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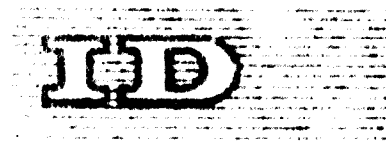
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MECHANIZED BUSINESS PRODUCTION: THE ADVANTAGES
AND DISADVANTAGES IN DEVELOPING COUNTRIES

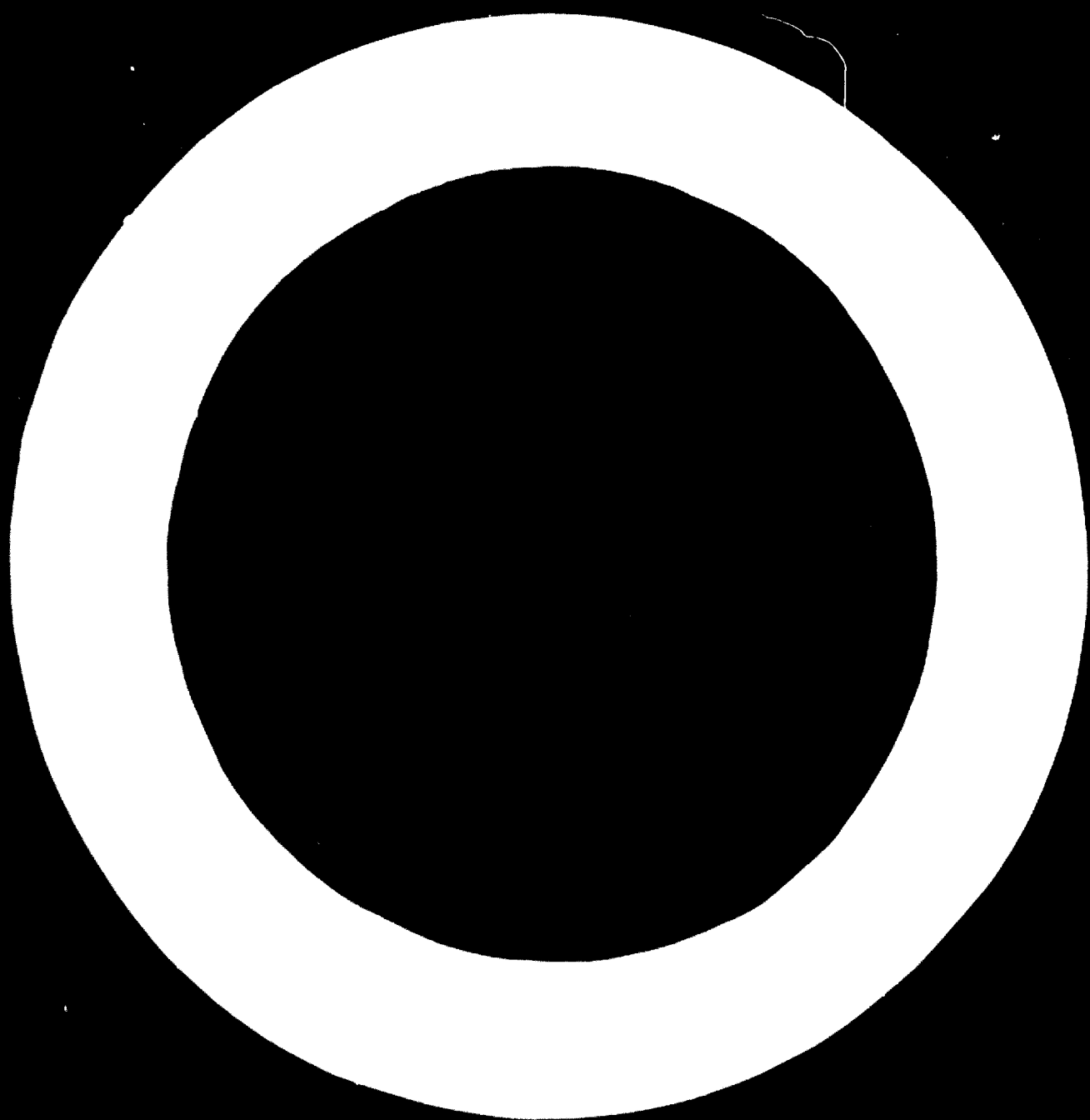
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M. Lakshminarayanaiah

* Scientist, Central Institute of Research, Hyderabad, India

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Leather Industry in India

The developing countries other than the bulk of humanity are waiting for the next three decades to make better use of their natural resources. Leather footwear production is regarded as a 'first generation' manufacturing industry and the developing countries are particularly interested in developing this industry as they have available natural resources in the form of hides and skins. The way of developing industry is being developed to make the maximum use of the materials for the footwear industry. The main policy of the Government of India to develop the export of semi-tanned leathers to develop the footwear industry is an important step.

CHAPTER - I

1 World Footwear Industry and the Place of Developing countries

1.1 Footwear industry in the developing countries accounts for 11% of the total value added in the manufacturing activity and the corresponding figures for the socialist and developed countries are 1.2% and 0.9% respectively.

1.2 The share of various regions in the total value added in the footwear industry in the world is indicated in the table:

TABLE - I

Share of various regions in the total value added on Footwear

a.	Developed market economy countries	55%
b.	Socialist countries of Eastern Europe	33%
c.	Developing countries	12%

Source 9 and table 1:

World supply and demand prospects for increased exports from developing countries. Leather and Leather products. A study by the UNCTAD Secretariat, year 1970.

1.3 The world annual production of leather footwear at the end of 1973 was estimated at around 2700 million pairs. The details of production, imports and exports in respect of developed and centrally planned countries are given in the table 2.

TABLE - 2

Production - imports, exports data on Footwear (Million pairs)

I. Developed countries

	<u>55-57</u>	<u>61-63</u>	<u>1968</u>	<u>1973</u> (Esti- mated)
Production	983.8	1134.3	1462.9	N.A.
Imports	22.0	70.9	215.0	N.A.
Exports	28.8	81.8	229.5	N.A.
Apparent consumption	977.0	1123.4	1448.4	1783.4

II. Centrally planned countries

Production	387.9	620.0	820.5	N.A.
Imports	10.0	31.7	56.4	N.A.
Exports	10.7	31.7	51.5	N.A.
Apparent consumption	299.6	620.5	772.0	923.5

No definite information is available regarding production of Leather footwear in the developing countries and based on the data on world production it may be deduced

that in 1971, the total production of leather in the estimated India's annual production would be around 200 million pairs.

1.4 The one remarkable feature common to the developed and centrally planned countries is that the overall import and export figures combined the cases, thereby signifying that the production meets the demand for the regions as a whole.

1.5 The world trade in footwear with leather uppers is indicated in table 3.

TABLE - 3

World Trade in Footwear (Million U.S. Dollars)

	<u>61-62</u>	<u>1968</u>	<u>1969</u>
A. Developed countries	258.6 (72.0)	742.0 (78.0)	980.0 (82.0)
i. Italy	118.1	418.1	535.8
ii. Spain	4.9	60.5	88.0
iii. France	30.6	70.3	74.3
B. Centrally planned countries	117.2 (30.8)	194.4 (20.5)	200.0 (16.7)
i. Czechoslovakia		114.0	116.0
C. Developing countries	5.0 (1.3)	12.0 (1.3)	15.0 (1.3)

Source Table 2 and 3

UNCTAD report TD/B/C1/Syn, dt. 29.3.71 - 119.

Problems confronting developing exporters of hides, skins and leather due to competition from synthetics.

- 1.6 The world trade in leather footwear has been increasing at an annual rate of 10%. Italy, France and Spain have been exporting increasing quantities of fashion shoes to the U.S. and North Western Europe and in Eastern Europe. Czechoslovakia has raised her exports to the U.S.S.R.
- 1.7 Though the developing countries have trebled the exports in the period of six years ending 1968, their percentage share continues to be constant with 1.3% of the total world trade.
- 1.8 The varied economic and geographical factors which determine the supply and demand lead to a large quantum of inter-regional and international trade in footwear. In the last decade the trade has grown rapidly with the change in the manufacturing centres from North America and North Western Europe to Mediterranean Europe, Japan, Centrally Planned countries and to a small extent developing regions.
- 1.9 The production and trade figures narrated earlier reveal the following:
 - a. The developed and centrally planned countries import annually about 300 million pairs valued at nearly 1750 million U.S. dollars.
 - b. The developed and Centrally planned countries trade among each segment more than on inter-regional basis.

c. The share of the developing countries was a mere 1.1% of the world trade.

1.10 The share of various regions in the world in the three important segments of Leather export trade is indicated in Table 4.

TABLE 4

Share of the various regions in the trade of Leather and Leather products

Years	Developed countries		Centrally planned countries		Developing countries	
	1963	1969	1963	1969	1963	1969
a. Hides and skins	66.1	74.8	1.5	0.6	34.4	24.6
b. Leather	76.8	67.7	6.6	0.7	20.5	32.0
c. Footwear with leather uppers	67.4	62.0	30.8	16.7	1.3	1.3

1.11 A welcome change is the dwindling of the share of developing countries in the export trade of raw hides and skins and increase in the share of leathers which include a sizeable portion of semi-tanned leather from India.

