heterogeneous, we mean that the traditional reliance on natural fibers in developing areas of the world will gradually be replaced by a higher percentage of man-made fibers.

However, in terms of apparel consumption in developed countries, the decline in cotton usage must be viewed in different terms. In the U.S., for instance, the consumer has clearly opted for the improved durability, launderability, ease of care, and versatility of synthetic and synthetic/cotton blends. While fluctuations in cotton prices have been dramatic, from the mid 30 cents per pound to the 90 cents per pound level over the past few years, worldwide cotton production has been adequate to meet the apparel needs of affluent nations if they were prepared to pay for it.

But women laid the iron to rest, and changed to a lifestyle that reflects an ability to minimize time spent on traditional household chores.

The change of women's status from traditional homemaker to fully employed wage earner was done with the expectation that it would be a permanent change.

If the homemaker does not yet find all of the desirable features of cotton in the synthetic fibers and blends, she will make substantial trade-offs before she again picks up the iron.

Worldwide, the long-term apparel future is dictated by food/fiber economics. But in developed nations the short-term future has been dictated by the economics of use time. Both are persuasive, and both have argued to a proliferation and increased use of synthetic fibers.

To home laundry product suppliers in developed nations the change from natural fiber to a variety of man-made fibers has created new opportunities. The launderable performance of the nonhygroscopic man-made fibers such as polyester, acrylic, and nylon have changed the performance requirements of many home laundry products. As an example, the need for energy conservation, and the good cleaning performance of synthetics and synthetic cotton blends in warm water, is causing a shift in average temperature for consumer washloads. In the U.S., the development of cold water detergents and other home laundry products is based in part on the increasing synthetic makeup of the home laundry load.

The 1976 laundry diary studies in the U.S. found the following general mix of apparel and textile items: (a) Durable press products were in 70% of all laundry loads. (b) Fabric blends, generally polyester/cotton, were in 65% of all loads. (c) Hot water washes declined to only 26% of all loads. (d) Cold water washes increased and now represent 14% of the home laundry load. (e) Warm washes, generally the recommended instruction for synthetics and synthetic cotton blends represent 60% of all home laundry loads.

In a recent consumer survey, a U.S. men's pant producer sought to determine the most important consumer marketing characteristic of pants priced below $25. One hundred and fifty characteristics, such as color, price, quality, design, etc., were researched. Home launderability performance was found to be by far the most important characteristic. In fact, launderability was more significant than any combination of fashion and price characteristics.

The fiber revolution in developed countries has dramatically changed the laundering characteristics of apparel and domestics. However, in developed countries the rate of change is slowing. Only in denim and men's underwear do we forecast a significant further decline of cotton and a growth of cotton/synthetic blends. The downtrend in denims and the change in fashion toward neater, dressier looks, may accelerate the growth of texturized polyester. However, in most other apparel classifications, the current synthetic fiber revolution is ending, and we are entering a period of consolidation.

While synthetics may ultimately achieve 70% of the apparel market in developed nations, it is in developing and centrally planned nations where the consumption of synthetics will grow rapidly.

Recent experiences in one African country are indicative of the probable trends. This country had been moving toward forward integration of its textile and apparel industries seeking to build its export business. In the process they produced substantial quantities of durable press polyester/cotton men's wash pants and found, much to their surprise, a substantial domestic market at higher prices. Although most domestic consumers did not have the home laundry equipment which maximized the benefits of the product, research indicated immediate consumer response because the "pants looked better."

Developing nations must look to growth in labor intensive industries such as textiles and apparel. In order to meet consumer needs in major apparel export markets such as the U.S. and Western Europe, products produced in these countries must meet consumers launderability and durability requirements. The inevitable result of these marketing forces will be rapidly expanding domestic consumption of blends and synthetics in developing nations.

For the home laundry products industry, the trends in fiber and textile technology, which have revolutionized time spent on laundering and ironing in developed nations, represent a potential in developing nations. As synthetic fiber production and utilization expand worldwide, consumer desire to take advantage of improved textile properties will grow. The marketing potential for those home laundry producers who can capitalize on these trends is very bright indeed.