1.12 The most disappointing feature is that though the share of the developing countries has increased in the case of Leathers, the share in the case of footwear remained constant with a poor 1.3%. The developed

Source for table 4

Problems confronting developed exporters of Hides, skins and Leather due to competition from synthetics.

UNCTAD report TD/B/C.1/Syn/49, March - 1971.

countries, especially a small quantity of leathers presumably to meet the growing demand for footwear.

- 1.13 The per capita demand for leather footwear in the world has increased from 0.1 pair in 1910 to 0.68 pair in 1975 and one pair at present. The projected world demand for footwear is given in table 5.

TABLE 5

Projected demand for footwear

	Estimated share of world con- sumption	Annual growth of de- mand %	Index of demand in 1980
Developed market economy countries	52	1.5	116
Centrally planned coun- tries	36	1.7	118
Developing market economy countries	12	4.8	160
World	100	2.0	122

- 1.14 The world demand is expected to grow annually by 2% and this is substantial for the developing countries whose share in the world trade is now less than 2%. However the limitations provided by the UNCTAD study (referred at source for table No.5) are worth mentioning:

Source: Table 5

World supply and demand prospects for increased exports from developing countries. Leather products.

A. study by the UNCTAD Secretariat TD/B/c-2/101, Jan. 1970

- a. "Income elasticity of demand for footwear declines as real income increases, possibly to the extent that per capita expenditures cease to grow any further when income reaches a high enough level". Under such conditions, footwear consumption would tend to rise with population growth only. Share of the consumer expenditure on footwear consumption in certain developed countries is shown in table 6.

TABLE 6

Share of consumer expenditure on Footwear

	<u>1955</u>	<u>1966</u>
USA	1.49	1.37
UK	1.66	1.42
BELGIUM	1.20	1.07
F.GERMANY	1.69	1.61

which indicates less share-over the 11 years ending 1966.

Source: ● Hides and skins problems confronting developing exporters of hides, skins and leather due to competition from synthetics UNCTAD TD/13/C.1/49, March 1971.

- b. There is likely to be an upper limit to the number of shoes purchased per person each year because of the simple fact that only one pair of shoes can be worn at a time.

1.15 As has been referred earlier with all these limitations, the overall demand for sophisticated natural products will be growing in the affluent countries. The demand for footwear would grow substantially in the populous less developed countries also even when the economic growth is only marginal. The developing countries should modernise footwear production and increase the exports to meet the growing global demand.

CHAPTER 2

The structure of Footwear

Industry in India

2.1.1 India is half of free Asia and the biggest nation in the Indo-Pacific region barring China.

This country with 48% of the rural and 51.34% of the Urban population living below the poverty line, i.e. the monthly per capita expenditure was less than Rs.20 (2.70 US dollars) in the rural areas and less than Rs.70 (4.05 US dollars) in the Urban areas - truly represents the developing countries in vastness and depth.

2.1.2 The Indian Footwear industry presents a spectrum of varying sizes and techniques which include the few modern mechanized large scale units, a moderate number of small scale units that adopt mixed techniques of semi-mechanization and a large number of household units which follow traditional techniques. The exact statistics on Indian Footwear Industry are scanty. However the available information is indicated in the tables 7 and 8.

Source: © Financial express, dt. 14.8.73
India.

TABLE - 7

Sectoral distribution of Leather and Leather products Industry in 1967

Manufacture and repair of Leather Footwear

	No. of units.	No. of persons employed.
Large scale factory sector	6	1242
Medium scale factory sector	65	1739
Small scale factory sector	N.A.	162930
Household industry cottage sector	245926	465413
All sectors	N.A.	631324

TABLE - 8

Production and employment in Footwear and other leather goods industry (1967)

	Value of output at 62-63 (Prices Million rupees).	No. of persons employed	Output per employee
a. Footwear Industry DGTD Sector	218.809	20516	10665
b. Other leather goods industry ASI census and sample sectors	14.000	1402	9984
c. Footwear Industry outside DGTD Sector	818.680	659179	1340
d. Other leather goods Industry outside ASI Census and sample sectors	64.975		
TOTAL	1116.464	681097	1639

Source: Tables 7 & 8 from survey of India's export potential of leather and leather products Vol.II.A. Gokale Instt. of Politics and Economics and CLRI

2.1.3 The pattern of production from various sectors in terms of pairs, is estimated and shown in table 9.

TABLE - 9

Quantum and production of various sectors (Million pairs)

	<u>65-66</u>	<u>70-71</u>
Large Units	15	23
Small scale units	41	56
Cottage units	84	121
	<u>140</u>	<u>200</u>

2.1.4 These estimates reveal that about 10% to 15% of the production is accounted by the large scale mechanised units. The small scale units which represent semi-mechanised, or non-mechanised but organised units account for the production of about 25% of the production. The disorganised cottage household units which are mostly one man or family establishments contribute for the production of more than 50% of the total output in India. The value of output per employee is seven times higher in the organised sector compared to that of the Household sector.

Source: Table 91

Report of committee on mechanisation of small scale leather footwear industry. Development Commissioner (Small Scale Industries) Govt of India, New Delhi, March 1968.

2.1.5 The structure of the mechanised large scale footwear industry in India is analysed in the ensuing pages.

2.2 Organisation of the organised large scale

2.2.1 General Characteristics

The number of units in the organised large scale sector which employ 100 or more persons without using power or 50 or more persons using power has increased from 5 in 1959 to 17 in 1968. The number of employees has also increased from 1221 to 6834 in the corresponding period.

Significant increase in the capital employed i.e. from Rs.12 million in 1959 to Rs.6 million in 1968 was reported. Appreciable rise in the value of machinery used was noticed between 1960-1966 i.e. from a mere 0.17 million rupees worth to Rs.2.90 millions worth in 1966.

2.2.2 The total capital employed per employee has increased ten fold between 1959 and 68, though the number of employees swelled by only 6 times in the corresponding period.

Input-output ratio

The ratio of total investment to output has decreased between 1955 and 1969 but showed increases in the average 4 years and the details are provided in the appended table No.1.

2.2.3 The overall input output ratios have been showing continuous increase i.e. 100:105 in 1959 to 100:113 in 1968. This implies better organisation of the production in the organised sector.

2.2.4 Pattern of employment

In the appended table No.2 the pattern of employment and wage structure are given. A noteworthy feature is that the percentage of supervisory staff has increased from 7% in 1960 to 18% in 1969, which also symbolised better organisational pattern and increased modernisation of the Industry.

2.2.5 Cost of production

In the appended table No.3, the cost structure in the organised Indian Footwear Industry is given. The share of fuels, an indicator of mechanisation has increased fourfold between 1960 and 1966.

2.2.6 The materials consumed formed 70% to 85% of the total cost and 50% to 80% of the total value of output between 1960 and 1969. In the total cost leather constitutes between 40% to 50% over the period. The share of the non-leather materials has been dwindling over the period. Salaries and wages constitute 19% to 23% of the cost of production.

2.2.7 Output pattern

The output pattern of leather and part leather footwear produced in the organised sector is indicated in the appended table No.4. The production of western type footwear has increased from 0.127 million pairs to 1.327 pairs between 1961 and 1966. i.e. a tenfold increase. The production of indigenous type has also grown i.e. from 3.5 million pairs in 1961 to 6 million pairs in 1966.

2.2.8 Output pattern per employee

The annual output per employee as shown in the appended table No.5 was 2545 pairs of mostly indigenous type of chappals in 1960 and based on 294

working days in a year the per day output works out to 8.6 pairs. This is almost 3 to 4 times of the normal output expected in the non-mechanised cottage sector. The value of output per employee has increased from Rs.9218 in 1960 to Rs.11062 in 1966. The wages per manhour have increased by 20% in the six years ending 1966 but the output per man hour has increased by about 7%.

2.2.9 Concluding remarks

- a. In the organised leather footwear production higher investment both by way of fixed and recurring capitals, with the resultant higher output was noticed.
- b. The increase in the percentage of staff other than workers is yet another indicator of the modernisation and mechanisation of the industry.
- c. The value of imports of boot and shoe making machinery in India has increased from Rs.0.84 million in 59-60 to Rs.2.78 million in 67-68, Rs.5.10 million in 68-69 and 4.28 million in 70-71. Between 61-62 to 70-71, Rs.24.28 millions worth machinery was imported with an annual average of Rs.2.4 millions. The organised units are the main consumers of the imported machinery and the increased level of mechanisation is evident from these figures.

Source:

Monthly Statistics of Foreign Trade of India,
Govt. of India, Year 1959, 61-62, 67-68, 68-69, 70-71

Leather Footwear Industry in the organised sector of India and selected advanced countries. A comparative study

3.1 It has been observed, as pointed out earlier that the developing countries are having certain distinct advantages such as inexpensive labour, i.e. called a hidden plus, abundant supply of raw materials and availability of skilled labour etc. for leather industry. An attempt is made here to study the comparative aspects with the available data.

3.2.1 Cost composition

The input-output accounts of the Indian Footwear Industry in the organised sector are given in table 10.

TABLE 10

Input-output accounts of Indian Footwear Industry (organised Sector) Percentages

	1965	1966	1967	1968	1969
I. Input					
Purchase of materials service, transport, etc.	72.4	69.3	73.80	73.20	71.20
II. Value added					
a. Wages and salaries	23.2	21.4	20.50	18.00	17.50
b. Depreciation	2.7	2.9	1.06	1.30	1.32
c. Profits, etc.	1.1	6.4	4.64	9.50	15.98
d. Total value added	27.0	30.7	26.20	28.80	28.80
TOTAL	100.00	100.00	100.00	100.00	100.00

Source

Annual survey of Industries, Govt. of India, Vol. IV of 1965, 1966, 1967, 1968 and 1969.

The data reveal that the materials formed 69% to 74% of the total output. The next bigger element is wages which constituted 11.50% to 23.8% of the cost. One interesting feature is that the proportion of labour in the cost has been declining and in 1969 proved to be only half of the figure for 1965. With the increased mechanisation and introduction of labour saving devices, the labour element in the cost got reduced. Profits etc. are showing increases in 1968 and 1969. However the total value added remained constant with only marginal variations.

3.3.1 Input-output accounts

The input-output accounts of the Leather footwear industry in the selected European countries and India are given in table 11.

TABLE - II
Leather Footwear - Input-output accounts 1965

Intermediaries	Percentages				
	United Kingdom	Germany	France	Italy	India (1965)
I. Input					
Purchase of materials	53.7	41.0	61.0	56.0	60.3
Services, transportation					
Value added	20.0	20.0	20.0	21.0	19.2
Wages & salaries					
Employers' social service payments	37.0	1.0	6.0	6.0	2.2
TOTAL (a+b)	37.0	28.0	28.0	29.0	21.4
II. Output					
a. Depreciation	-	3.0	1.5	1.0	0.0
b. Profitable sale	4.0	12.0	1.0	14.0	3.2
c. Other expenditure	1.7	4.0	5.0	2.0	-
f. Total value added	48.7	49.0	17.0	46.0	30.7
III. Total	100.0	100.0	100.0	100.0	100.0

Source: 1) The Shoe and Leather News, January 25, 1971
 2) Annual survey of Industries, Govt. of India, 1965, 1966, Vol. 1

The share of materials in the total value of output is much higher in India i.e. about 70% whereas it is in the range of 52% to 54% in most of the developed countries barring France which reported 63%.

- 3.3.2 The wages and salaries formed 26% to 37% in the total value of the products in the selected European countries. Italy was reported to possess the advantage of cheap labour but her share remained 29.0% compared to 23.8% for India. The share of labour in the total value ranged from 21.4% to 23.8% in 1965 and 1966 in India and it was further reduced in the subsequent years.
- 3.3.4 Depreciation was high in Germany which signified large scale use of machinery.
- 3.3.5 Profits etc. are reported to be the highest in Italy with 14% of the value of production followed by figures for West Germany. In India profit share was 1.1% in 1965 but it jumped to 8.4% in 1966 and similar trends were visible in the subsequent years.
- 3.3.6 The total value added to the materials ranged from 37% to 49% in the European countries whereas for India it ranged from 28% to 31%. High cost of labour, increased mechanisation, better standard of processing might have led to the appreciation of the value-added-element to the materials in the European countries.

3.4 Hourly wages

3.4.1 The hourly wages in Indian Footwear Industry compared to all manufacturing industries are given in Table 3.4.

TABLE 3.4

Hourly wages for leather and all industries in India

Hourly wages in the organised Footwear Industry, Tanning Industry and the total manufacturing sector in India

Year	All manufacturing Industries	Leather Footwear P.	Tanning
1963	1.10	0.95	0.69
1968	1.58	1.05	1.08
1969	1.64	1.55	1.13

3.4.2 In the course of six years ending 1968, the wages per hour in the footwear industry remained rather constant with only marginal fluctuations. The average hourly wages in all the organised manufacturing industries has grown by 50% over a period of six years and a similar increase in the Footwear Industry was noticed. However it is to be noted that the labour in the Indian Leather Footwear Industry is still unexpensive compared to the figures for all manufacturing industries.

Source:

(Annual Survey of Industries, Govt. of India, 1963-1968 and 1969, Vol. IV.)

3.4.3 Value of output

The value of output per employee is given in table 13.

TABLE 13

Value of Output per employee in India

Output per employee and man hour - All manufacturing, footwear and tanning industries

Year	Output per employee			Output per man hour		
	All India Industries	Footwear	Tanning	All Industries	Footwear	Tanning
1963	12130	11382	20372	7.02	5.13	9.42
1968	21765	13850	40075	11.10	6.54	19.31
1969	24056	21353	42256	12.31	13.66	20.18

The output per employee has almost doubled in the case of all manufacturing industries and also tanning industry between 1963 and 1968 whereas for footwear a substantial increase was noticed only between 1968 and 1969. It is comparable with the all industries average in 1969. Higher output per employee in the tanning industry is attributable to the large scale production of semi-tanned leathers.

3.5 Megasegmentative position

3.5.1 The comparative wage rates in Britain and India are given in Table 14.

Source:

Annual Survey of Industries, Govt. of India, Vol. IV of 1963, 1968 and 1969.

TABLE - 14

Hourly earnings of workers in Footwear Industry - Britain and India

<u>Year</u>	<u>Britain</u> Rs.	<u>India</u>
1964	7.13	1.08
1969	12.08	1.55
% increase	69%	44%

The total hourly earnings of the British Footwear worker is 7 to 8 times more compared to the earnings of his Indian counterpart.

3.5.2 The wage rate has increased by 69% in Britain in the course of 6 years ending 1969 against the increase of 44% in India.

3.6 Comparative wage position of India and European Countries is indicated in Table 15.

Source:

1. Annual Survey of Industries, Govt. of India, Vol.V of 1964 and 1969.
2. Footwear Industry Statistical review 1970 British Footwear Manufacturers Federation, London, 1971.

TABLE - 15

I. Footwear Industry hourly wages comparative position 1967

	<u>Minimum</u>	<u>Maximum</u>
FRANCE:		
Franc	2.37	4.03
Rupees	4.38	7.46
GERMANY:		
Marks	2.79	3.52
Rupees	8.62	10.88
ITALY:		
Lira	232	306
Rupee	3.05	4.02
INDIA:		
Rupees (1968)		1.03

**II. India value of output per man hour
(1968) Rs. 6.55**

3.6.1 With the exception of Italy which was paying 3 to 4 times the average Indian wages, other European countries report a substantial multiple of 7 to 8 times of Indian wages. It may be interesting to note that the value of output per man hour in India is lesser than the maximum hourly wages in the selected European countries

3.7 The comparative unit labour cost is shown in table 16.

Source:

- a. Tripartite Technical meeting for the leather and footwear industry Report II, ILO, 1969
- b. Annual Survey of Industries-Cabinet Secretariat, Govt. of India, Vol.IV, 1968.

TABLE - 16

Unit labour costs for making footwear in the Selected countries 1969 (in dollars).

Sweden	3.10
U.S.A.	3.00
Canada	1.90
West Germany	1.90
France	1.20
U.K.	1.80
Italy	1.00
Spain	0.70
<u>India</u>	
a. Semi mechanised shoes	0.29
b. Hand made	0.60 to 0.81
c. Footwear factory made indigenous type 1960	0.11
d. Factory made western 20% type 1966 80% indigenous type	0.22

Source:

- a. Footwear 1980
British Footwear Manufacturers Federation 1971
- b. Report of the Committee on Mechanisation of small scale footwear industry. Development Commissioner Small Scale Industries, Govt. of India, 1968.
- c. Annual Survey of Industries, Govt. of India, 1960 and 1966, Vol. IV.

3.7.1 In India for making a pair of shoes in the mechanised factory sector, the labour cost is about 0.30 cents compared to 3 dollars in U.S.A., and 1.80 dollars in U.K. Spain is nearest to India in paying less for labour.

Comparative output per person in India and Britain is shown in table 17.

TABLE - 17

Footwear output per person - Britain and India

	<u>Britain</u>	<u>India</u>	
	(1970)	(1966)	(1969)
a. No. of pairs per person	1962	1501	N.A.
b. Value of production (rupees)	44031	11062	24000

Note:

India: The production is 20% western type and 80% indigenous type (1966)

The value of production per person was about double that of India in 1969. The pairage produced per person is also more in Britain though the data are not strictly comparable because the figures are not for the same year and the types of products are different.

Source: a. Footwear Industry Statistical review 1970
British Manufacturers Federation, 1971

b. Annual survey of Industries, Govt. of India, 1966, Vol.1

- 3.8 Comparative cost of Investment in Europe and India
Comparative study for Mens' shoes on a daily production capacity of 300 pairs is given in table 18.
(cement lasted or cemented or McKay construction)

TABLE - 18

Comparative cost of Investment (in rupees)

	<u>India</u>	<u>Europe</u>
Building cost	100000	100000
Machinery, cars, furniture, etc.	880000	550000
Total fixed investment	980000	650000
Recurring investment	353000	360000
Total investment	1.333000	1.010000
TOTAL	1.33 million	1.01 million

- 3.8.1 The investment required for making 300 pairs of shoes per day (1966) in India was Rs.1.33 million compared to Rs.1.01 million in Europe. The high cost of indigenous and imported machinery was the main reason for the 30% increased investment required in India. The dependence on the imported machines adds to the cost of initial investment in the developing countries. The imported machines attract custom duties in India.

Source:

Report of the Fourth Plan footwear expert committee 1966 (patel committee) Ministry of commerce, Govt. of India

3.9 In table No. 19 the comparative costs of production per pair of shoes are given:

TABLE - 19

Average Unit cost - On a daily capacity of 300 pairs of cement lasted or cemented or McKay construction

	Western Europe	Indian machine made (Rs.)	Indian hand made (Rs.)	
Depreciation (10% for machinery and 5% for building)	0.175	0.360	1.030	
Interest (10% in India and 20% in Europe)	0.536	2.930	1.480	
Salaries	0.860	4.300	0.830	6.000
Office staff	0.320	1.600	1.220	
Other charges	0.145	0.730	0.688	1.225
	2.086	10.420	5.148	7.225
Material				
Leather upper lining and others	1.410	7.050	3.600	7.000
Sole leather	0.940	4.700	3.300	6.300
Grinderies	0.100	0.500	0.750	1.000
Packing	0.120	0.500	1.500	1.500
Taxes	0.150	0.750	1.500	1.500
	2.720	13.600	13.150	21.800+12 $\frac{1}{2}$
TOTAL	4.806	24.020	18.298	24.525

Note: ① Reproduced-totals not correct.

Source:

(Report of the Fourth Plan footwear Export Committee)
1966 (Patel Committee) Ministry of Commerce, Govt. of India.

- 3.9.1 The costs towards depreciation, interest on borrowings and salaries are much higher in Europe. The labour cost was almost four times and interest charges were double those for India.
- 3.9.2 India is having a definite advantage over Europe in the inexpensive cost of labour and capital though the latter is scarce.
- 3.9.3 The material costs are more or less the same with the exception of sole leather which costs high in India owing to the high incidence of imported processing materials. The costs of grinders, packing and taxes are also high in India. The levy of 10% excise duty on mechanised units adds considerably to the costs in India.
- 3.9.4 In the total cost of production for making a pair of shoes India incurred only $\frac{3}{4}$ th of the costs expended by Europe.
- 3.9.5 The Indian hand made footwear cost is equivalent to the machine made footwear of Europe. The hand made shoes are made by the self employed cobblers and small scale units largely by making use of hand tools.
- 3.10 Comparative study of hand made and machine made footwear production in India.
- 3.10.1 The data shown in table 20 reveal the comparative position with regard to labour and wages in the Indian mechanised and non-mechanised sectors of the footwear industry.

TABLE - 20 -

Number of persons employed in mechanised and non-mechanised sectors.

Category & capacity	No. of persons employed	Labour & Other charges		
		Direct labour Rs.	Machine operation Rs.	Total Rs.
I. 100 pairs a day, hand-made	60	3.90	-	3.90
ii. Daily wages Average per employee	-	-	-	6.50
II. i. 100 pairs semi-mechanised	40	2.87	0.09	2.96
ii. Daily average wage per employee	-	-	-	7.17
III. i. 300 pairs semi-mechanised	77	1.97	0.16	2.13
ii. Daily average wage per employee	-	-	-	7.67

3.10.2 Labour constitutes generally 20% to 25% of the cost in the footwear industry. Any reduction in the labour cost will have sizeable influence on the price, competitive position of the product and the profit margin. For instance, the switch over from hand operation will result in the reduction of the cost of labour by 25%. This 25% of the labour cost will cause the reduction

1/

Source:

Adapted from the data available in the report of committee on mechanisation of small scale leather footwear industry. Development Commissioner, March '68. Small Scale Industry, Govt. of India, New Delhi -4.

of the total cost by 8% which will add to the value added for the enterprise. Higher mechanisation (300 pairs) causes the cost reduction by about 50% towards labour and the overall cost by 10 to 12%. However the limitation of this analysis is that though the cost of depreciation of machinery is taken care of, the element of interest on capital invested towards mechanisation is not included. More detailed information is provided in the appended table Nos. 7, 8 and 9.

3.10.3 The other effects of mechanisation are enumerated below:

TABLE - 21

Labour displaced.

Capacity (daily)	No. of persons required (Hand made)	No. of persons Machine made	Labour dis- placed
100 pairs	60	40	20
300 pairs	180	77	103

3.10.4 The displacement of labour is a major limiting factor for mechanisation in view of the availability of the large number of an and underemployed labour in India. Unless production is increased considerably creation of more employment would be a problem. It is estimated that at present annually about 200 million pairs of footwear are produced in India. If the entire production is mechanised (with units of a capacity of 100 pairs per day) the labour requirement would be

Source:

same as for table No. 20.

0.27 million. The labour force available is estimated to be more than 0.6 million in India. The present production of 200 millions should be at least trebled to employ effectively the available labour. However it is to be conceded that the establishment of new mechanised footwear units may attract partly the idle and under employed labour from both urban and rural areas. As such much displacement of present labour employed is not envisaged.

3.10.5 Labour earnings

Another feature discernable is that with mechanisation the per employee earning increases and this will attract the hereditary labourers from other occupations also.

3.10.6 The production per man day has also increased with mechanisation as shown in table 22.

TABLE - 22

Production per man day

<u>Type and size of unit</u>	<u>Production per man day</u>
a. Hand made 100 pairs capacity	1.67 pairs
b. Made in semi-mechanised unit 100 pairs	2.50 "
c. Made in semi-mechanised unit 300 pairs	4.00 "

Source:

Same as for table No. 20.

11

The Leather Industry

Advantages of the Leather Industry in the Developing Countries.

4.1 The details and data provided in the previous chapter conclusively prove that India is having definite advantages in labour wages and skill, labour costs, cost of capital and other overheads besides abundant availability of both raw and materials. Being an internationally traded fashion and essential commodity the leading rapidly developing nations can step up their exports to meet their import requirements of leather skins.

4.2 The world with the 113 million population to increase the export ^{of developing countries.} The significant suppliers of footwear to the Western Europe and U.S.A. such as Italy, Spain, France, Germany and Japan and Czechoslovakia to U.N.I.C. are posing difficulties for raw materials from the external sources. The recent policies of the developing countries restricting the export of materials in the raw and semi-tanned forms to facilitate the development of their national tanning and finishing industries would tell upon the supply of such materials to the above countries. The direct import of finished leathers from the growing countries would add to their cost of production besides adjusting their production techniques to suit the quality and structure of the imported materials. Moreover, the labour and manufacturing costs are increasing in line with the substantial growth of other manufacturing industries. The national policy of some Governments also discourages investment in consumer goods industries. The

availability of labour itself is a major problem and the employment of women labour in the footwear industry to the extent of more than 50% in many countries is a pointer in this direction (In India women-labour is meagre, rather nil in the organized footwear industry). It is estimated that the present world per capita consumption of one pair of footwear would double by the end of this century, due to increased standard of living and population growth. The world production of footwear should increase from the present 3000 million pairs to 14000 million pairs by the end of the century to meet the additional needs. *Even assuming that 50% of the requirements will be met by synthetics, the additional demand for leather footwear would be more than 5500 million pairs. All these developments are definitely in favour of the developing countries programme for promotion of exports, to the "World's most discriminating, prosperous and sociologically advanced people".

- 4.3 The people involved in the footwear industry in India are drawn from the depressed classes. Any development in their economic position would tend to be a socially ameliorative measure. The modernisation of footwear production would offer them better working conditions, additional wages and a welcome change in their social standing.
- 4.4 Mechanisation has the effect of reducing both the number of operations and the time required for each operation. The cost reduction expected per unit of output is substantial too in the developing countries where the wages form around 20%

* Source:

Leather London. Oct. 1971, Vol. 173, No. 4356,
Leather Science & Technology Section.

The increase in productivity is indicated in table 24 for a group of factories in U.K. after increased mechanisation.

TABLE - 24

Number of pairs per operational hour

	<u>1950</u>	<u>1964</u>	<u>Increase</u>
Making and finishing	2.21	4.04	(83%)
Making, finishing and shoe rooms	1.74	2.82	(62%)

4. In the developed countries the object of mechanisation is to increase the productivity, so that the output per unit labour cost equals that of other products. It means that labour should contribute significantly towards output value comparable to other industries. The drift of labour to other industries can be checked only by paying comparable wages. In the developing countries, such a problem does not exist in the absence of competitive employment opportunities. However to increase the quality of the product and achieve standardisation to cater to the sophisticated internal and external markets, mechanisation is necessary.

Source:

Effects of Technological developments in the structure and level of employment in the leather and footwear industry. I.L.O. 1969, Vol. II.

- 4.6 Introduction of flow lines, prefinishing, and injection moulding are some of the innovations that have changed the structure of the industry and rendered many skilled operations superfluous. For instance glue and cements have reduced the need for hand stitching. The rate of material cutting has increased rapidly due to the use of poromerics.
- 4.7 The growth of Italy and Spain as a substantial producer and exporter of footwear was based on semi-mechanisation, differential wage benefits compared to affluent Europe, coupled with newer designs. A survey of the markets for footwear in various countries made by the Patel Committee (Govt. of India) revealed that the demand for hand made shoes is limited because of its high price and non uniform quality.
- 4.8 The Govt. of India is offering many incentives such as certain percentage of exemption from income tax for exported products, tax holiday special development rebate etc., for small scale units. The mechanised footwear units will largely fall under the category of small scale units and can avail the benefits.
- 4.9 It is also gathered that mechanised footwear units do not require high investment nor intricate technology.

CHAPTER V

Problems of mechanisation of Footwear Industry in India.

5.1 General problem

The constraints on the development of footwear machinery are the non-homogeneity of the main raw material for footwear viz. leather which is available in different sizes and thickness and the complex non-standardised shoe shapes and sizes. In U.K. it is reported that the style changes four times in a year and about 20000 styles are in offer to the customers.* The intricate problem is said to be of obtaining a three dimensional shape from a two dimensional material.

5.2.1 Labour problems

The cobbler profession is a hereditary occupation of the depressed classes ^{in India} and it is rated low in the economic avocations. The hereditary character though it offers continuance of hereditary skill and craftsmanship has virtually shut out effective competition from other communities. The labour supply is influenced by the regional distribution of the people of this caste. The labour is not highly mobile also. The other problems with the labour are illiteracy, absenteeism, etc.

5.2.2 Lack of entrepreneurship

The major part of production of footwear in India

* Source:

Journal of the British Boot and Shoe Institutions, London, (Nov.-Dec., 1972, Page 196)

is carried out in un-organised one man or few persons household establishments with small or nil overheads. The capital investment of such units is confined to a few to 15, ranging Rs.80 to 100 per unit (10 to 15 U.S. Dollars). The household footwear industry in India is reported to be more profitable than most of the other household industries. The large number of household units do not possess the necessary capital, market knowledge nor enterprise to venture on mechanised footwear production.

5.2.3 i. Problems of availability of machinery

Suitable machinery for semi-mechanisation of units machine operators and maintenance mechanics are not available in adequate measure.

ii. On the other hand limited demand for footwear machinery deters the machinery manufacturers from taking up production with necessary economies of scale. Moreover specific purpose machines of varying types are required more than general purpose machines.

iii. There are fast changes in the products and production techniques leading to a high rate of obsolescence.

iv. Facilities are not available for evolving newer designs and models and information is also lacking on standard specifications on footwear machinery. The estimated requirement of machinery in 1970-71, for small scale units is given in the appended table No.10. More detailed survey is necessary to evaluate the needs of the industry.

5.3 Constraints through State Policy

5.3.1 Levy of excise duty

Government is levying an excise duty of 10% ad valorem on footwear making units which employ 50 or more workers or employ power exceeding 2 H.P. The component parts of footwear command a levy of 15% ad valorem. This levy is a major constraint for modernisation and mechanisation of footwear industry.

5.3.2 The mechanised footwear units are subject to sales tax, factory and labour laws. The labour law would warrant payment of leave benefits, provident fund etc. This would add to the labour cost by about 25%.

5.4 Employment

The rising production is likely to be accompanied by rising employment only if traditional methods continue to be used. Much labour will be saved by introduction of machinery for a given output. Unless production is increased more idle labour cannot be absorbed.

5.5 Marketing

5.5.1 The Indian market for footwear is conditioned by the economic and social condition of the people and seasonality of demand due to varying climates and religious customs. The poor economic condition of the major populace restricts the demand to the inexpensive durable footwear such as those made with motor car tyre etc. in sizeable quantity in rural areas. Absence of sophisticated sustained internal market is a major hurdle for the modernisation of the footwear units.

- 5.5.2 Mechanisation would result in cost reduction provided continuous production is assured at a optimum level. The internal seasonal marketability creates the problem of stocking the products in the off-seasons.
- 5.5.3 The non-mechanised small scale units now depend on middlemen or large scale footwear manufacturers who offer only small margin to market the products. Inadequate profit deters further investment in the mechanisation of the industry by the small scale operators.
- 5.5.4 The leather prices are fluctuating widely and this inhibits the planning of long term increased production.
- 5.5.5 In India, two large scale footwear production units are functioning with a distribution net work of more than 1000 branches. competition from these firms is formidable to the new units. However the retail markup of these large firms is about 30% to 35% and the small scale units can reduce this mark-up to gain competitive edge.
- 5.5.6 In the footwear production, product mix is more important to make the products saleable to maintain the profit margin than the economies of scale. The market intelligence for the range of products required is not available in the developing countries.
- 5.5.7 The competitive position of the products of developing countries should not be judged in relation

to the retail prices in the advanced countries. For instance a pair of canvas shoes with the ex-factory sale price of 50 U.S.* cents from a developing country is sold at 1.64 dollars i.e. more than 230% in West Germany. The details are given in the table - 22.

TABLE - 22

Marketing and other costs for a pair of exported footwear

	<u>Dollars</u>	<u>Index</u>
Sales price ex-factory	0.50	100
Agent's commission (5%)	<u>0.03</u>	
F.O.B.	0.53	105
Freight and Insurance (10.5%)	0.06	
C.I.F. landed price	0.59	118
Bank commission (2%)	0.01	
Import duty (20%)	<u>0.12</u>	
Import prices	0.72	144
Mark-up (100%)	0.72	288
Value added tax	<u>0.20</u>	
Retail price	1.64	328

Source:

Selected markets for canvas sports footwear
International trade centre ITC/MR/2/267, December 1970

CHAPTER - VI

Recommendations - Measures suggested for the Mechanisation of Footwear Industry in the developing countries

Part I. - General Institutional arrangements:

- 6.1 There is not much technical and commercial collaboration among developing countries on many important areas of common interest. It is suggested that a footwear design, development and marketing institute may be started in one of the developing countries with the following functions:
- a) Designs and styles for Footwear may be developed to suit the world markets. Fashion becomes a dominant factor in the affluent countries, and hence it is necessary to keep up with the changing trends of fashion.
 - b) Development of suitable footwear machinery to meet the growing needs of the developing countries is imperative. The machines developed should be inexpensive, small, simple and easy to operate. The existing production techniques should be re-examined and simple improvements should be suggested.
 - c) Extensive foot measurement research programmes should be launched in the developing countries to find the basis of new shoe shapes and fittings. The research results are expected to lead to greater economies in the last production, improved shoe fit and increased comfort. The data would facilitate the production planning of the mechanised units.

- a) There is a needful exercise of commercial and technical ^{and} leather and footwear industries in the developing countries. The proposed Institute in collaboration with Asian Institute of Economic Development and Training (IAEDT) and CLIR can sponsor a regular technical studies on leather group of industries. The data would be such useful in planning the progress of the industry.
- e) The Institute can serve as a sort of consortium for export marketing of footwear and undertaking joint advertisement, etc., for developing countries besides suggesting rationalization of the production of certain varieties.
- f) The Institute can organize a leather and footwear fair respecting the participation to the developing countries in France or Germany to boost the sale of their products. The present international leather and footwear fairs are dominated by the developed countries.
- g) A full time forecasting method of lifting the sale of semi-tanned leathers and finished leathers with a petition for footwear may be evolved for the uniform adoption by all developing countries.
- h) In France a bureau is set up to promote through a synthesis of animal ideas, colours, silhouettes, and leather structures in order to establish a general French trend". The proposed institute can arrange for the development of regional trends (such as Asian, Latin, American, African, etc.) or national trends for the growing nations.

Source:

Journal of Leather Foot and Shoe Distribution,
January-February, 1973, Vol. 20

6.1.2 The problem of mechanisation of footwear industry in the developing countries is so massive that the present entrepreneurs with inadequate capital and knowledge cannot even touch the fringe of the problems. It requires organised efforts by the governments and international agencies such as World Bank, UNIDO, UNDP to prepare a blue print for the development and implement the same with substantial financial assistance.

6.2 Recommendations - Developing countries with particular reference to India

6.2.1 A clear cut plan and decision regarding the size of the units and choice of techniques is necessary. Since the factor endowments are marked by plentiful supplies of labour and shortage of capital, the development strategies should follow the use of labour intensive technology to the extent possible.

Mechanisation of footwear does not mean complete automation which is reported to be impossible even in the advanced western countries. In the developing countries, mechanisation may be effected depending on the capacity of adoption by different sectors. Marginal improvements, without much involvement of fixed capital, such as improved tools, equipments and methods of fabrication may be suggested for the household and cottage units. The small scale units can go in for power operated machines and this sector may be treated as core sector for intensive development. The large scale units can expand and modernise only to cater to the export markets.

2.2.2 In order to make an effective use of the available financial facilities for the small units, the scheme should effectively involve the small foot-wear industry where supply of labour and raw material is dispersed geographically and the minimum optimum scale of production is less than 10 units. It will be advisable to evolve a series of intermediate technologies which will be viable and competitive over a large area. These units should not be knit organisations and should be co-ordinated by an apex body called "Footwear Industry Development Corporation" which would look into three important functions viz. supply of machinery on hire purchase basis, raw material and arranging for marketing initially abroad and at latter stages in the internal markets by establishing a well work of retail units. The corporation can also regulate the production of the various units by suggesting particular designs and styles to suit the markets both internal and abroad. A mode of fabrication of footwear in which a judicious combination of old and new methods can be suggested to have distinct appeal. The developing countries can certainly do a good job if a protective is assured.

2.2.3 As regards the size of the units, the units with the employment around 50 persons may be encouraged. As may be seen in table 25 more than 80% of the units are employing less than 100 persons in the advanced EC countries. The small units with 10 workers and below accounted for more than 50%.

6.2.4 As an immediate measure, prior to the setting up of Footwear Development Corporation, the Governments of developing countries can arrange for the establishment of mechanised small scale Footwear units in the viable centres and the same may be hired out to Individual entrepreneurs or co-operative societies.

6.2.5 The Footwear making machines may be made available by the manufacturers to the footwear units on hire purchase basis. The charges can be collected on piece rate basis or a minimum rent may be fixed. The machinery may be replaced with a better one in line with new developments.

6.2.6 As the tanning industry is also to be geared to make finished leathers needed for footwear industry in the developing countries, it is suggested that to the extent possible integrated tanning cum footwear units may be encouraged.

6.2.7 Training

- i. In making footwear numerous operations and dexterity of the workers are involved and greater flexibility can be facilitated in planning the flow of work, if the operators are trained to do more than one job.
- ii. The Governments should take steps to organise apprenticeship training for footwear mechanics in the organised footwear units.
- iii. The training programmes should synchronise with the job requirements of the industry.

TABLE 25

Distribution of undertakings and of employment in the Footwear Sector of EC Countries by size of undertaking, 1958-67

Size of undertaking (Labour Force)	1958		1967	
	No. of undertakings	Employment	No. of undertakings	Employment
Workers				
1-10	2977	20260	2301	12315
11-50	2294	50955	2184	46530
51-100	1040	61518	1025	61953
101-200	404	50489	426	50960
201-500	173	40238	156	58323
501-1000	42	20107	44	29070
Over 1000	19	28032	17	25158
TOTAL	7049	296582	6259	281426

Source:

EEC: Comité de liaison et d'étude de l'industrie de la chaussure de la CEE; Les industries de la communauté économique européenne; bilan de dix années de Marché commun; inventaire des problèmes et préoccupations majeurs, 1958-1967. (Brussels, 1968) mimeographed, pp. 5 and 9

Tripartite Technical meeting for the leather footwear industry-General Examination of Social problems in the Leather and Footwear Industry Report 3, Table No. VIII.

6.2.8 State patronage

In the purchase programmes of Governments of the developing countries preference should be given to the newly established mechanised small scale footwear units. In India the data of the Government purchases of footwear for the last three years are given in table - 26.

TABLE - 26

Government purchase of Leather Footwear in India

(Value in million rupees)

68-69	-	36.46
70-71		39.95
71-72		25.77

The value of purchases is substantial and the Government patronage will be much beneficial to to market the products of the new units.

Sources:

Director of Govt. purchases 68-69, 70-71 and 71-72.
Department of Supply - Director General of Supplies
and Disposals, Govt. of India, New Delhi.

APPENDIX -1

INDIAN LEATHER FOOTWEAR INDUSTRY ORGANISED SECTOR
(Rs. millions)

	Years				
	1959	1960	1963	1966	1968
1. Number of units	5	5	9	9	14
2. Number of employees	1221	1184	5232	6340	6834
3. Capital employed	1.9	1.16	30.8	32.4	31.6
a) Fixed capital total	0.5	0.33	0.90	5.2	3.6
b) Machinery	N.A.	0.17	N.A.	2.30	N.A.
c) Working capital	1.4	0.83	26.9	27.2	33.0
4. Per employee fixed capital (actual) (Rs. 409)			663	820	1235
5. Working capital (actual) (Rs. 1146)			4636	4200	4828
6. Total capital (actual) (Rs. 1555)			5299	5110	5063
7. Fixed capital to total output ratio	1:21	-	1:15	1:14	1:11
8. Working capital to total output ratio	1:7	-	1:2	1:26	1:29
9. Capital to output ratio	1:36	-	1:2	1:22	1:33
10. Input output ratio	100:105	-	100:108	100:109	100:113
11. Total output	10.7	12.80	60.6	72.0	94.9
12. Total input	10.01	12.70	56.1	65.95	83.6

(Source: Annual Survey of Industries Volume IV of 1959, 60, 63, 1966, 1968 and 1969 provisional figures).

APPENDIX - 2

2. Pattern of Employment and wage structure (Wages and man hours in million)

	India	<u>1966</u>	Per- centage	<u>1966</u>	Per- centage	<u>1969</u>	Per- centage
I. a. Workers		1112	93	5500	86	2374	82
b. Other than workers		72	7	840	14	489	13
c. Total		1184	100	6340	100	2863	100
 <u>II. Salaries wages</u>							
a. Workers		1.829	85	9.704	71	5.1	66
b. Other than workers		0.313	15	3.854	29	2.8	34
c. Total wages		2.142	100	13.558	100	7.9	100

III. Annual man hours worked (Millions)

a. Per employee man hours	2.442	12.871	5.1
b. Per worker	2062	2030	17.81
Daily all employee average working hours	2196	2340	2148
No. of working days in a year	7.00	6.90	N.A.
	295	294	N.A.

(Source: Annual Survey Industries, Govt. of India, Volume IV of 1960, 1966 and 1969).

APPENDIX-A

	<u>1. Cost of production</u>		<u>Organised sector</u>		<u>Indian Footwear Industry</u>		<u>Value of Total output</u>
	<u>a. Fuels</u>	<u>b. Materials consumed</u>	<u>i. leather</u>	<u>ii. Non-leather materials</u>	<u>Others</u>	<u>Wages</u>	
* 1960	0.967	10.204	5.117	4.624	0.466	2.428	12.699
to cost	0.53	60.35	40.35	36.41	3.69	17.12	190.00
to output	0.52	79.69	39.92	36.11	3.66	18.96	
† 1962	0.649	33.044	22.298	8.176	2.570	10.179	41.873
to cost	1.48	75.32	50.52	18.64	5.86	23.20	100.00
to output	1.46	74.61	51.35	18.46	5.30	22.98	
‡ 1966	1.431	55.126	35.28	11.488	2.357	13.387	63.944
to cost	2.17	74.49	53.50	17.42	3.37	23.34	100.00
to output	1.96	68.19	48.07	15.95	3.27	21.36	
§ 1967	0.4	43.6				7.9	31.9
to cost	0.70	85.40				13.90	100.00
to output	0.57	69.69				11.23	

* No own production of leather.

† Factories producing tanned leather for footwear manufacture and also for sales (Source: Annual Survey of Industries) Year 1960, 1962, 1966, and 1967

Govt. of India, New Delhi.

APPENDIX-4

INDIA

OUTPUT PATTERN FOOTWEAR - ASI CENSUS SECTOR
(Value million rupees)

	<u>1961</u> <u>Q.</u>	<u>Value</u>	<u>Unit</u> <u>Value</u>	<u>1964</u> <u>Q.</u>	<u>Value</u>	<u>Unit</u> <u>value</u>	<u>1966</u> <u>Q.</u>	<u>Value</u>	<u>Unit</u> <u>value</u>
a. Western type wholly leather 000' pairs	127	2.055 (12.61)	16.18	1084	19.029 (30.83)	17.55	1327	21.382	16.11
% total									
b. Western type mixed material 000' (% to total)	11	0.168 (1.03)	15.27	64	1.001 (1.95)	18.76	448	5.500	12.27
c. Indigenous type wholly leather 000' pairs (% total)	13	0.159 (0.98)	12.23	4918	24.925 (40.38)	5.06	6006	33.703	5.61
d. Indigenous type leather mixed material 000' pairs (% total)	3521	13.374 (82.04)	3.80	-	-	-	-	-	-
e. Leather cuttings (tonnes)	0.3	0.001	-	715	6.341	-	845	0.742	-
f. Leather cut components (000 pairs)	-	-	-	27	0.430	-	-	-	-
g. Sole leather (tonnes)	-	-	-	1592	7.104	-	449	2.853	-
h. Upper leather chrome tanned 000 Sq.meters	-	-	-	215	3.254	-	91	0.176	-
i. Others (Value only)	-	0.544 <u>16.301</u>	-	-	5.429 <u>61.713</u>	-	-	4.589 <u>72.004</u>	-
TOTAL:									

Source: Annual Survey of Industries Census Sector, Govt. of India, Volume No.4 of 1961, 1964 and 1966.

Table 1. Industrial Production in India, 1953 and 1960 (1953=100)

Year	1953	1960	No. of Units	1953	1960	1953	1960
I. Total Industrial Production	100	120.5	100	100	100	100	100
II. Value Added at Basic Prices	100	120.5	100	100	100	100	100
III. Value Added at Current Prices	100	120.5	100	100	100	100	100
IV. Value Added at Constant Prices (1953=100)	100	120.5	100	100	100	100	100
V. Value Added at Factor Cost	100	120.5	100	100	100	100	100
VI. Value of Output per hour R.	100	120.5	100	100	100	100	100

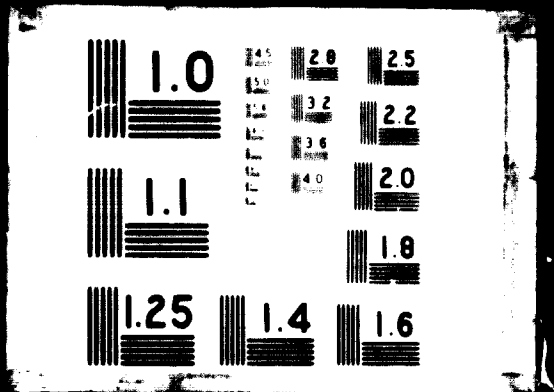
(Source: Annual Survey of Industries, Volume IV of 1960, 1962, and 1966)
Govt. of India.



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APPENDIX -6100 Pairs Hand Operations: Cost of Labour per pair of Hand
made footwear

<u>Sl. No.</u>	<u>Hand Operation</u>	<u>Men</u>	<u>Labour charges</u>
1.	Clicking	3	19
2.	Closing	4	44
3.	Clicking Sole, Insole comp.	3	19
4.	Splitting	2	15
5.	Lasting	12	81
6.	Welt stitching	12	81
7.	Sole stitching	12	37
8.	Hand Assembly	2	19
9.	Heel Attaching	4	19
10.	Trimming	2	19
11.	Finishing	5	37
		----- 60	----- Rs. 3.90 per pair

Source: Report of committee on mechanisation of Small
Scale Leather Footwear Industry, Govt. of India,
New Delhi - March 1968.

Cost of labour per pair of semi-mechanised units - India
(for 100 pairs)
(daily capacity)

S. No.	Name of the Machine	H.P.	Men.	Cost	Dep.	Power consumed	Labour charges paise	Replacement/Maintenance/Lubrication
1.	2.	3.	4.	5.	6.	7.	8.	9.
1.	Clicking by hand or Machine	-	1	-	-	-	19	-
2.	Upper stitching Machine	.5	1	3500/-	.97	.004	-	.0018
3.	Assembly by hand	-	3	-	-	-	0.19	-
4.	Bending Machine	-	-	-	-	-	-	-
5.	Burtothing Machine	-	-	-	-	-	-	-
6.	Zigzag Machine	-	-	-	-	-	-	-
7.	Foot Bed Sewing Machines	.5	2	3375/-	.004	0.05	-	.0012
8.	Double Needle Machine	-	-	-	-	-	-	-
9.	Flat Bed Machine	.75	2	1691/-	.47	.006	0.05	.0018
10.	Roller Type Left Arm Machine	.75	1	1760/-	.49	.006	0.05	-
11.	Strap Cutting Hand or Power (Ind)	-	1	250/-	.07	-	0.05	.0009
12.	Strap Folding Hand or Power	-	1	300/-	.05	-	0.05	.0007
13.	Eyeletting	.06	1	1700/-	.47	-	0.05	.0009
14.	Bottom Clicking Hand	-	3	-	-	-	0.19	-
15.	Splitting Hand or Power	-	1	800/-	.22	-	0.15	.0007
16.	Velt Cutting Hand or Power	-	1	800/-	.22	-	0.12	.00093
17.	Lasting Jack	-	-	50/-	.02	-	-	.00003
18.		-	7	-	-	-	0.50	-

APPENDIX-7 (Contd)

1.	2.	3.	4.	5.	6.	7.	8.	9.
19.	Full Over Machine	-	-	-	-	-	-	-
20.	Seat Lasting Machine	-	-	-	-	-	-	-
21.	Side Lasting Machine	-	-	-	-	-	-	-
22.	Forming Machine	-	-	-	-	-	-	-
23.	Welt Sewing Hand or Machines	-	8	-	-	-	0.50	-
24.	Outsole Stitching Machine	1.5	1	7525/-	2.00	.006	0.50	0.12
25.	Rough Rounding Channel Cutting Machine	-	-	-	-	-	-	-
26.	Sole Levelling Machine	-	-	-	-	-	-	-
27.	Heel Attaching (Hand or cover)	-	1	1200/-	0.33	-	0.19	0.007
28.	Combd. Finishing Machine	-	1	5046/-	1.49	.005	0.10	0.028
29.	Trimming Machine	-	-	-	-	-	-	-
30.	Finishing Hand or Machine	-	4	-	-	-	0.19	-
31.	Separating Machine	-	-	-	-	-	-	-
32.	Spray colouring Machine	-	-	-	-	-	-	-
33.	Edge Setting Machine	-	-	-	-	-	-	-
34.	Puffing Machine	-	-	-	-	-	-	-
35.	Bottom Edge	-	-	-	-	-	-	-
36.	Polishing Machine	-	-	-	-	-	-	-
37.	Past Removing	-	-	-	-	-	-	-
38.	Socks & Lace fixing	-	-	-	-	-	-	-
39.	Stamping	-	-	-	-	0.05	-	-
			40	27,907			0.10	9.94

TOTAL

Source: Report of Committee on mechanisation of small scale leather footwear

APPENDIX-8

footwear
Cost of Labour per pair of/ Semi mechanised units
 (for 300 pairs capacity) daily

Sl. No.	Name of the Machine	H.P.	Men	Cost	Dep.	Power consumed	Labour charges	Replacement/ Maintenance/ Lubrication
1.	2.	3.	4.	5.	6.	7.	8.	9.
1.	Clicking by hand or Machine (s)	1.5	1	6500/-	1.90	0.0606	0.06	.0036
2.	Upper skiving machine	0.5	1	3500/-	0.97	0.004	0.05	.0019
3.	Assembly by hand	-	-	-	-	-	-	-
4.	Beading machine	0.25	1	5000/-	1.60	.002	0.05	.0023
5.	Burnishing machine	-	-	-	-	-	-	-
6.	Zigzag machine	-	-	-	-	-	-	-
7.	Post Bed Sewing machine	0.5	1	3375/-	1.94	.004	0.05	.0023
8.	Double Needle machine	-	-	-	-	-	-	-
9.	Flat Bed machine	0.5	2	1691/-	0.47	.004	0.10	.0009
10.	Roller type left arm machine	0.5	1	1760/-	0.40	.004	0.05	.0096
11.	Strap cutting hand or power (Jrd)	0.5	1	1000/-	0.30	.004	0.05	.0006
12.	Strap holding hand or power	0.5	1	1000/-	0.50	.004	0.05	.0022
13.	Eyeletting	0.5	1	4000/-	1.40	.004	0.05	.0022
14.	Bottom clicking hand or power	0.2	1	7000/-	0.40	.012	0.05	.0059

APPENDIX-8 (Contd.)

1.	2.	3.	4.	5.	6.	7.	8.	9.
15.	Splitting hand or power	0.5	1	1800/-	0.97	.004	0.05	.0019
16.	Velt cutting hand or power	0.5	1	1000/-	0.67	.004	0.05	.0007
17.	Lasting Jack	-	-	50/-	0.02	-	-	-
18.	Lasting head of machine	-	24	-	-	-	0.50	-
19.	Lasting machine	-	-	-	-	-	-	-
20.	Pulllover machine	-	-	-	-	-	-	-
21.	Side Lasting machine	-	-	-	-	-	-	-
22.	Pounding machine	-	-	-	-	-	-	-
23.	Velt Sewing hand or machine	-	20	-	-	-	0.50	-
24.	Outsole stitching machine	1.5	1	7325/-	2.09	0.012	0.05	.0042
25.	Rough rounding chennel cutting machine	-	-	-	-	-	-	-
26.	Sole levelling machine	-	-	-	-	-	-	-
27.	Heel attaching(hand or power)	2	1	4000/-	1.40	0.012	0.05	.0022
28.	Comb Finishing machine	-	-	-	-	-	-	-
29.	Trimming machine	1	1	6000/-	1.40	0.006	0.05	.0022
30.	Finishing hand or machine	-	-	-	-	-	-	-
31.	Scouring machine	-	-	-	-	-	0.12	-

APPENDIX-8 (Contd)

	2.	3.	4.	5.	6.	7.	8.	9.
32. Spray colouring machine Ind.	-	-	-	-	-	-	-	-
33. Edge setting machine	-	-	-	-	-	-	-	-
34. Buffing machine	-	-	-	-	-	-	-	-
35. Setting edge	-	-	-	-	-	-	-	-
36. Polishing machine	-	-	-	-	-	-	-	-
37. Last removing	-	-	-	-	-	-	-	-
38. Soles & Lace fixing	-	-	-	-	-	-	-	-
39. Stamping	-	1	100	0.04	-	0.05	-	-
	0.01	77	59,501	0.05	0.8	1.97	0.003	

2.17 per pair.

Source: Report of committee on mechanisation of small scale leather footwear industry, Govt. of India, March, 1968

APPENDIX-9

Estimated demand of Footwear machinery for Small Scale mechanised units by 1970-71 (India)Indigenous Machinery

<u>S.No.</u>	<u>Name of the Machines</u>	<u>Quantity</u>
1.	Heavy Duty Pattern Shear	144
2.	Pattern Vice	144
3.	Grading Pantograph	144
4.	Strap cutting machine	144
5.	Strap folding machine	144
6.	Upper Spray cementing unit	10
7.	Flat Bed sewing machine	20
8.	Cylinder Bed sewing machine	20
9.	Punching and Rivett setting machine	87
10.	Manually operated punching and eyeletting machine	
10.	Gimping and pinking machine	26
11.	Seam rubbing tool	73
12.	Socks and lining stamping machine	45
13.	Heavy strap cutting apparatus	20
14.	Sock printing machine	5
15.	Flat Bed sewing machine for perforating	81
16.	Punching machine	4
17.	Embossing presser	16
18.	Spray cabin for upper cementing with latex and gun	4
19.	Sole splitting machine M.O. and component splitting machine	116
20.	Cementing press	109
21.	Brushing and padding machine	125
22.	Combined finishing machine	27
23.	Trade mark embossing machine	109
24.	Insole slashing machine	69
25.	Roughing up machine	57
26.	Heel scouring and buffing machine	109
27.	Lasted upper edge roughing machine	84
28.	Rubber Mixing mill	21
29.	Sock pasting apparatus	101
30.	Granulator	8
31.	Air compressor 5 H.P.	8
32.	Hand press	34
33.	Edge setting machine	24
34.	Weighing machine	35
35.	Fore part paring machine	60
36.	Insole cover stamping machine	2

APPENDIX-9 (Contd.)

Imported machines

<u>S.No.</u>	<u>Name of the machines</u>	<u>Quantity</u>
1.	Upper skiving machine	128
2.	Flat sewing machine	461+500= Treadle operated for repla ment purpose.
3.	Cylinder bed sewing machine	
4.	Insole covering machine	
5.	Safety cutting press & also rapid safety cutting press	145+9= 154
6.	Padded insole roughing machine	16
7.	Insole slotting machine	16
8.	Waist reducing machine H.O.	30
9.	H.O. outside heel attaching machine	20
10.	Edge trimming machine	62
11.	Industrial binding machine	26
12.	Vulcanising press manually operated	90
13.	Electro-hydraulic sewing clicking press	70
14.	Upper & Lining, size & Brand stamping machine and also component size tamping machine	113+25=138
15.	Upper folding machine and also upper folding machine with tapping device	84+75=159
16.	Compotent cementing machine	117
17.	Seam rubbing machine	46
18.	Zig-zag stitching machine	74
19.	Post Bed sewing machine with trimming attachment	156
20.	Automatic punching & eyeletting machine	56
21.	Console Lasting machine	30
22.	Upper trimming machine	179
23.	Fully automatic Vulcanising presses	84
24.	Double Station upper cleaning machine	10
25.	Hot air circulating machine	10
26.	Sole and insole cementing apparatus	65
27.	Automatic plastic injection machine 10 station	8
28.	Over flow trimming machine	12
29.	Swing arm hydraulic clicking press (Italian)	46
30.	Heavy duty strap cutting machine	24
31.	Toe lasting machine	24

APPENDIX-9 (Contd.)

<u>S.No.</u>	<u>Name of Machines</u>	<u>Quantity</u>
32.	Semi automatic cement seat lasting machine	24
33.	Cement side lasting machine	24
34.	Surplus upper trimming machine	24
35.	Outside heel attaching machine	48
36.	Band scouring machine	59
37.	Special purpose sewing machine	25
38.	Pinking & Glipping machine	25
39.	Sole flexing machine	25
40.	Sole and insole roughing machine and also top piece roughing machine	28
41.	Heel building machine	28
42.	Heel compressing machine	28
43.	Loose heel breasting machine	25
44.	Slagging machine	28
45.	Pulling over toe and side cement lasting machine	50
46.	Tack lasting machine for seat	41
47.	Surplus upper trimming machine	30
48.	Shoe bottom cementing machine	25
49.	Hydraulic heel attaching machine	35
50.	Twin bed levelling machine	35
51.	Heel parting machine	25
52.	Oscillating bottom scouring machine	35
53.	Electro-hydraulic edge setting machine & Magnetic type	25+10= 35
54.	Upper cleaning machine	35
55.	Hot Air apparatus	76
56.	Direct vulcanising machine	5
57.	Sole channelling machine	20
58.	Lock stitching sole sewing machine	10
59.	Channel closing machine	10
60.	Auto sole for seat nailing	10
61.	Hot wax heel burnishing machine	10
62.	Stitch wheel machine	10
63.	Inter-changeable PVC injection moulds	50 pairs
64.	Skiving machine heavy duty	3
65.	Book Binder's press	6
66.	Band knife splitting machine	4
67.	Pounding machine	26
Approximate cost of indigenous machine		Rs. 70 lakhs
Approximate cost of imported machines		Rs. 302 "
Total		Rs. 372 "

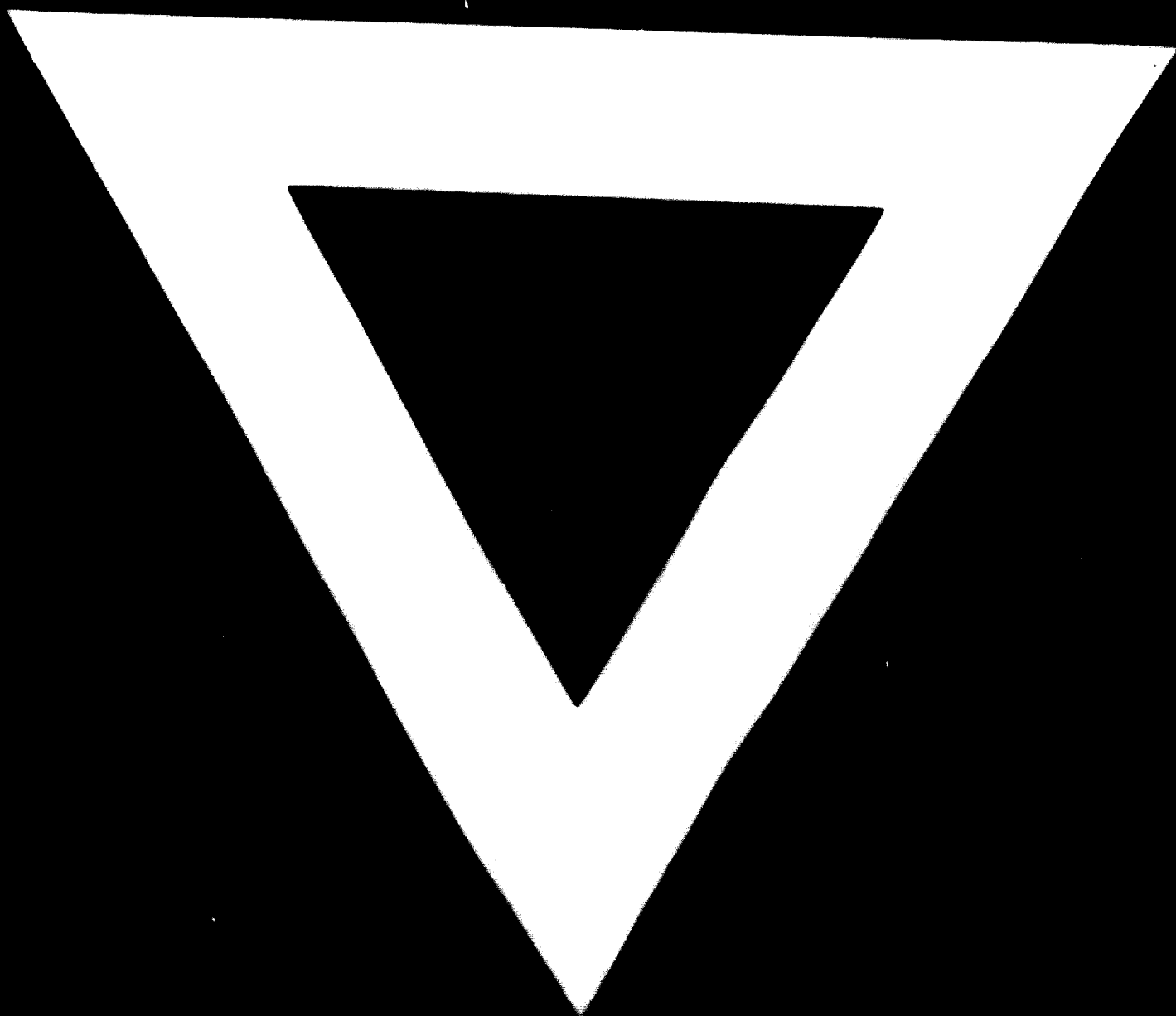
Source: Report of Committee on mechanisation of small scale footwear industry, Government of India, March, 68.

REFERENCES

1. Report of Committee on Mechanisation of Small Scale Leather Footwear Industry. Development Commissioner (Small Scale Industries) Ministry of Industrial Development and Company Affairs, Government of India, New Delhi - March 1968.
2. Tripartite Technical Meeting for the Leather and Footwear Industry
Report I: General Examination of Social Problems in the Leather and Footwear Industry
Report II: Effects of Technological developments on the occupational structure and level of employment in the Leather and Footwear Industry.
Report III: Conditions of employment and related problems in the Leather and Footwear Industry with particular countries in the course of industrialisation
(Published by International Labour Office, Geneva, 1969)
3. Selected Markets for canvas sports Footwear International Trade Centre, Geneva, 10 ITC/MR/2/267 - December 1970
4. The World Hides, Skins, Leather and Footwear Economy, F.A.O., Rome, - 1970
5. Problems confronting developing exporters of hides, skins and leather due to competition for synthetics - Hides and Skins UNCTAD Report - TD/B/C1 Syn 49 - dated 29.3.71
6. World Supply and Demand: Prospects for increased exports from developing countries. Leather and Leather Products - A study by the UNCTAD Secretariat TD/B/C-2/101 - Jan. 1970
7. Survey of India's export potential of Leather and Leather Products - Volume II-A Gekhale Institute of Politics and Economics and Central Leather Research Institute. - October 1969

REFERENCES (Contd.)

8. Annual Survey of Industries,
Govt. of India - Volume IV.
9. Footwear 1980
British Footwear Manufacturers Federation
1971
10. Footwear Industry Statistical Review -1970
British Footwear Manufacturers Federation
1971
11. Leather - London : Volume 173 No. 4356
October 1971
12. Journal of the British Boot and Shoe
Institution London - Nov-Dec., 1972



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